

**URBAN GREENSPACE, CIVIL SOCIETY AND SCIENCE:
THE CREATION AND MANAGEMENT OF
THE ROUGE PARK, ONTARIO, CANADA.**

by

John Marvin Rodriguez Macaraig

A thesis submitted in conformity with the requirements for the degree of

Doctor of Philosophy

Department of Geography

University of Toronto

© Copyright by John Marvin Rodriguez Macaraig 2013

URBAN GREENSPACE, CIVIL SOCIETY AND SCIENCE:
THE CREATION AND MANAGEMENT OF
THE ROUGE PARK, ONTARIO, CANADA.

John Marvin Rodriguez Macaraig

Doctor of Philosophy

Department of Geography

Chairperson of the Supervisory Committee: Dr. André Sorensen

University of Toronto

2013

ABSTRACT

Earth is becoming more urban. As the human population continues the current trend of migrating towards urbanized regions, the pressures to develop urban greenspaces will inevitably increase. Greenspaces play a critical role in urban livability for both human and non-human beings. This research examines the creation and management of the Rouge Park (Ontario, Canada), which is a large greenspace approximately 46 km² located in the eastern portion of the Greater Toronto Area. The output of this research consists of three parts. The first provides an identification of the relevant actors, and a detailed chronology of the social and political events that led to the establishment of the Rouge Park. The second section explores the competing narratives of science, conservation, and development that were fundamental in shaping the protected area that we see today. The final section examines the

governance and administration of the Rouge Park, and investigates the activities and involvement of civil society actors working in its day-to-day management. Using qualitative methods, I demonstrate that science and scientific expertise can be powerful tools of legitimization for civil society actors. In particular, I examine the benefits and pitfalls of placing ecologically-based rationalizations at the forefront of conservation policy deliberations. Furthermore, I show that despite shortcomings in the governance structure of the park, the current arrangement has provided civil society actors with increased opportunities to shape their community. My results show that a locally grounded nature conservation movement can serve as a powerful motivating force for citizens to enact long-term environmental planning initiatives.

ACKNOWLEDGEMENTS

With the completion of my Ph.D. I wish to thank several important people. First, I must thank my wife Clarine for her strength, support and encouragement. I am very grateful for your patience throughout the many stages of this project. Thank you for listening, keeping me grounded, and for ensuring that I always look forward. I also want to thank my parents Felix and Emilie, who from the beginning were always supportive of both my academic endeavours and my career choices.

Next, I must acknowledge the members of my supervisory committee. André Sorensen, thank you for being my mentor and my friend, and for giving me the opportunity to be your first doctoral student. I have enjoyed our many conversations over the years. Michael Bunce, I am grateful for your warm wisdom and insightful guidance throughout my project. Alan Walks, thank you for your continuous practical advice, and I have always appreciated our chats especially those about politics. I also wish to thank my external and internal reviewers, Professors Pamela Robinson, Ted Relph, and Thembela Kepe for their assistance in the final stages of my dissertation.

I am also indebted to my interviewees for sharing their experiences and knowledge of the Rouge River. Thank you for all of your time and for letting me know how and why the watershed is relevant to your everyday lives.

Finally, I wish to dedicate this project to my late grandfather Fernando, who always urged me to strive for academic excellence.

Marvin Macaraig

Toronto

TABLE OF CONTENTS

LIST OF TABLES	VIII
LIST OF FIGURES	IX
LIST OF APPENDICES	X
CHAPTER 1.....	1
INTRODUCTION	1
Research Questions	6
The Contribution of This Research.....	8
CHAPTER 2.....	10
CREATING AND MANAGING GREENSPACE.....	10
Theoretical Focus	10
Greenspace and Nature.....	11
Civil Society and Public Participation	18
Public Participation in Local Urban Change	22
Environmental Governance and Neoliberalism.....	27
Nature as a Commodity	32
Science and Environmental Politics.....	34
Experts and Expertise	38
CHAPTER 3.....	46
GREENBELT AND PARK PLANNING IN CANADA	46
Nature and Society	46
Greenbelts.....	47
The Ontario Greenbelt	52
Protected Areas	55
A Canadian Perspective	56
Planning for Ecological Integrity.....	60
Protected Areas in Ontario.....	61
CHAPTER 4.....	63
METHODOLOGY.....	63
The Theoretical Framework Put Into Practice	63
Conducting the Research: A detailed view.	64
Reviewing and Analyzing Documents	65
Constraints to Creating a Chronology	66
Observation.....	68
The Interview Process.....	69

<i>Identifying Participants</i>	69
<i>Semi-Structured Interviews</i>	70
CHAPTER 5.....	73
THE CASE STUDY: ROUGE PARK.....	73
Early History of the Rouge Watershed	85
Paleo-Indian (10,000 to 7,000 BCE)	87
Archaic Period (7,000 to 1,000 BCE),.....	87
Initial Woodland Period (1,000 to 700 BCE)	88
Ontario Iroquoians (Late Woodland, 700 CE to 1651 CE)	88
Contact (1651 CE to 1800 CE)	89
Early French Period	90
Settlement Period.....	90
Modern Period - 20 th and 21 st Century.....	91
Protection for the Rouge Valley	92
Conservation Authorities in Ontario.....	93
Hurricane Hazel and Planning for Greenspace.....	95
<i>The Rouge Duffins Highland Petticoat Conservation Authority</i>	96
Development and Growth in Scarborough (1970s to 1980s)	97
Civil Society Involvement in the Rouge Valley	100
<i>The Involvement of Save the Rouge Valley System (SRVS)</i>	101
<i>Federal Involvement and Interest in the Rouge Valley</i>	112
<i>SRVS Involvement in Markham</i>	113
<i>Development Plans for Northeast Scarborough</i>	115
<i>Gaining Federal and Provincial Support</i>	119
<i>The Opening of Rouge Park</i>	123
Conclusion.....	125
CHAPTER 6.....	133
CONSERVATION NARRATIVES IN THE ROUGE WATERSHED	133
Science and Environmentalism	134
Science Politicized.....	139
Science in the Rouge Watershed	141
Examining Narratives Within a Historical Context.....	142
Productivist and Conservation Narratives	143
Competing Narratives	146
Narratives of Growth and Development in Scarborough	146
Science Narratives	150
Utilizing Existing Science and Expertise.....	150
Producing Their Own Scientific Reports.....	155
The Practical Application of Science.....	157
Significant Rouge Park Planning Issues and the Utilization of Science.....	164
<i>Beare Road Landfill Expansion (1975-1990)</i>	164
<i>Metro East Transportation Corridor (1980-1990)</i>	166
<i>Centennial Swamp Development (1983-1986)</i>	166
<i>Duffins-Rouge Agricultural Preserve and its Addition to the Greenbelt (2000-2006)</i> .	167
<i>York Durham Sewer System Expansion (2000-present)</i>	167
<i>Development Impacts on the Morningside Tributary (2001-2006)</i>	168

<i>Reclamation of the Beare Road Landfill Site (2003-2010)</i>	168
<i>Creation of the Reesor Wetland (2007-present).....</i>	169
<i>Various Ecological Monitoring Programs (1995-present)</i>	169
The Rouge Park Alliance and the Facilitation of Science	170
A Discourse of Conservation	173
Experts as Policymakers.....	179
Conclusion.....	186
CHAPTER 7.....	189
THE NEOLIBERALISATION OF CONSERVATION.....	189
Neoliberalism and Civil Society Participation.....	190
The Neoliberal Governance of the Rouge Park	191
Neoliberal Policy in Ontario	197
An Uncommon Greenspace	198
The Call for a National Urban Park	204
Neoliberalism and its Lessons.....	212
Conclusion.....	215
CHAPTER 8.....	219
CONCLUSION	219
Science as a Strategy for Civil Society	221
Final Thoughts.....	225
APPENDIX A: INTERVIEW QUESTIONS	228
APPENDIX B: INTERVIEWEES	230
APPENDIX C: INTERVIEWS REQUESTED BUT NOT GRANTED	233
APPENDIX D: ETHICAL CONSIDERATIONS.....	235
APPENDIX E: INTERVIEW INFORMED CONSENT FORM	237
APPENDIX F: NATURE'S KEEPERS: CIVIL SOCIETY ACTORS AND THE NEOLIBERALISATION OF CONSERVATION IN THE ROUGE PARK. LOCAL ENVIRONMENT 16(4): 357-374.	241
APPENDIX G: ROUGE PARK ALLIANCE EXPENDITURES ON RESTORATION PROJECTS.....	257
REFERENCES.....	277

LIST OF TABLES

TABLE 1: Values and roles of protected areas and their suggested allegories.

TABLE 2: IUCN Protected Areas Categories System.

TABLE 3: Chronology of greenspace planning in the Rouge Valley and the GTA.

TABLE 4: Civil society organizations working in the Rouge Valley.

TABLE 5: Members of the Rouge Park Alliance.

TABLE 6: Typology of Rouge Watershed environmental planning case studies.

TABLE 7: Current civil society groups involved and working within the Rouge Park.

LIST OF FIGURES

FIGURE 1: Location map of the Rouge Park.

FIGURE 2: Rouge Park Alliance Meeting held on 2 February 2011, in the Toronto Zoo Board Room, Scarborough ON.

FIGURE 3: One of several ponds at the Beare Wetland created under the direction and involvement of Friends of the Rouge Watershed. The wetland is located at the former Beare Road Landfill site.

LIST OF APPENDICES

APPENDIX A: INTERVIEW QUESTIONS

APPENDIX B: INTERVIEWEES

APPENDIX C: INTERVIEWS REQUESTED BUT NOT GRANTED

APPENDIX D: ETHICAL CONSIDERATIONS

APPENDIX E: INTERVIEW INFORMED CONSENT FORM

APPENDIX F: NATURE'S KEEPERS: CIVIL SOCIETY ACTORS AND THE NEOLIBERALISATION OF CONSERVATION IN THE ROUGE PARK. LOCAL ENVIRONMENT 16(4): 357-374.

APPENDIX G: ROUGE PARK ALLIANCE EXPENDITURES ON RESTORATION PROJECTS

CHAPTER 1

INTRODUCTION

Something extraordinary happened in Scarborough, Ontario, during the 1980s and early 1990s. It began with a few ordinary citizens who were concerned over the rapid urban development that was occurring in their community. Specifically, they were worried about how these developments had the potential to negatively impact the local environment. These citizens formed a small grassroots organization, Save the Rouge Valley System (SRVS), whose main goal was to educate their community and to bring attention to the ecological features that could be found right at their doorstep. Throughout the 1980s, the group continued to raise awareness and eventually found broad public support for their idea that the Rouge Valley should be conserved and protected from development. The small organization raised its profile through the media and secured political support from nearly all of Scarborough's elected officials. This local support for the conservation of the Rouge Valley eventually put Scarborough's politicians at odds with the growth aspirations of Metro Toronto, the province, and a powerful development industry.

Despite these notable challenges, the once small civil society organization became well recognized in their community and was regularly covered by the media. SRVS continued working towards its conservation goals through its lobbying efforts and opposition to several development proposals. The group made use of available scientific studies to show how the ecology found in the valley was special, fragile, and thus worthy of its attention. The group published its own scientific reports to counter the claims of its challengers, while in other instances it produced studies that were used to supplement the work of Scarborough's own planning department in an effort to gain legitimacy.

SRVS fought many battles with developers over how much and where development could occur throughout the Rouge watershed, and gained the most political traction at the local scale at Scarborough Council. In most cases their opposition resulted in only small changes to development proposals, while in other situations their requests had no impact at all. In the

late 1980s after winning some key votes at Scarborough Council, and eventually gaining the support of both the federal and provincial governments, SRVS's goal to establish formal protection for the Rouge Valley was realized with the establishment of the Rouge Park in 1990. The park represented a new type of urban greenspace, that would aim to preserve the ecological attributes of the Rouge Valley, and it was to be jointly managed by public and private stakeholders.

Examining the creation and management of the Rouge Park represents an important opportunity to study how a small civil society organization achieved notable success in protecting a very large swath of greenspace in the Greater Toronto Area (GTA). The achievement was significant because the impetus to protect the Rouge Valley was not on the agenda of any government during the 1970s and early 1980s, and was only pushed to the forefront through the specific involvement of civil society actors.

This research examines the creation of Rouge Park, a large greenspace (46 km^2) situated near the eastern portion of the GTA, stretching from Lake Ontario to the Greenbelt in the north. (Figure 1) Ecologically, the park consists of a wide variety of habitats that include marshes, ponds, streams, rivers and numerous stands of Carolinian forests. It also contains a number of different land uses that include industrial, residential and agricultural. Garnering protection for such a large amount of land for the Rouge Park is an important achievement considering its location within the GTA, which is Canada's most urbanized region and therefore subject to substantial development pressures. It is through this context, that the establishment of the Rouge Park be considered significant in that the pro-conservation movement was initiated at the local level, and at the time no level of government had plans to protect the Rouge Valley.

In this introductory chapter, I introduce the primary and secondary research questions and outline the chief components of my project. Chapter 2 consists of a literature review, which investigates the connections and relationships between greenspaces, science and society. I highlight the potential for success that individual citizens and civil society organizations may have in facilitating local level urban change. I review the theoretical importance of power and its connections to the specific actions of civil society actors during cycles of protest. Included is a section on the social, cultural and institutional factors that can potentially

influence both lay individuals and scientific experts working within environmental controversies. Here, I review theoretical perspectives drawn primarily from science and technology studies, to shed light on how scientific experts ultimately create the knowledge and facts that are so often heavily politicized during policy deliberations.

Chapter 3 provides a literature review on greenbelts and I review their history in theory and in practical implementation. I explore the relationship between greenbelts and cities and how they may be connected to increased levels of urban livability. I also examine the urban fringe as a space of contrasts with respect to the creation and politicization of Ontario's Greenbelt. The chapter further encompasses an assessment of how parks can be categorized and recognized internationally, while further reviewing the logic and planning of parks within the Canadian experience. Chapter 4 outlines my research methodology and provides a detailed account of how I identified interviewees and conducted my interviews. The chapter also contains a section that describes the various challenges/constraints of studying a current and ongoing case study.

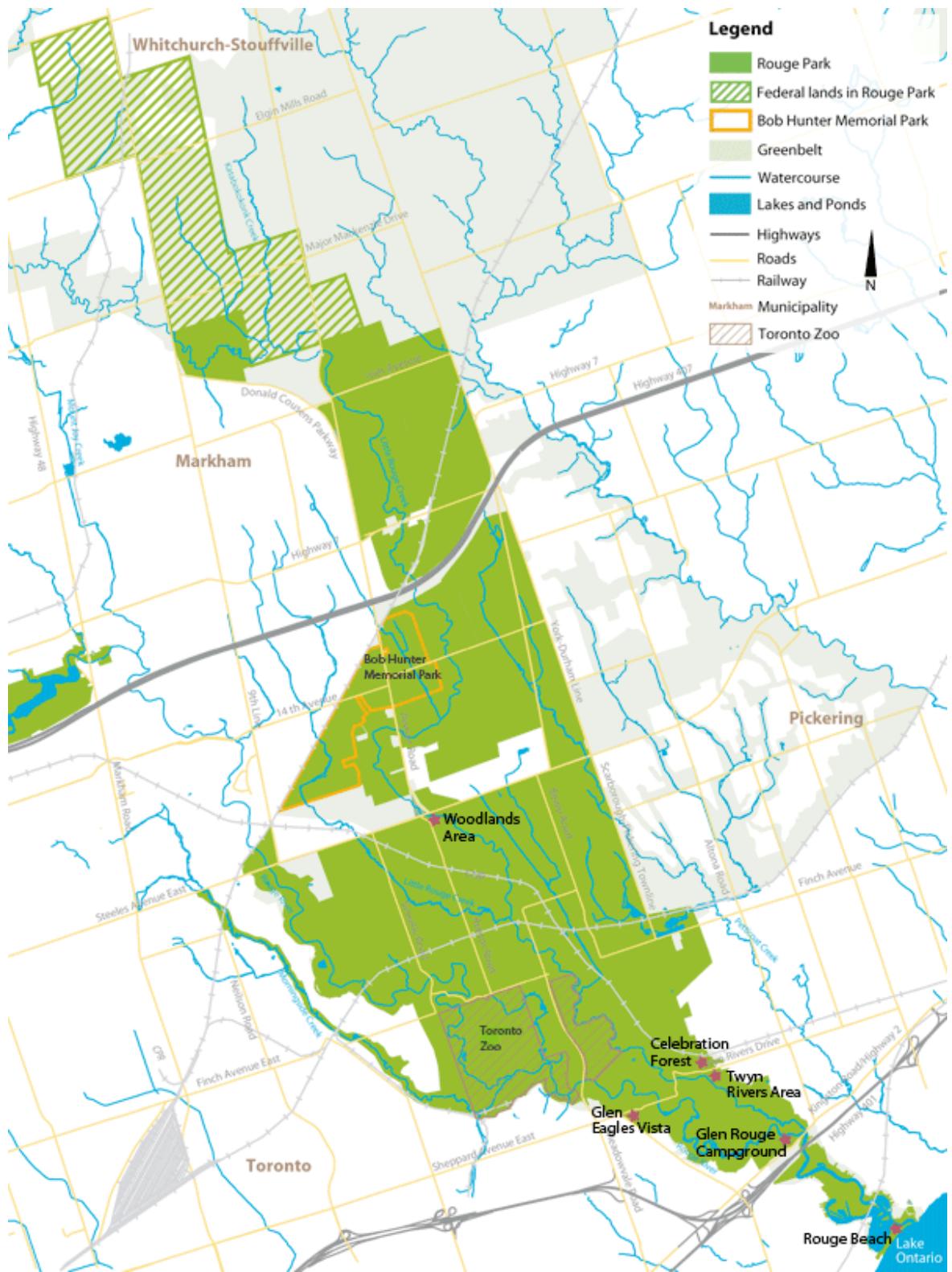
Chapters 5, 6, and 7 contain the primary findings of my research. In Chapter 5, I identify and document the social and political factors that were relevant to the establishment of the park. The chapter also traces the early settlement history of the Rouge watershed, and this is important because it helps contextualize how the landscape fits into the broader bioregion. This history highlights how both aborigines and early settlers utilized and lived in the watershed, thus providing important context for how contemporary society values it today.

Chapter 6 investigates how support for the Rouge Park was mobilized and maintained throughout the planning process, most of which occurred during the 1980s. Specifically, I investigate the importance of scientific expertise from the point of view of both policy-makers and civil society actors, and how it affected the outcome of several important environmental planning decisions relevant to the watershed. I present this material in the form of a typology, which shows how civil society actors utilized science and scientific expertise. Furthermore, I examine the competing narratives of growth/development, science, and conservation that were present in the lead up to the establishment of the park. I

specifically focus on how a nature conservation narrative was brought to bear by civil society actors throughout policy deliberations and how they negotiated and utilized expertise.

For Chapter 7, I explore the management and governance structure of the Rouge Park. In particular, I look at the involvement and participation of both civil society actors and state agencies in the day-to-day management of the park. I also investigate the political and economic factors that came into play when the governance structure of the park was being debated and finalized. The chapter includes an inquiry into how nature can be commodified, and how the management of natural resources can be explicitly tied to neoliberal policies. In addition, I evaluate the proposal and the upcoming challenges to convert the Rouge Park into Canada's first national urban park. An earlier draft of this chapter has already been published in 2011 in the peer-reviewed academic journal *Local Environment*, and a copy of the publication can be found in Appendix F.

Figure 1: Location map of the Rouge Park (Rouge Park 2012).



Research Questions

Understanding the relationships and connections between society and nature has served as a central avenue of inquiry in both protected area management and urban planning. The expansion and development of a city encompasses various policy processes that must consider different ideologies, theoretical positions, values, and even moralities. These viewpoints may represent both public and private interests, which depending on the scenario may either complement or come into conflict with one another. Policymakers are faced with a challenging position to carefully balance both the immediate and sustained needs of their respective communities, while further contemplating the long-term plans and aspirations of the broader city-region.

In Ontario, protected areas may fall under the jurisdiction of all three levels of government and are administered by numerous agencies and institutions. The process to identify and create protected areas in Canada reveals a diverse history that has been based on concern over the development of environmentally sensitive areas and other economic considerations tied to the availability of and access to natural resources. My primary research question is; What types of strategies and arguments can civil society actors use to gain political traction in their efforts to conserve greenspaces? The chief focus of this dissertation is to better understand how metropolitan regions can conserve natural areas. Achieving formal protection for greenspaces is a central problematic for city-regions, which must continually balance their economic development and urbanization goals with the intrinsic and human health benefits of preserving the ecological integrity of their natural areas.

Examining the distinct strategies that enable civil society to influence policy deliberations and achieve success is noteworthy because typically, these actors are at a disadvantage when compared to both private enterprise and the government. Most often, locally based civil society groups have nominal resources, and their activities are limited financially as their funding is generally unreliable and piecemeal. Furthermore unlike government, civil society actors do not have direct legislative power in making laws and must continue to work between elections and utilize the electoral process to bring forth changes in government

representation. I examine the strategies that were utilized by competing actors in the planning of the Rouge Park and address the primary research question in Chapter 6, where I consider the importance of science in the environmental decision-making process. Specifically, I examine the overall influence and authority associated with scientific experts, and more generally the accompanying narratives inherent to ecologically-based paradigms. I define ecologically-based paradigms as those arguments and the body of knowledge that are explicitly based on the natural sciences and associated with ecology or biology. Private enterprise, government, and civil society actors all have an interest in how science is perceived and practiced, and will make use of scientific expertise to either back up and/or gain support for their position, while also using it to contradict their opponents' arguments.

Thus a secondary set of research questions that complements and supports the primary focus of this dissertation is as follows; How do civil society groups make use of scientific expertise and ecological paradigms to build support for a conservation narrative, and thus shape and frame policy debates? How are civil society actors different in their use of scientific expertise as opposed to market actors or government? Finally, what are the advantages and pitfalls when science and ecologically-based narratives are considered first and foremost, above other ethical, emotional or aesthetic arguments for the planning of greenspaces? By examining scientific expertise and its connections to contemporary society, this research brings into focus some of the overall challenges that civil society groups must negotiate in order to achieve their goals. However, what is less studied and understood are the immediate and long-term effects of relying heavily on scientific experts and their associated discourses. This case study indicates that within the context of local level environmental controversies, employing conservation narratives grounded with science presents both challenges and opportunities. These issues and secondary research questions will also be addressed and answered in Chapter 6.

My research hypothesis is that the current policy formation process places a premium on the input from scientific expertise and therefore the practice and methodologies of science as a discipline may profoundly influence the character of policy debates. One may argue that within environmental disputes a focus on science and expertise is a direct result of Canadian

legal systems and processes. However, a further examination of how environmental planning disputes play out on the ground would consider the actions and roles of individual citizens, civil society, elected officials, bureaucrats, and of course the media. Civil society actors involved in conservation have a long history of employing specific ecological and/or scientific paradigms to gain support from both the public and the government. For example, the protection of easily recognizable ‘umbrella’ species has been a well-established strategy for conservationists since obtaining habitat protection for such species results in the protection of many other overlooked species.

I hypothesize that civil society groups recognize the importance of science and scientifically-based arguments and thus I am interested in how civil society groups handle and solicit scientific expertise, and what enables them to do so. Perhaps expertise may come from within the groups themselves, or they may look for support and guidance from other like-minded civil society organizations. Conceivably, by adopting and presenting one’s arguments within specific ecological discourses such as habitat protection, civil society groups may limit both the discussion, participation, and ultimately the resolution, as the issue is now narrowly defined and thus becomes a matter of whose expert has more credentials. The right to shape neighbourhoods and communities, at its core, is a fundamental collective right for democratic engagement. Moreover, civil society groups are actively adjusting and re-tuning their approach, and using a variety of narratives and techniques, and may choose to frame their arguments directly in response to current socio-political trends such as associating their issue with climate change, or other concepts such as smart growth or new urbanism.

The Contribution of This Research

This dissertation contributes to the protected area management and environmental studies literature through an examination of the benefits, risks and constraints associated with invoking specific scientific arguments in the planning of greenspaces by civil society. This research also contributes to the policy development literature in that it investigates the outcomes of evidence-based policy formation processes, and how they can be impacted through the involvement of civil society groups. One goal was to highlight how the public

can work alongside government agencies, while evaluating the efficacy, involvement, and overall suitability of civil society groups as key actors in local level environmental management. This research also considers the connections between nature and neoliberalism, and how greenspaces can be managed through un-conventional governance models that incorporate special partnerships between civil society and other private or public stakeholders.

CHAPTER 2

CREATING AND MANAGING GREENSPACE

Parks and greenspaces have different connotations for many people. Most commonly, parks are conceived as outdoor areas that would allow for a wide variety of recreational activities. But describing all parks as such is shortsighted. Upon closer examination parks can take many forms and may be located in either urban or rural settings, from simple municipal public spaces typical of heavily urbanized areas, to vast remotely located wilderness parks. Another way to differentiate parks and greenspaces involves the consideration of the level of protection these spaces are afforded by various levels of government.

This chapter will outline the theoretical framework of my research. The goal is to highlight the connections between greenspace and society. I investigate the importance of individuals and civil society actors in catalyzing change at the local level. Furthermore, I discuss how scientific expertise plays a significant role in environmental controversies, through the specific implication of technology and the calculation of risk. This chapter also considers the important social dimensions and institutional factors that must be considered when evaluating how knowledge and facts are created and accepted by society.

Theoretical Focus

For my research I have identified three main groups of theory that contribute to the understanding of how civil society groups are helping shape greenspaces within the GTA. The first body of literature, examining greenspace and nature, will help contextualize some of the social and political dimensions that are involved with the creation of urban parks. I investigate the conceptualization of nature and survey its varied definitions with respect to contemporary society. Furthermore, I also consider how nature is valued through the theory and practice of protected areas. Defining how greenspace is interpreted and imagined by

individuals, society and the government is fundamental to my research as the theory and practice of how nature is protected is historically contingent, and a direct product of cultural norms. Second, the literature on civil society will provide insight into the broader socio-cultural factors, attitudes, and issues that may help guide and influence citizens to organize and become involved in a cause. Understanding some of the connections between civil society groups and local level urban change is a key facet of this research, namely how and who is responsible for conservation policy. The final body of theory draws from environmental politics literature, I draw from science and technology studies and in particular, I examine how knowledge is created and also critique how the scientific process may be influenced by external factors. I also highlight the role of scientific expertise throughout the policy formation process, and its significance in environmental contestations. Finally, I look at the social implications of how stakeholders utilize science, and how it has become a defining aspect of contemporary environmental planning.

Greenspace and Nature

Different civilizations have protected lands that contain unique features, or special characteristics. The protection of land primarily for the creation of a park can be traced back to 1872 in the U.S., with the establishment of Yellowstone National Park (National Park Service 2011).¹ Canada also followed the U.S. concept of a national park, and was one of the first to place a focus on tourism, economic development, and less emphasis on the need to preserve wilderness (McNamee 2009). Land protection for park creation was also witnessed during this same period in western European countries and Scandinavia, and now also encompasses aquatic habitats that are known as marine protected areas (MPAs).²

Another characteristic and dimension associated with greenspaces is the concept of ‘wilderness’, which can prove difficult to define as it is ultimately value-laden for it can

¹ An earlier effort to create a protected area at Hot Springs Arkansas was initiated by President Andrew Jackson, resulted in the Hot Springs Reservation, and did not garner federal control until 1877. President Abraham Lincoln established legislation to protect the Yosemite Valley and the Mariposa Grove in 1864. However, the first true national park was Yellowstone National Park and signed into Law by President Ulysses S. Grant in 1872.

² As of 2010, MPAs only represent approximately 1% of the world's oceans (IUCN 2011).

symbolize and represent many things to different people at different times. Dearden and Rollins state;

From biblical times, the conception of wilderness was of wastelands (i.e., deserts) unsuitable for human habitation, and this association remained dominant until the rise of the Industrial Revolution. Leaders of the Romantic movement, which arose as a result of the degraded social and environmental conditions resulting from the Industrial Revolution, were the first to start associating wilderness with positive attributes. (Dearden and Rollins 2009, p. 4)

These ideas were further developed by the transcendentalism movement of the 19th century centered primarily through the work of Ralph Waldo Emerson and others such as Henry David Thoreau, John Muir, Margaret Fuller, and Walt Whitman. Transcendentalism takes the position that there is/are inherent positives to the concept of wilderness, and that nature itself provides a willing foil and contrast to urbanity during the industrial revolution. In contemporary terms, wilderness is most commonly used to define landscapes that appear to be natural, and untouched by either human activities or industry. This definition is also the most easily associated with both national and provincial parks by the Canadian public (Dearden and Rollins 2009). Moreover, interpretations of what exactly constitutes wilderness or what is ‘wild’ may differ between individuals, institutions and organizations. For example, the Rouge Park motto is ‘Wild in the City!’ and on its surface seems contradictory in that it presupposes that both wilderness and nature can in fact be found within the urban landscape.³ However, as I will discuss later, the very definition and concept of what precisely constitutes ‘nature’ is also subject to variable societal understandings contingent on both history and culture.

Another contemporary definition for nature is ‘wilderness’ or ‘wild lands’ and many nations use these terms to define or classify their protected areas. One such example is the *U.S. Wilderness Act* (1964), which provides a clear and legal definition of wilderness for policy

³ This ‘Wild in the City’ branding is heavily promoted throughout the Rouge Park website, printed material, and road signage.

makers.⁴ This legislation was greatly influential in laying the groundwork for other nations in establishing wildlands (Dearden and Rollins 2009). In the Act, wilderness is defined as follows;

A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value. (*U.S. Wilderness Act* 1964)

In Canada, wilderness areas were legislated through Ontario's *Wilderness Area Act* (1959), and further provisions were made for wilderness areas in National Parks with the amendment of the *Canadian National Parks Act* (1988). In Ontario, there are 33 wilderness areas and no new ones have been established since the early 1960s, and only 10 areas are located outside provincial parks or conservation reserves (Ontario Parks 2011). Parks Canada recognizes the term 'wilderness' with regards to its park zoning system where 'Zone II' is classified as the wilderness zone. For example, in Banff National Park the Zone II Wilderness Zone is defined as follows;

Zone II contains extensive areas that are good representations of a natural region and that are conserved in a wilderness state. The perpetuation of

⁴ The U.S. *Wilderness Act* was signed in law by President Lyndon B. Johnson on September 3, 1964.

ecosystems with minimal human interference is the key consideration. Zone II areas offer opportunities for visitors to experience, first hand, the park's ecosystems and require few, if any, rudimentary services and facilities. In much of Zone II, visitors have the opportunity to experience remoteness and solitude. Motorized access is not permitted. Most of the park will be managed as Zone II. Much of this land consists of steep mountain slopes, glaciers and lakes. Zone II areas cannot support high levels of visitor use and facility development. Facilities are restricted to trails, backcountry campgrounds, alpine huts, trail shelters and warden patrol facilities. Sections of the park will continue to have no facilities. (Banff National Park Management Plan 2007)

It should be noted that Parks Canada does not employ a specific and/or blanket definition of what constitutes a wilderness zone throughout its park system. Instead it lists and outlines what types of activities are permitted within wilderness zones in the individual management plans of each park.

Dearden and Rollins (2009, p. 6-9) have also pointed out that these protected areas ultimately play additional roles in the landscape, and without formal protection, these lands would not be able to withstand market forces. The authors state that these landscapes are not merely 'single-use' areas, but rather they contain a wide variety of diverse land uses and values, which may offer analogous uses when compared to the built environment. For the same reasons people visit an art gallery (i.e., to enjoy aesthetic beauty), they would also seek to spend time in a park. Dearden and Rollins (2009) provide a table that points out some of the values of protected areas while also highlighting their analogy with respect to the built environment. (Table 1) Examining the table reveals some of the somewhat less obvious benefits and intrinsic characteristics that can be attributed to protected areas. I argue that these traits can prove difficult to quantify empirically, and perhaps more importantly these values should be considered deeply rooted within one another. For example, protected areas with low levels of ecological integrity may have limited wildlife viewing opportunities, and thus impact overall tourism possibilities.

Table 1: Values and roles of protected areas and their suggested allegories. Adapted from Dearden and Rollins (2009, p. 6)

Value	Allegory in the Built Environment
aesthetic	art gallery
wildlife viewing	zoo
historical	museum
spiritual	cathedral
recreation	playground
tourism	factory
education	schoolroom
science	laboratory
the extraordinary	movie theatre
ecological capital	bank
ecological processes	hospital
ecological benchmarks	museum

These values and roles identified by Dearden and Rollins serves to create an anthropocentric system for their definition of protected areas. Moreover, this position is not a surprise given the long history and wide range of human activities that have occurred within Canada's protected areas.⁵ It should be noted, that these functional definitions of what constitutes a 'natural landscape', and whether or not they should be afforded protection can be highly contested, and challenged. Simply put, the word 'natural' is completely value laden and contingent on one's own personal reflections on 'nature' itself. This position follows the idea that nothing on Earth can be considered natural as all environments are connected and thus are all subject to the negative consequences of human civilization. Such a position can be

⁵ Canada's protected areas have for many years served many purposes. For example, Algonquin Provincial Park in Ontario has a long history of logging activity that continues today.

proven empirically as industrial contaminants have been found in all aquatic and terrestrial environs, and thereby the very concept of something being natural is one that at its very core should be considered a social construct.

Critically examining how nature can be defined has served as a central point of investigation for disciplines such as environmental studies, planning and critical human geography. Work by William Cronon examines the connections humans have with nature, and our changing perceptions of it. In his book *Uncommon Ground* (1996), Cronon argues that for many the word/concept of ‘nature’ presents a ‘complex cultural construct’, which is invariably contingent on numerous factors. The author states;

All these things are described as ‘natural, even though everything we know about human history and culture flies in the face of that description. The result is a human world in which these many human visions of nature are always jostling against each other, each claiming to be universal and each soon making the unhappy discovery that even its nearest neighbors refuse to acknowledge that claim. (Cronon 1996, p. 51)

Cronon’s thesis is that any definition for the word nature is subject to contestation, and that nature itself is intimately linked to culture and thus socially and discursively constructed. David Demeritt (2002) points out that the phrase ‘social construction of nature’ is commonly used in human geography to describe very different understandings of both nature and the world. His observation underscores my view that both greenspace and nature can prove difficult to define empirically within a sociological context. Despite such challenges, defining nature provides insight into the connections between society and how it views and manages greenspace.

The observation that nature and landscapes can be socially constructed, is starkly juxtaposed to the definitions of nature that are derived from pure and applied science disciplines such as biology, biochemistry, or ecology. In these disciplines defining nature and/or what is natural is as simple as determining the difference between organic versus inorganic compounds, or delineating the boundaries, range and habitat of a given species. Thus, rather than defining

greenspace by reference to ‘nature’ or ‘wilderness’, which are both ambiguous terms, for this research, I define greenspaces simply as park areas or any other form of protected area.

Such conceptualizations of nature are also related to rural landscapes and the countryside. Scholars such as Raymond Williams (1973), William Cronon (1991), and Michael Bunce (1994) have differentiated the urban edge from the countryside, and the urban-rural dialectic has served as a major avenue of investigation for human geography and urban planning within a North American context. Investigations into post-modernity and culture, and its effects on how a metropolitan region perceives, values, and ultimately develops or protects its hinterland has been affected by the globalization of politics and the economy. It is increasingly assumed that no longer must a city or town simply compete within its locale, or region, but rather it must compete on a global stage for workers, jobs, and investment. These perceptions are key to understanding the continuously shifting pressures to develop greenspaces along the urban edge. It should be noted that this landscape along the urban edge is actually different from the city and the country, rather this edge constitutes a liminal space that contains traits of both.

The idea that urban greenspaces may be found only in built up areas is contradicted by the large size of the Rouge Park. I argue that the park can be studied not just as an urban greenspace, but rather a space that encompasses traits and characteristics of both urban, edge and rural landscapes. This ambiguity is integral for my research and analysis as it helps shed light on the various and conflicting challenges that inhibit the effective management of the park. My research shows that contrasting urban/suburban/rural ideals have resulted in conflicting sets of management goals for the Rouge Park, which can be attributed to the different sets of political goals and agendas of the Rouge Park Alliance board members. One example of conflict that illustrates the different goals of urban and suburban interests on the Rouge Park Alliance board, is the persistent push from the Town of Markham to convert portions of the park into higher level recreational areas, which represents a sharp departure from the conservation and restoration goals outlined in the *Rouge Park Management Plan* (1994). These conflicting understandings and interpretations of greenspace by both

individuals and society at-large therefore have important impacts on policy-making as discussed in later chapters.

Civil Society and Public Participation

The importance of civil society involvement in local level decision-making has been identified by scholars in a wide variety of disciplines as a key facet in the policy formation process. To a layperson, the term ‘civil society’ would most commonly refer and be applied to groups associated with the general public. John Friedmann (1998) states that the term civil society was first used in by Georg Wilhelm Friedrich Hegel in *Elements of the Philosophy of Right* (1821). Friedmann states;

As with many concepts in the human sciences, civil society refers to something we claim to perceive in the observable world that may serve us a lens through which to view and interpret phenomena that otherwise would appear disconnected from each other. In that sense, the concept of civil society has heuristic value. While its specific meaning has remained fluid, as observers across a broad political spectrum began using it, its core meaning has remained constant. (Friedmann 1998, p. 21)

Marris (1998) argues that the term civil society can prove difficult to define, as it is associated with a wide variety of institutions and social organizations. The author adds that defining civil society can be made easier if we consider the relationships between different aspects of society, rather than defining any specific aspect of it. I define civil society broadly as enduring organizations or groups of people, and are outside of the state and market. Civil society actors can work at local, regional, national, or international scales. The significance of local level decision-making has also been recognized internationally in the 1992 Rio Earth Summit, *Local Agenda 21* programme that highlights local governments, communities, and NGOs as the prime stakeholders in achieving a higher level of both environmental sustainability and ecosystem health (Low et al. 2000, Sitarz 1993).

This identification of the importance of civil society has been emphasized by social theorist Manuel Castells (1972, 1983) throughout his career, and has called for individuals as the primary agent or unit for change. His call for ‘the people’ to enact change at the scales most familiar to them namely the households, neighbourhoods, and the city in which they live has served as a central thesis for scholarship on urban governance and citizenship. Moreover, Castells argues that society is in the process of a structural transformation involving technological, cultural, institutional and economic changes, and one noteworthy result of such widespread change is that it will provide new opportunities for stakeholders to become involved.

In Castells’ *The City and the Grassroots* (1983) through an examination of a number of case studies, he reveals how urban social movements are intimately linked to space and place, and further makes a case as to why local individuals have the most to gain/lose through local mobilization. His study of ‘urban-oriented mobilizations’ and their potential for political self-determination is useful for contemporary investigations of civil society actors because it identified the conflict lines of major urban contestations (Mayer 2006). In particular, Castells analyzes and defines social movements within the context of local urban politics and he further endeavoured to reveal the connections between such movements and the actions of civil society. He also states that the city is merely a social product that is a direct result of conflicting social interests and values, and new conceptualizations of the role and the position of the city are the direct outcome of grassroots demands. When these mobilizations are fully institutionalized and result in transformation of the urban structure or landscape then they may be referred to as social movements (Castells 1983). This theoretical framework is relevant for understanding my case study since the movement to protect the Rouge Valley also started with ordinary citizens, which in the end, resulted in the formal acknowledgement and institutionalization of civil society into the Rouge Park Alliance (i.e., the governing body of the Rouge Park).

The question of how local level urban change occurs, and who is most responsible, has served as a central point of inquiry within urban studies and planning. Castells’ work is

notable in that he places the focus primarily onto civil society actors and in particular he outlines the following three characteristics/themes of urban social movements;

1. Demands focused on *collective consumption*, that is, goods and services directly or indirectly provided by the state.
2. Defense of *cultural identity* associated with and organized around a specific *territory*.
3. *Political mobilization* in relationship to the state, particularly emphasizing the role of *local government*. (Castells 1983, p. xviii, emphasis in original)

I acknowledge that Castells' insights were published nearly three decades ago, however his analysis remains relevant as it specifically theorizes and recognizes the motives that serve to fuel the actions of civil society. However, what this framework does not fully capture is how civil society actors can maintain and fend off sustained challenges from powerful opponents such as private enterprise or the actual state itself. It also does not give credence to, or identify the significance of having the support of elected officials at all levels of government. In addition, Castells does not elaborate on the potential role of arms-length state agencies (i.e., those with non-elected officials) may have in providing immediate legitimacy for the actions of civil society actors. Particularly, what happens when civil society actors become successful in obtaining their goals over the long-term? Another shortcoming of *The City and the Grassroots* is that it does not consider the growing dynamic, politics and effects of neoliberalism on local level (sub-) urban mobilization, especially those struggles that are based in the suburbs where conservative politics may be more upfront and apparent (Walks 2004).

Peter Evans' (2002) concept of 'ecologies' of political actors also builds on some of Castells' observations, in that he also recognizes civil society as a critical agent of change. Evans identifies the state, the market, and civil society as the key stakeholders that aid in influencing certain processes of urban change. He explains that local communities are the actors most tied to particular places, and in turn have the most to gain or lose from specific

urban transformations. This idea is relevant in that it implicates the most relevant stakeholders in urban change (i.e., the local community) however unlike in Castells' (1983) work, Evans theorization points out that the state, with its many constituent parts, has the potential to enhance the efforts of those stakeholders working to achieve increased levels of urban livability.

This work on the political motivations of civil society can also be connected to the work on social movement theory as it may add to the discussion as to why people choose to become involved, or under what specific social or political conditions are necessary to foster public participation within a given cause. In *Power in Movement* (1994), Sydney Tarrow outlines some of these necessary conditions and elaborates on the potential/possible outcomes of what he describes as 'contentious collective action'. Tarrow provides a comprehensive analysis of various social movements drawing from a wide range of literature that covers two centuries of the history of social movement theory. Although much of his analysis draws from the European experience, his main points are helpful in conceptualizing the actions of civil society actors in Ontario working to protect greenspaces. Tarrow states that movements "are created when political opportunities open up for social actors who usually lack them." (Tarrow 1994, p. 1) This insight identifies the social and political conditions that may help facilitate the success of civil society actors in achieving their goals. Moreover, one of the most useful concepts introduced by Tarrow with respect to how civil society actors are able to obtain traction politically, is his idea of 'cycles of protest', which he defines as periods of social/political turbulence and realignment. He states that such periods help focus the progressive steps undertaken by civil society actors to gain support into passing key pieces of legislation. The concept brings to light how the relative successes and failures of a specific struggle/protest can have a net positive effect and help pave the way for future pieces of legislation fought for by subsequent groups.

Tarrow argues that cycles of protest are critical for social movements in that once a protest begins, the costs of collective action are lowered for other subsequent actors, and that the new movements that arise may benefit from the work achieved by earlier movements. Tarrow states that the theoretical importance of cycles of protests is that during general

periods of turbulence, even the marginalized groups of society may take advantage of the opportunities created by the ‘early risers’ who initiated the cycle. After such periods of action there may be repercussions that may result in immediate reform, repression, or even both. However, the ripple effect of these actions may leave a lasting mark with regards to political/institutional and cultural/social terms as the effects of the cycle can further expand participation, popular culture, and ideology. Tarrow’s insights help explain the importance of having civil society actors that remain active and visible to both the state and the public over the long-term. In addition, those organizations that have high levels of self-governance and organizational skills will have a greater opportunity to thrive and continue their work during cycles of protests. Tarrow’s arguments are useful in that I have identified distinguishing traits and characteristics of early riser-type civil society groups involved with the Rouge Park. My research also contextualizes Tarrow’s concepts of windows of opportunity in that the overall successes of the seminal organizations working in the park directly translated into additional openings for newly formed civil society groups.

Public Participation in Local Urban Change

The involvement and actions of the public have been recognized as an important facet in the policy-making process at various political scales. The recognition of public participation in urban planning processes has been examined through the works of John Friedmann (1973, 1987), Peter A. Hall (1988), Paul Davidoff (1965), John Keane (1998) and Sherry Arnstein (1969). These authors argue that civil society engagement can make the policy formation process more equitable and robust and better able to quickly and fairly deal with the needs of a more engaged public citizenry. This idea that the public can serve as a powerful force in local level urban change has served as a central point of examination for scholars of social theory, public policy, and city planning. Work by John Dryzek (2000), Patsy Healy (1997), Amin and Thrift (2002), John Elster (1998), and Peter Evans (2002) have underscored the importance of the relationships formed between the public and the state in achieving effective urban governance. This recognition and call for increased public participation is not unique to the planning or policy studies literature, as other disciplines in the pure and applied

sciences have also recognized that meaningful public participation is a key characteristic to creating robust policy.

However, simply mandating and/or legally requiring public involvement in policy deliberations will not meet the primary goals for public participation. Planners Judith Innes and David Booher (2004) argue that legally required methods of public participation such as public reviews and hearings are innately counter-productive. They argue that such collaborative public engagement processes result in a variety of negative consequences, and most often the public becomes increasingly skeptical of the broader agenda of the state. They add that these strategies fail to capture a broad spectrum of positions within the community and will inevitably pit citizens against one another. Davidoff (1965) also highlights the need for increased public involvement in planning and describes the importance of advocacy planning, which calls for the participation of experts to assist the lay public to better comprehend the issue with the broader goal to better empower citizens. This call for the inclusion of experts is interesting in that it partly acknowledges the potential of achieving new frames of knowledge and understanding between ordinary citizens and individuals who have expertise. Addressing this lay-expert divide has been a longstanding focus in the natural sciences, especially in the resource management literature where it is widely accepted that forming relationships between the state and the community serves as the cornerstone of any practical conservation scheme.

Therefore a critical question remains, specifically what kinds of participation or even governance processes can aid in facilitating both expert and non-expert positions? My research will add to this literature as I reveal how civil society actors can do more than just participate in policy deliberations, but are also capable in working alongside the state, its agencies and its experts in the management of a greenspace. Therefore my research will further develop understanding into the overall value of public participation concepts closely related to advocacy planning and collaborative participation. I will also critique the benefits and pitfalls of the Rouge Park's governance model and highlight how its distinct structure has enabled increased opportunities for civil society actors.

Despite this heightened emphasis on civil society inclusion and engagement, the outcomes of such deliberative processes have produced mixed results. As a counterpoint, some authors like those studying neoliberalism in governance, assert that this increase in civil society involvement merely absolves state officials and their related institutions from their responsibilities in providing core social or environmental services. Furthermore, authors Bob Jessop (1998), Katharyne Mitchell (2002) and Erik Swyngedouw (2005a) have stated that this ‘governance-beyond-the-state’ has resulted in some notable shortcomings despite an increase in civic engagement processes. Perkins (2009) and Wolch (1990) argue that this can be understood as a ‘shadow state’, where governments provide funding to NGOs, which are then responsible in fulfilling services that were once exclusive to government institutions. In such a scenario, by funding the work or research of civil society organizations, governments have essentially outsourced their own services, and have discharged their responsibility of any potential failures or controversial findings of the group receiving the grant. Furthermore, the concept of the shadow state also implies that government can purposefully move its agenda forward, specifically through its identification of funding priorities.

There are several factors that can complicate and thus limit the efficacy of the public in policy deliberations. Firstly, citizens must explicate the varieties of power that can be utilized by governments and their related institutions. The conceptualization of power in local communities has been explored throughout a number of academic disciplines. Several classics include Dahl (1957, 1961), Presthus (1964), Agger (1964), Lukes (1974), and Galbraith (1983). Political scientists Robert Dahl and Steven Lukes have analyzed the different types and levels of power attributed to governments and local communities. Dahl’s (1957) identification of ‘influence terms’, which he defines as how ‘A’ can get ‘B’ to do something ‘A’ wants, has served as a point of departure for much research in policy studies.⁶ Dahl’s work provides the basic groundwork for comprehending and appreciating how people view, measure and understand how the state can exercise its power, and how citizens can take part, and ultimately exercise their own power in policy deliberations. On the other hand,

⁶ See Robert A. Dahl’s *Decision-Making in a Democracy: The Supreme Court as a National Policy-Maker* (1957), for a thorough examination of the different types of power. In addition, Steven Lukes’ concept of ‘Three Dimensions of Power’ presented in *Power: A Radical View* (1974), provides some insight into how power can be obtained by a group or individual.

Dahl (1989) has also argued that government representation by powerful elites is also appropriate, since obtaining direct participation from citizens (aside from voting) presents significant challenges. Despite a long tradition of examining power in political science, within the planning literature there is a gap in the conceptualization of the role of power in local politics, and overall, power has remained an ambiguous concept (Booher and Innes 2002). The way power is theorized in political science can provide useful insights for planners and resource managers because it explicitly distinguishes the shortcomings that typically characterize small locally-based civil society actors. (i.e., they lack legislative power and/or enforcement ability)

This discussion of power in local politics was also developed by Sherry Arnstein (1969) with her concept of a ‘ladder of citizen participation.’ This conceptualizes power at the local level through a metaphor of a ladder with eight rungs, where lower rungs represent non-participation, and the highest levels symbolizing complete citizen control. The significance of Arnstein’s contribution is that she was able to parse how power was distributed in society, and perhaps more importantly, exhibit how the general public lacks power as a direct result of having a lack of participation. Booher and Innes state that power within the field of planning is difficult to define and has remained an elusive concept (2002). The authors argue that planners overall have limited power and that in practice, planning is often viewed as being subservient to material sources of power such as formal authority or having access to capital or force. Moreover, the authors remain skeptical of consensus building efforts as they recognize that some stakeholders have fewer influence and resources. According to Booher and Innes (2002) they identify consensus building and collaborative planning as a key factor in developing a theory about ‘network power’ as a unique and alternative form of empowerment for stakeholders. Network power is the result of communication and collaboration among a broad range of public or private stakeholders who endeavour to develop shared understanding and common heuristics to achieve their goal(s). The overall power of the network increases with additional connections and eventually results in new emerging opportunities. This conceptualization is relevant because it aims to address what Castells (1996) has described as defining features of the ‘network society’ and ‘informational age’. Castells states that local social movements can be unorganized and are often disparate

as direct result of rapid, confusing, and often contradicting social change. However, in Castells' *The Power of identity* (1997) he outlines an extensive case as to how and why state power has become increasingly diffused. He identifies the pervasiveness of media politics and their influence on culture, while further highlighting new roles that have been assumed by NGOs.

Such work is important because it plainly identifies the comparative inequality between stakeholders, and outlines conceptual frameworks that specifically addresses how power can be seized and obtained by those actors that lack access to human and monetary capital. Despite this research and its theoretical advancements, there remains a gap in understanding the processes and strategies that enable these networks of stakeholders to maintain power and influence over the long-term. More specifically, how do local civil society actors increase their power and political influence through legitimization? This question will be addressed in Chapter 6 with an examination of science narratives and the utilization of scientific expertise in environmental planning.

Secondly, another constraint to greater public participation must consider the different roles of government institutions. Castells (1996) theorization of the 'informational society' in which society continues to rapidly evolve as a result of an inherent desire to learn, create and transmit flows of information has direct impacts on how power is distributed. This is a salient point, as civil society actors have been characterized as being a marginal sideshow primarily because of their limited resources. However, Castells (1997, p. 359) argues that organizations, state institutions, and mass media are becoming increasingly irrelevant as a result of the diffusion of power throughout a globalized network of non-traditional stakeholders. He further conceptualizes that power is not eliminated but rather the traditional forms of power are pushed to the periphery. Castells (1997) position is notable as he discounts both the practical and imagined relevance of state institutions. In contrast, I share the view that within local environmental struggles, that the state (all levels) remains a critical stakeholder and plays an important role in justifying the actions of civil society actors. Simply, the involvement and actions of the state throughout policy deliberations is historically contingent, and therefore power should also be considered in this same context.

Thirdly, in order to effectively increase public engagement, policy-makers must tackle some common critiques throughout the policy studies literature. These criticisms include questions surrounding the overall comprehensiveness and inclusiveness of policy debates. Other concerns revolve around the frequency and duration of public consultations. Finally, critical questions remain regarding how to effectively balance the input and recommendations from scientific experts with the observations from lay citizens. Despite its potential benefits, increasing public participation in the policy-formation process is by no means straightforward. There are many factors that must be considered by officials to ensure that policy deliberations are indeed equitable and resistant to being preempted by market forces, petty politicking, and other special interests. The challenge is to find a case-specific balance that facilitates meaningful public participation and enables a process of discovery and adaptation at all stages.

Environmental Governance and Neoliberalism

Planning professor Margit Mayer (2000) has argued the shift from ‘government’ to ‘governance’ as a notable development in local urban politics, and more specifically the expansion of the urban political system. Savitch and Vogel (2000, p. 161) explain that there is an appreciable difference between both government and governance, where government is the, “formal institutions and elections and established decision-making processes, and administrative structures”, and is “fairly encompassing form of organization; a legitimate monopoly that takes responsibility for both providing and producing public services.” The authors add that governance is the utilization of existing institutions in new ways, where services are delivered ultimately through the cooperation between other governments, civil society groups, and even the private sector. Pierre (2005, p. 449) defines urban governance as, “the pursuit of collective goals through an inclusive strategy of resource mobilization”. Kjaer (2012) states that over the last two decades, governance has also been used to describe alternative arrangements between the state and the public, in particular to highlight and emphasize the establishment of extended networks containing overlapping roles and responsibilities of different actors. Howlett (2001) adds that modern governance has resulted

in new types of policy instruments and procedural tools such as partnerships between the state and civil society and the establishment of public advisory commissions.

With respect to environmental governance in Canada, Parson (2001) states that environmental institutions broadly took shape in the early 1970s, with the establishment of both federal and provincial departments/ministries. He adds that Environment Canada was formed in 1971, and was empowered with some regulatory authority that governed pollution, hazardous chemicals and waste disposal. In the 1980s new environmental agencies and policies were established, and Canada negotiated major international treaties such as the *Montreal Protocol on Substances that Deplete the Ozone Layer*⁷, and the *Convention on Long-range Transboundary Air Pollution* (Parson 2001). In practice, environmental governance in Canada is coordinated between the federal government and its provincial/territorial counterparts, and this configuration has presented challenges since the constitution does not designate authority for environmental protection (Harrison 1996, Parson 2001). However, in practice the provinces have shouldered a greater share of environmental governance, for example, through the creation and protection of different types of greenspaces and the establishment of new automobile emission standards.

In Canada, a wide variety and number of civil society organizations have also participated in environmental decision-making and governance at all levels of government. However, the role of civil society in environmental governance is not straightforward and is further complicated when one considers how neoliberal reforms can be advanced by the state. As civil society groups become increasingly involved in shaping their local communities, it raises some fundamental questions pertaining to the redefinition of the role of the state, and the redistribution of responsibilities of all stakeholders. Specifically, how much responsibility should be accepted and assumed by non-state actors? Understanding this balance of responsibility between the state, the public, and the market in the management and governance of greenspace represents a critical question that at its core implicates civil society.

⁷ Canada was the first nation to ratify the treaty on June 4, 1986. The treaty entered into force in 1988.

The issue of decreasing state responsibility and the increasing involvement of market-actors and civil society in all facets of urban governance has been the focus of many studies by human geographers. One study surveyed the academic literature on neoliberalism from 1990-2010 and revealed that over 750 articles and books were published on urban policy and planning (Sager 2011). For most, neoliberal ideology represents a shift from public or state controlled strategies to (semi-) private or other market-oriented schemes. The conceptualization of neoliberalism has been a practical and popular concept that has connected several political discourses such as welfare reform, the economy, labour movements, nature, capital, and globalization. I acknowledge that neoliberalism is not just a singular homogenous type of capitalism, but rather a heterogeneous ongoing process that is historically contingent, that encompasses the environment, cultural shifts, economic development, and public-private realignments (Peck 2001, 2010, Peck and Tickell 2002, Harvey 2005, Jessop 2002, Swyngedouw 2005b).

The overarching rhetoric of neoliberal economics presupposes that government actors/regulations will only serve to limit and decrease the efforts of the market in finding appropriate solutions. Peck and Tickell (2002) argue that neoliberalism has provided an operating framework to describe competitive globalization and state rescaling/restructuring. Peck (2010, p. 7) states that neoliberalism is an “open-ended and contradictory process of regulatory restructuring”, and in practice has never been about attaining complete liberalization of the free market, ultimately resulting in the evacuation of the state. The author further identifies ‘roll-back’ and ‘roll-out’ phases of neoliberalism, where roll-back refers to the initial stages when the state begins to restructure the roles and powers of institutions. Peck explains that this phase can be typified by funding cuts, retrenchment, privatisation, downsizing and attacks on entitlement programs and labour unions. Eventually, the shortcomings and effects of these measures become increasingly apparent and inevitably result in further reconsideration of the role of the state and additional reforms. Peck describes this roll-out phase as follows;

It is typically associated with an explosion of ‘market conforming’ regulatory incursions - from the selective empowerment of community organizations and

NGOs as (flexible, low-cost, non-state) service providers, through management by audit and devolved governance, to the embrace of public-private partnership - in the form of an on-the-roof rediscovery and reinvention of an Ordoliberal ethic. (Peck 2010, p. 23)

Castree (2008b, p. 142) identifies deregulation as, “the rollback of state interference” in social or environmental affairs, which can be characterized by ‘light touch’ state regulation. He adds that deregulation can also result in increased levels of self-governance by actors and the eventual establishment of flanking civil society involvement, facilitated and encouraged by the state, to intervene and address problems resulting from restructuring. It should be noted that the above conceptualizations are merely ways in which neoliberalism has been articulated and does not serve as a core definition of economic liberalization (i.e., free trade, privatisation and open markets). Brenner and Theodore (2002, p. 365) also explain and characterize that neoliberalism can be realized (i.e., the roll-out phase or rolling forward) with the establishment of public-private partnerships, and other networked governance strategies. The authors also link neoliberalism to the creation of new quasi-autonomous non-governmental organizations (quangos) that may be out of reach or insulated from typical public accountability and democratic measures.

Within a North American context, Walks (2009) argues that Canadian metropolitan regions are not immune to such neoliberal processes, and these processes also have the potential to impact governance and environmental justice at multiple scales. This trend has also been identified in the resource management literature where market-oriented interventions and measures have been utilized by the state to achieve their conservation goals (Roth and Dressler 2012, Büscher and Dressler 2012). Published geographical case studies on the neoliberalisation of environmental governance suggest that the theory and practice have produced varied results. For example, in the move to privatize water, Bakker’s (2003, 2005) UK-based study has indicated mixed outcomes in that water quality was improved but also resulted in regional water shortages. Prudham’s (2004) examination of privatized water quality testing in Walkerton, Ontario caused municipal drinking water contamination resulting in seven deaths and thousands falling ill (O’Connor 2002a, 2002b). Loftus and

McDonald (2001) study on the commercialization of water service delivery in Buenos Aires also fell short of its intended benefits, as the overall distribution network increased but there remained inadequate sewage treatment capacity. In Lave et al. (2010a), the researchers examined how neoliberalism and state/market logics have significantly altered the practice of stream restoration in the U.S. In particular they examined how the practice of restoring streams has resulted in a for-profit industry that is marketed and advertised by private interests, and has ultimately redefined the relationship between public and private sector science. Furthermore, Lave et al. (2010b) have also called for further research into how external political-economic forces can transform science, research agendas and environmental management policies. In the end, the effects of neoliberalism of nature at the local level merits study, because if the process is considered to be a common feature of the economics and culture of world systems, then learning about its (un-) intended consequences can provide useful lessons.

Research examining the various relationships between human and non-human actors within a context of neoliberalism, and more broadly capitalism, has also garnered much attention from critical geographers (Castree 2008a, 2008b). A common theme of this literature highlights contrasting spatial effects resulting in both positive and negative environmental consequences attributed to neoliberal policies. I recognize that neoliberalism has direct and explicit links to nature (i.e., non-human actors) and affects how it is nature is governed and managed. The connection between nature, science and neoliberalism has been developed by geographers such as Heynen and Robbins (2005) in their commentary on Karl Marx and Friedrich Engels' (1998) materialist method. In their paper Heynen and Robbins highlight Marx's observation that there would be no human history without nature, and that neoliberal capitalism is just another stage in the era of capitalism. In following Marx, scholars have explored how nature can be neoliberalised through market forces and thus is a direct product of capitalism. The trend of broad marketisation of urban ecosystems and ecologies was also identified by Karl Polanyi in *The Great Transformation* (1944). The specific examination of how the effects of neoliberalism are manifested 'on the ground' has also been the focus of study of several academic disciplines such as resource management, and environmental geography. Smith (2006) adds that making the connection between capitalism and the

environment is significant because it reveals how nature can be commodified. This is relevant since it explicitly places a focus onto how the political economy can greatly transform space. This recognition is important for my study as it helps provide context into how society ultimately values greenspaces and further imagines how such spaces should be managed and governed. Perkins (2009) further states that despite the recent scholarship on neoliberalism and its effects in the political economies of more developed regions, there is still a gap in understanding how it specifically impacts urban greenspaces. Particularly, we still do not fully understand how market forces can shape and re-organize the governance and management of greenspaces.

Increasing opportunities for civic engagement at the local level may also serve to resist what Heynen and Robbins (2005, p. 7) describe as, “the environmentally destructive forces of neoliberalisation”, that are in operation at various geographic scales. One of the key features of neoliberalism, retrenchment of state responsibility, despite its shortcomings it has the potential to provide one unintended benefit. Specifically, retrenchment has perhaps created a ‘vacuum of responsibility’, which in certain scenarios may ultimately serve to create a potential space or opening for increased levels of civic (re-) engagement. This opening should not be considered a panacea, but rather should be viewed as a distinct opportunity for different stakeholders to become or increase their level of involvement in neighbourhood-level change. A critical question is whether such openings can in fact lead to greater empowerment of civil society actors or will it merely facilitate weakened governance processes, thereby enabling the influence of market forces. It is also relevant to ask if these opportunities result in more effective conservation measures or will it simply result in the continued aestheticization and marketisation of nature. Such a situation requires a careful balance between the public desire for stewardship, and an overall willingness for the state to negotiate and facilitate cooperation between stakeholders.

Nature as a Commodity

Noel Castree (2008a) has provided a survey of some of the case study-based research that has examined nature’s neoliberalisation and its various outcomes. Issues and debates such as the

efforts to privatize drinking water (along with filtration/sanitation), the creation and consumption of genetically modified foods, the patenting of life forms, and the enclosure of natural resources are other well-studied examples of how nature can be commodified, through neoliberal policy. Despite such interest from scholars, the direct effects of the neoliberalisation of nature have produced various outcomes. Some of which are noted by Castree (2008b) where he identifies key characteristics of neoliberalism by those working to parse out the logics, effects, outcomes, and procedures associated with such politics and policies. The author explains that two characteristics of neoliberalisation involve deregulation, which is the rollback of state interference in environmental and social phenomena, where stakeholders become self-governing, and re-regulation defined by the deployment and facilitation of state policies, which enable further privatisation of environmental and social phenomena.

Another characteristic of the neoliberalisation of nature involves ‘marketisation’ (Castree 2008b) or ‘valuation’ (Heynen and Robbins 2005), which is both described as allocating tangible prices to historically unpriced or complex ecological phenomena, thus revealing how nature may be commodified. In more developed regions such commodification can have consequences in the manner in which protected areas are created, managed, and ultimately envisioned by the public at large. Even more challenging is the conservation of greenspaces located within urban boundaries, or those that are found adjacent/along exurban spaces. Such landscapes can be highly contested, heavily politicized and the commodification of nature becomes evident through the economic analysis and overall valuation of undeveloped or under-developed land.

The demand to develop the urban periphery can ultimately be tied to the broader political economy of a region, and in Ontario such development pressures are omnipresent. This overall valuation of particular greenspaces (either real or imagined) may also lay the foundation to permit further market reforms, an increase/acceptance of private conservation measures, and the aestheticization of landscapes. Research on the Oak Ridges Moraine, has also detailed how specific political and neoliberal processes have played a key role in how exurban areas are envisaged by private homeowners, marketed by the state, and ultimately

gentrified (Bunce 1985, Sandberg and Wekerle 2010). I expand on this material and present my findings on nature and the governance and management of the Rouge Park in Chapter 7.

Science and Environmental Politics

The final body of theory that this research draws from is derived from environmental politics, technocracy, and the role of expertise in policy debates. In contemporary society, science is relied upon and tied to rational decision-making. Science and the scientific method permeates all facets of daily life and most often presents the strongest case to accurately and objectively assess both natural and social phenomena. Moreover this set of epistemological perspectives, known as positivism, states that the scientific method is the best approach to discovering solutions.⁸ Specifically, my research asks how civil society groups make use of scientific expertise and how they utilize specific scientific narratives to frame their respective positions to public officials and the general public.

The role of experts within the policy formation process has been well documented in environmental politics. Controversies ranging from local planning disputes to planetary scale issues such as climate change inevitably draw upon scientific expertise to inform policy decisions. Policy scholar Sheila Jasanoff (1990) has long maintained that solutions to complex dilemmas are ultimately answered in the manner in how the questions are framed. Jasanoff states;

If a problem is framed too narrowly, too broadly, or wrongly, the solution will suffer from the same defects. To take a simple example, a chemical-testing policy focused on single chemicals cannot produce knowledge about the environmental health consequences of multiple exposures. The framing of the regulatory issue is more restrictive than the actual distribution of chemical-induced risks, and hence is incapable of delivering optimal management strategies. (Jasanoff 2003, p. 240)

⁸ French philosopher Auguste Comte (1798-1857) was the founder of positivism and sociology. He used positivism to describe the scientific method and argued that scientific experts could replace the role of the church and provides a foundation for modern society (Fuller 2006, p. 207, 211).

Therefore, if an environmental issue is framed using primarily scientific discourses, then it is most likely that the majority of the solutions will also be scientifically framed. Ultimately, stakeholders will utilize science to challenge and interrogate competing claims, thus revealing a defacto cold war of competing scientific expertise, where each seek out the expert with the most credentials to trump their opponents' expert (Fischer 1990, 2000, Jasanoff 1990). Simply put, both science and expertise are not absolute, and both can be politicized. This focus on intuitional legitimacy, jurisdiction, technocracy, power and expertise are relevant to my research as it parses the different relationships that exist between stakeholders. Furthermore, these questions can reveal how such actors position themselves amongst one another and to the broader public.

Sociologists Bruno Latour (1987, 1999, 2005), Michel Callon (1986), and John Law (1986, 1992) have examined how the discipline of science itself is subject to a wide variety of social processes and networks. These authors working on the sociology of translation and the powers of association have also recognized the role of both science and sociology in structuring power relationships. Latour collaborated with sociologist Steve Woolgar to publish *Laboratory Life: the Social Construction of Scientific Facts* (1979), where they presented an anthropological study of Roger Guillemin's laboratory at the Salk Institute.⁹ In their book the authors examined and critiqued the methods of scientific investigation in particular, the process of publishing papers and the perception of scientific prestige. Like Latour and Woolgar's focus on individuals and their respective laboratories, Harry Collins's *Changing Order: Replication and Induction In Scientific Practice* (1985), also examined the sociological processes of how knowledge is produced. Using different case studies, Collins scrutinized how scientists observed and drew conclusions from their experiments. This work was relevant in that it began to outline how scientific knowledge may reinforce and reproduce itself and has been picked up and further developed through the 1980s in social science related disciplines such as science and technology studies (STS)¹⁰ and the history and

⁹ Roger Guillemin won the 1977 Nobel Prize in Medicine for his discoveries that provided the foundation for brain hormone research. The Salk Institute for Biological Studies is located in La Jolla, California and is a non-profit scientific research facility.

¹⁰ Science and technology studies, is the study of the political, social and cultural values of science research and technological innovation.

philosophy of science (Bloor 1976, Latour and Woolgar 1979, Collins 1985, Latour 1987, Michel Callon 1986). Such insights into how knowledge is produced through semiotics, instrumentation, artifacts, and translation, can provide a nuanced perspective into the links between science, nature, and politics.¹¹ In particular, how non-human actors (i.e., the abiotic and biotic attributes of nature) can have agency, and thus play a role in the knowledge production process.

Since the 1990s there has been interest in bridging the gap between STS and critical geography (Watts and McCarthy 1997, Demeritt 1998, Forsyth 2003, Goldman and Turner 2011, Braun and Castree 1998). Such calls have resulted in deeper scrutiny into the connections between nature, knowledge creation and political ecology. Lave (2012) states that bringing together STS and critical geography can provide productive areas for conversation into better understanding how science can be applied in environmental disputes. Work by STS scholars investigating the social processes behind the sciences, can be traced back to Thomas Kuhn's (1962) exploration of 'paradigm shifts' within the scientific discipline and notes how science is a social practice rather than an objective process of knowledge accumulation. Contemporarily, Kuhnian 'normal science' has typically been the dominant form of knowledge/science used in modern policy debates, while alternative forms of knowing based on citizen, folk, ethnoscience, or any other traditional forms of knowledge are often the first to be discredited. Kuhn went further to explore and conceptualize 'rationality' in science, and how it may be defined and differentiated between 'irrationality'.

This conceptualization is relevant to my study, in that it shows how science and those who practice it may be subject to influence from the economy, politics, social structures, and even individuals/groups. The manner in which science is practiced through specific methodologies making use of instrumentation, values, and readings, ultimately shrouds the meaning of the results for lay individuals. In this case, science and making sense of it becomes the job of experts who are familiar with procedures and methodologies. Science becomes its own language filled with nuance, its own vocabulary, translations, values, and meanings. At a

¹¹ These ideas laid the groundwork for the development of Actor-network theory (ANT), by Latour (1987), Callon (1986), and Law (1992), which explored the relationships between science and its relationships with both human and non-human actors.

most basic level, such scientific interpretations may define, categorize or explain natural phenomena in obscure quantitative measures, and for ordinary citizens these descriptions may be difficult to decipher and understand. This is relevant in that elected officials and bureaucrats alike rely on these results and the observations of experts to make policy decisions. In the end, science and its processes may obfuscate the results and observations of scientific studies and also ultimately discredits other forms of knowledge and understanding.

Interestingly, such conceptualizations of science and how the production of knowledge may be contingent on social phenomena, remains largely ignored and absent in the pure and applied sciences. However, within some academic disciplines like resource management, there is growing understanding that knowledge produced and collected by ordinary citizens can be valid and should be equally considered. Simply, it is becoming more widely recognized that those who have no formal scientific training should be given equal opportunity to put forth their cases within policy deliberations. It is reasoned that such citizens possess valuable knowledge in the recognition of subtle long-term changes in the environs (Agrawal 1995, Agrawal and Gibson 1999, Smiley et al. 2010, Wright and Rollins 2009, Broderick 2005, Parkins and Mitchell 2005, Beierle and Konisky 2001, Busenberg 2000).

So the philosophical dilemma that faces both resource managers and elected officials alike is deciding on how credible are the results and recommendations that are presented by experts, or perhaps determining which expert or set of observations is the most credible. From the perspective of experts, how do they translate their observations and results into a manner or vocabulary that can be understood by the public? For decision-makers their challenge is to interrogate the results, digest their meaning and decide on policy, while taking into consideration the recommendations put forth by all stakeholders in order to find reasonable and balanced solutions. Such questions are critical to addressing my thesis in that my research shows that scientific expertise remains a powerful and influential component of policy discussions. Experts not only provide advice to both the public and elected officials, but rather science itself (i.e., practicing it or engaging in its debates) ultimately serves to legitimize the positions and actions of all stakeholders. For this reason, understanding how to

utilize scientific expertise will prove fundamental in the success of those civil society actors who may have limited financial or human resources.

Experts and Expertise

Despite the growing recognition of lay observations, there is still a premium placed on experts and evidence in public policymaking. This challenge of carefully weighing the arguments of a lay public with those of experts is one that is continually faced by elected officials, regardless of the subject or issue. From healthcare to social policy, the input of experts is crucial in crafting policy. This scenario is further complicated when negotiating highly technical and/or complex natural phenomena. In *Technocracy and the Politics of Expertise* (1990) and *Reframing Public Policy* (2003), political scientist Frank Fischer¹² provides a comprehensive examination of the role of experts and expertise in a democratic society. He believes that within an increasingly technocratic society, a ‘politics of expertise’ becomes ever more persuasive in an elitist policy-making process. Fischer (2003) states that the main issue with the majority of contemporary policy processes is that there is a focus on the ‘empiricism’ that places a premium on research that is based on a collection of facts and material observations, most often at the expense of conceptual reflection and further theoretical inquiry. Empiricism can be traced back to the work of French philosopher August Comte and above all represents a philosophy of science, where metaphysical speculation is rejected in favour of ‘positive’ knowledge that emphasizes knowledge based on systemic experimentation and observation. On the other hand, ‘post-empiricism’ takes the position that facts can be shaped by both society and theory, and the values of all involved actors and stakeholders.

Fischer (2003) argues that the fields of political/policy studies have been generally guided by an upfront empirical orientation. He states that within the study of environmental politics a major stumbling block is empiricism, which he defines as the orientation of research that prioritizes the accumulation of facts and observations, at the expense of conceptual reflection

¹² Notwithstanding the recent (2010) plagiarism allegations made by Kresimir Petrovic and Alan Sokal of Frank Fischer’s work, the arguments that Fischer presents in his texts are still relevant.

and theoretical inquiry. He adds that the dominant neo-positivists and empiricist approach has ultimately allowed for and further facilitates a rise to a ‘methodological fetish’, which has resulted in calls for ever more rigorous quantitative analysis. His observations are relevant to the study of environmental policy in that it begins to reveal how experts who are not in political control have been increasingly influential. Furthermore, he argues that there are several criticisms that can be brought against policy analysis that is fundamentally rooted and based on the positivist position, and while arguing that there are alternative possibilities and approaches that can be implemented to help policymakers. He devotes a lengthy analysis on the merits of ‘discourse-coalition approach’ over Paul Sabatier’s (1988) and others ‘advocacy collation framework’, where Fischer believes that the latter merely enforces and requires the rigidity of empiricism and thus is severely constricted. This is in direct contrast to discourse coalitions that do not require facts and methodologies, but instead focus on shared beliefs, knowledge and imagination.

Fischer asserts that the policy formation process must first recognize the linguistically constituted character of modern day society, and that society must make a thorough attempt to change the various meanings and practices that are embedded in it. This observation is relevant when considering how tenuous and conflicting the definition of what is ‘natural’ or what landscape elements/characteristics should be included in a conceptualization of greenspace. Fischer (2003, p.46) refers to this process of trying to bring immediate understanding to the policy negotiations as a ‘macro discourse’, and further elaborates that a ‘micro discourse’ would undertake a narrative analysis to reveal our personal perceptions and descriptions of policy problems. He adds that it is important that all other ideas, forms of knowledge, and ways of knowing will be contested, and therefore politics will be reduced to a struggle over meaning, and in order for your ‘side’ to prevail, your meanings need to be widely accepted first and foremost (2003, p. 45-47).

Fischer’s observations reinforce Maarten Hager’s work in *The Politics of Environmental Discourse* (1995) seminal investigation on micro-discourse analysis where he analyzed the politics behind the acid rain controversy. Hager revealed how different understandings of the acid rain controversy in the Netherlands and in Britain, resulted in different types of

responses and politics in the two countries. Drawing from French philosopher Michel Foucault's work, Hager (1995) explains that in order to understand the politics of discourse, one needs to fully appreciate how specific discourses may influence and change other policy arenas. He argues that hegemonic discourses give actors 'subject positions' which serve to empower and define their identity or principle narrative. How this narrative is defined and constructed may also ultimately define an actor's social position and its relationship to power. Through a process of discourse analysis, actors attach meanings to themselves, the issue and ultimately to their competitors and thus create a counter-discourse. This conflict/battle leads to the defining of jurisdiction, fault/blame, and is part and parcel to the construction of knowledge.

In Chapter 6, I specifically explore the following questions; How do scientific experts help or hinder the efforts of conservation-based civil society actors? Also, what are the limitations and advantages of utilizing positivistic rationales or scientifically-based discourses to frame an environmental controversy? How do actors and/or a particular discourse obtain hegemonic status? The overall success of the hegemonic discourse is related to and reflects a distribution of power, and at the center of this debate is a politicization of science and expertise. This conceptualization of discourse, power, and its connection to environmental controversies, is relevant to my project in that it lays the groundwork for understanding how science and expertise plays a fundamental role in determining why urban greenspaces should be protected and managed.

The pitfalls of relying on science and experts in policy deliberations have resulted in much scholarship on the conceptualization of risk.¹³ Sociologists Ulrich Beck and Anthony Giddens have also developed this examination of risk and its connections to expertise. In Beck's *Risk Society* (1992), he questions the role of experts in policy deliberations involving complex environmental phenomena, and has further called for a re-theorization for the

¹³ See Charles Perrow's *Normal Accidents: Living with High Risk Technologies* (1984), for a critique of catastrophes and how scientific discourse is complicit in rationalizing and mitigating any potential consequences. Perrow proposed a framework to help understand and characterize how highly complex technical systems such as nuclear power plants, chemical plants, marine/air traffic, and other mega projects can result in multiple/unexpected failures and severe consequences. He defines 'normal' accidents as those that begin when everything is ordinary and trivial, yet events will eventually cascade into multiple and unpredictable events.

inclusion of other forms of knowledge in policy deliberations. Beck et al. (1994) deconstructed the intricate and convoluted relationships between experts and lay citizens through his idea of ‘subpolitics’, which are new partnerships between disparate actors that were formed outside of traditional state institutions. This subpolitics was a key characteristic of ‘reflexive modernization’, where the state was undermined and transcended by a ‘second modernity’ characterized and defined by individualization, globalization, the gender revolution, under-employment and the proliferation and facilitation of global scale risks.¹⁴ This second modernity would also bear witness to the fading away of the ‘bi-polar world’ as society moves away from a world of enemies towards a world of increased dangers and risks.

Beck’s (1992) thesis examining the various ramifications of determining, calculating, and negotiating risk through science and expertise is influential in the study of environmental politics in that he shows the limitations of the modern approach to anticipate future consequences related to human actions. After *Risk Society*, Beck (1996) had further developed and critiqued how experts were critical in environmental decision-making and being even more relied upon in modern society. He states;

In other words, risk society is tendentially a self critical society. Insurance experts contradict safety engineers. If the latter declare a zero risk, the former judge: non-insurable. Experts are relativised or dethroned by counterexperts. Politicians encounter the resistance of citizen’s initiatives, industrial management that of consumer organizations. Bureaucracies are criticized by self-help groups. Ultimately, industries responsible for damage (for example, the chemical industry for marine pollution) must even expect resistance from other industries affected as a result (in this case fishing and the business dependent on coastal tourism). The former can be challenged by the latter, inspected, perhaps even corrected. Yes, the risk question even divides families and professional groups, from the skilled workers of the chemical industry

¹⁴ Beck (1994) defines the ‘first modernity’ as one that focuses on nation-state societies, where communities are understood in terms of the territory that they occupy. It is also associated with full employment, the full exploitation of nature/resources, and technological progress.

right up to top management, often even the individual: what the head wants, the mouth says, the hand is unable to carry out. (Beck 1996, p. 32-33)

Although these theoretical conceptions on catastrophe and risk by Beck and others may seem unrelated to the fight to protect a greenspace by local residents, it does provide insight into some of the drawbacks of technocracy in policy. It shows that within environmental disputes, experts play a significant role in both sides of a controversy, and that they themselves will contradict each other's findings.

Bocking (2005) also looked at the influence of politics on scientific expertise and its related narratives in the controversy over the protection of the Oak Ridges Moraine.¹⁵ The author argues that both conservationists and developers can use scientific arguments, and both may employ contrastingly different ways of framing a particular issue. He adds that there are both benefits and risks in heavily relying on science in grounding ones arguments and position. Work by L. Anders Sandberg and Peter Clancy (2000, 2002) have also critiqued the connections that may form between experts and the institutions in which they work.¹⁶ The authors state that despite the common position that science and its method is objective, individuals and their respective institutions are inevitably subject to external influence. Factors such as which government is power, or the specific priorities of funding agencies all have a role to play in the policy-formation process. Sandberg and Clancy have described such interactions as a 'politics of science' and explain that scientific expertise is not immune to numerous societal, political, and economic forces as numerous actors are all soliciting science in an effort to lend support to their given positions. A politics of science framework suggests that both governmental and institutional science may also be influenced by the particular agendas of higher tier governments and institutions in that predetermined bureaucratic directives and professional affiliations may also affect experts (Bocking 1997,

¹⁵ The Oak Ridges Moraine is hilly geological formation consisting of mostly sand and gravel deposited during the last Ice Age. It extends from Rice Lake in the east, to the Niagara Escarpment in the west, a length of over 160 km. (Paterson and Cheel 1997). For more on the ecology, politics and the conflict to preserve the Oak Ridges Moraine, see Wekerle and Sandberg 2010, Edey *et al.* 2006, and Bocking 2005)

¹⁶ Sandberg and Clancy's book *Against the Grain: Foresters and Politics in Nova Scotia* (2002) profiled the actions and practices of seven forestry professionals (1920s to present day). The authors examined some of the historical, political, and institutional factors that shaped resource management in that province and more broadly throughout eastern Canada.

Sandberg and Clancy 2000). For example, smaller governmental institutions such as the regionally significant Conservation Authorities of Ontario may also be subject to being influenced by their supervising/superior governmental bodies. These smaller agencies often directly rely on higher tier governments for funding, staffing, and even their day-to-day operations. Simply put, the expert advice that scientists endorse is not immune to societal, political, and economic forces.

However, there is also an inter-related dynamics to a politics of science, where experts themselves have their own intramural debates, where different positions and assumptions are contested. Sandberg and Clancy (2002) refer to such dynamics as ‘science politics’ where internal disputes among experts prevail and are result of personal debates and one-upmanship. Here Kuhnian ‘normal science’ becomes dominant but may be contested by other positions. However, studies or management methods that have the potential to disrupt or go against dominant theories are often marginalized and discredited. It is worth mentioning that alternative and informal bodies of knowing and knowledge are the modes of science that are often first attacked by the formal pure and applied sciences. It is through this competition between differing ideologies where the creation of knowledge is questioned as rival viewpoints compete for dominance.

The idea that other non-positivist forms of knowledge/knowing should be given more credence in policy debates has been continually emphasized in the resource management literature and in the popular academic literature (Conley and Moote 2003, Stoll-Kleeman and Riordan 2002, Konisky and Beierle 2001, Weber 2000, Born and Sonzogni 1995, Margerum 1999). Lee and Roth (2006) explain that framing arguments in terms of ‘scientific’ and ‘non-scientific’ classification schemes, may actually provide limited value in community-level resource management controversies. The authors argue that examining the issue in terms of science may not be the only determinant that defines the problem. When science becomes part of the community dialogue, it has the potential to become subservient to all the stakeholders involved, as all those involved actively de/re-code the findings and struggle with its meanings. Moreover, it may limit other frames of knowledge and forms of knowing that the public might be more familiar with.

These scientific narratives may be also associated with a ‘politics of scale’ where stakeholders will invoke and implicate narratives relevant to the broader bioregion to best frame the science and nature that they are promoting. The politics of scale is based on the idea that specific geographic scales such as the local, regional, national, and global are socially constructed and contingent (Delaney and Leitner 1997, Herod and Wright 2002, Brenner 2002, Cox 1998, Marston 2000). Scale was prominent in both political science and economics as a tool to understand globalization and other transnational economic processes (Taylor 1982). Geographers over the past few decades have utilized and considered scale as a conceptual framework to understand the material connections between space, place, society and nature (Harvey 1996, Smith 1990, 1993, 1995). The social production of geographical scale has been used to critically diagnose the politics of natural resource distribution, control and its links to capitalism and other contemporary global processes. Moreover, scale can be categorically and strategically implemented to assert hegemonic social relations over both human and non-human actors.

As a social construct, the definition of scale can also be contested and challenged, and its meanings re-evaluated. Huber and Emel (2009) state that scale should be thought of as a continuous and unfolding process, to be explained and considered along with a social struggle over governance and resource control. Geographer David Harvey (1996) argues that the theorization of scale helps facilitate understanding into how conflicts throughout society may arise. He adds that scale reveals and highlights how the natural environment is understood in terms of contemporary economic and social processes. Tsing (2005, p. 57) argues that the connection between nature and resource development/extraction projects are ‘scale-making projects’. Specifically, in order to comprehend the benefits and constraints of capitalism and globalization on both nature and communities, we must consider scale at the level of the individual first, and then outward right up to the level of international politics.

These contributions are relevant because they add another layer of theoretical inquiry into how nature can be politicized, not only by specific actors, but also through the enactment and invoking of scalar arguments. I add that by identifying how scale is implicated and therefore ultimately produced by stakeholders through an examination of the arguments that they

espouse, reveals how science can also be subject to scalar politics. This ‘scaling of science’ adds some insight into the strategies that aid civil society groups in their ability to shape their communities. In particular, scale helps identify some of the state institutions and political processes that are critical to the success of certain civil society organizations. Coming to terms with the scalar dimensions of politics, state institutions, the economy, and science will prove useful for civil society in understanding how stakeholders succeed in gaining political traction for their cause.

In the humanities and social sciences, science as both a process and a discipline, has numerous checks and balances that aim to preserve the integrity and veracity of the knowledge created. One such example involves the practice of open or blind peer-review, which seeks to maintain responsible conduct in research that is to be published. Having accessible and reliable scientific research that encompasses a broad range of topics relevant to both local and regional scales, may serve as a powerful tool to support the actions and activities of citizens. The availability and publication of scientific results are critically important not just for the knowledge, but they also serve to stimulate and promote discussion through the media and the public. These results may also represent a key factor in the mobilization of civil society working to act, serve and change the communities they represent. As it will be discussed in Chapter 6, conservationists made use of and heavily relied on government produced reports and studies to ground their case for the protection of the Rouge Valley.

CHAPTER 3

GREENBELT AND PARK PLANNING IN CANADA

In this chapter I provide a literature review on the relevance of greenspaces to contemporary society, with a special emphasis on the Canadian experience. I explore the urban fringe as a space of political contestation, while examining the origins of greenbelts and their conceptualization as a tool for planners. I also provide a summary of how protected areas may be categorized both within Canada and internationally. This chapter specifically highlights the current state of park planning in Canada, and serves to provide important context for how the Rouge Park compares to other protected areas.

Nature and Society

Throughout history, natural areas have provided humans with the basic resources and elements required to survive. Nature has also been a source of inspiration, adventure, and solace for individuals, communities, and entire civilizations. From courageous expeditions into the mountains or a routine walk in a neighborhood park, natural areas provide the backdrop for recreational and leisure activities. The umbrella terms parks and greenspace are used widely in numerous disciplines and fields of study, and relates to a variety of landscapes which include woodlands, woodlots, refuges, forests, grasslands, cultivated/ornamental gardens, wetlands, parks or any other formally protected areas. Such greenspaces can take many physical forms and can range from the small/informal (i.e., private woodlot or small neighbourhood parkette) or other larger recognizable spaces such as city parks, conservation areas or provincial parks. Fundamentally, the very idea of what precisely constitutes a park or greenspace may be considered variable and highly personal, and thus historically and socially contingent.

As Earth's human population continues to migrate towards urban centres (United Nations 2008), the overall availability, creation and protection of urban greenspaces will inevitably be politically contested as a result of increasing pressures to develop and convert these lands for other uses. This presents a distinct challenge for governments who must seek to balance the environmental and human health benefits associated with greenspaces, with the requirements of rapidly expanding city-regions. These pressures may include the conversion of land for private enterprises (office space, employment lands, or retail), infrastructure development (sewers, roads), and housing.

In addition to providing habitat for flora and fauna, greenspaces and natural areas also play a significant role in urban landscapes.¹⁷ As outlined in Chapter 1, greenspaces can provide a wide variety of benefits to both individuals and their respective communities. However, unlike rural natural areas, greenspaces situated within densely populated areas, are subject to formidable political and economic pressures to develop the land. Despite the political challenges to develop a city's edge, on an international scale different jurisdictions have achieved success in identifying urban greenspaces and creating natural corridors such as greenbelts (Ahern 1995, Fábos and Ryan 2004, Jongman 1995, Flink and Searns 1993, Carter-Whitney and Esakin 2010). In an increasingly urban world, these spaces are likely to become more relevant, highly politicized, and will attract higher number of visitors. Furthermore, these public spaces often serve as a definitive counterpoint to a city's built form and will serve to enhance its overall global competitiveness.

Greenbelts

While the creation of greenspaces can be seen as a public benefit to most, the actual types and/or kinds of parks that are created requires careful analysis. In the same manner that the word nature can be defined in different way, the word greenspaces can be used to describe many types of landforms, from the most highly cultivated ornamental garden to a deciduous

¹⁷ For this research I use the term 'urban' to describe regions pertaining to towns and cities (Pacione 2009).

forest and everything in between, such greenspaces also serve a broad range of potential services. From providing opportunities for recreation to providing habitat for both flora and fauna, the notion of ‘for whom’ and ‘for what’ a park is created is a very real issue and question that must be negotiated by all interested stakeholders. Such issues are often raised continually when negotiating all aspects of the creation and maintenance of urban greenspaces, where the views and beliefs of a variety of stakeholders are in conflict with regards to the chief purpose of the planned space.

The connection between society, nature, and built form, was explored by Ebenezer Howard in *To-morrow: A Peaceful Path to Real Reform* (1898). Howard’s Garden City concept was immediately influential in urban planning in both Europe and North America, as it purposely tried to amalgamate the best characteristics of both town and country while promising to leave behind the negative consequences of each. He viewed towns as being congested and the country as impoverished, and believed that a solution could be found in a combination of the two. A ‘town-country’ would include all the vibrant activities of a town with the pristine beauty of the countryside. Moreover, Howard recognized the potential for incorporating nature and greenspaces into town plans. This concept of the potential social benefits of accessible greenspaces and other quality public spaces within urban areas was further developed throughout the early 20th century. The conceptualization of greenbelts dates back several centuries but it was through writings and ideas of Howard that they began to gain traction and impact the theory and practice of land use planning.

After the seemingly uncontrolled urban sprawl in the UK during the early 20th century, greenbelts were primarily viewed and envisioned as a direct means to immediately control urban expansion. During this period, English architect and town planner Raymond Unwin conceived the idea of a ‘green girdle’ and incorporated it into the *Greater London Regional Plan* (1933), and in 1935 the Greater London Regional Planning Committee decided to build on this idea and decided to establish a Green Belt (Wannop 1995 p. 62-68, Shaw 2007). This work eventually led to the *London and Home Counties (Green Belt) Act* (1938), and it was through these policy initiatives that the notion of greenbelts as a planning tool began to spread globally (Munton 1983). The usage of greenbelts continued in the post-WWII re-

planning of London through the work of Sir Patrick Abercrombie in his *County of London Plan* (1943) and the *Greater London Plan* (1945) (Gault 1981). The usage of greenbelts as a planning tool also changed post-WWII as it was viewed as an attempt to physically realize the ideas of modernity onto society (Taylor 1998, p. 14-16).

In *The City in History* (1961), Lewis Mumford's highlights the negative and impending consequences of poor urban planning and its implication to many of the social ills witnessed in western society.¹⁸ Mumford contends that a sprawling city reliant on technology is bound to fail. This is in contrast to his ideal vision of an 'organic city', which calls for a city to achieve an appropriate balance with nature. American urbanist William H. Whyte also developed the connections between quality public spaces and community health. His work was notable as he examined the relationship between quality/planned public spaces and how it contributed to overall city dynamics. Perhaps most importantly, he presented a case as to why accessible greenspaces were a key component in urban settings, while working at the New York City Planning Commission. In *The Last Landscape* (1968), Whyte emphasized the importance of land conservation and creating parks while establishing links between the greenspaces along the city fringe. Furthermore, he argued that establishing protection for river valleys located in urban areas should serve as a core greenspace preservation strategy.

In *City of Quartz* (1992) Mike Davis explores and outlines the broader conservation movement in California and shows that it was the elites who initiated it. Davis argues that those who settle first will inevitably develop a deep connection and sense of place and thus may be the first to object to encroaching development. Greenspaces fundamentally represent more than just the physical characteristics, attributes and spaces it contains, but rather they may serve as mode for both inclusion and exclusion (Duncan and Duncan 2001). Simply put, there are underlying social costs that are associated with the creation of greenspaces which may be tied to neoliberalism, rural gentrification, NIMBYism¹⁹, and other issues related to race and class (Gilbert et al. 2009, Sandberg and Wekerle 2009).

¹⁸ *The City In History* was awarded a National Book Award for nonfiction in 1962, and in 1964 Mumford made six 28-minute films based on the book.

¹⁹ NIMBY is an acronym for the phrase 'not in my backyard'.

In contemporary planning the concept of greenspace has also been functionally described as a greenbelt or greenway. Park creation within urban areas can be traced back to the work of American landscape architect Frederick Law Olmsted whose most notable creations included Central Park in New York City and Mount Royal Park in Montreal (NAOP 2011, Fábos et al. 1968). Olmsted viewed that accessibility to parks and greenspaces was essential to human well-being, and a requirement of a fully functioning city and town. In *Park Maker: A Life of Frederick Law Olmsted* (2000), Stevenson (2000, p. xiv) states that Olmsted, “laid the groundwork for the acceptance in our society of the need for greenspaces, for the balance between the natural and the man-made.” Olmsted also spoke of the importance of providing broad accessibility to public greenspaces and that enclosing them with walls or with a spiked iron fence was simply an abomination. Olmsted’s principles greatly influenced park creation and therefore also public space planning throughout North America. Olmsted’s career work resulted in over 500 Commissions, including 100 public parks and recreation grounds, 200 private estates, 50 residential communities, and 40 campus designs for academic institutions (NAOP 2011).

The contemporary interest in greenspaces and their potential benefits within a North American context is fundamentally tied to achieving higher levels of both sustainability and livability in metropolitan centres. Scholars such as Julius Fábos (1968), Peter Hall (1988), Martin Elson (1986), John Herington (1991), Gillhem Olliver (2002), and John Randolph (2004), have explored how cities and towns have used greenbelts as an urban growth boundary to protect their adjacent hinterlands. Fábos (2004) states that there has been renewed interest in greenbelt planning in both Canada and the U.S., and the concept has been embraced in urban areas. Moreover, he argues that the modern usage of the word greenspace has been expanded when compared to when Olmstead used the term to define natural areas that were primarily used for recreation. Fábos (1995) explains that greenbelts today have evolved to include some major functions. Firstly, they are ecologically significant corridors and secondly, they serve as recreational areas that can be connected via land or water-based links (Fábos and Ryan 2004). They ensure close proximity for recreational space and opportunities for urban dwellers, and as cities increase their population density, the demand for access to quality recreational space will also conceivable increase. The preservation of

adjacent agricultural and hinterlands along the urban fringe may provide opportunities for near urban agriculture. Having close access to quality agricultural lands is vital to addressing food security issues, and is a key facet to increasing sustainability through the reduction of transportation costs and emissions. Greenbelts facilitate and foster natural ecosystem functions and they play a significant role in increasing ecological integrity by providing critical and contiguous habitats for flora and fauna.

Greenbelts have been perceived and utilized as a planning tool to encourage intensification and compact developments within the existing urban boundaries. They have been implemented globally in both more and less developed regions and are regarded as one of the key strategies to control urban growth. Greenbelts are commonly implemented as a ring around major cities and conurbations in an attempt to curtail sprawl. They are used and envisioned by planners to separate and delineate new satellite towns from the urban core, thus conserving the land between cities for other purposes such as agriculture, forestry, or recreation. Their implementation is also intended to help achieve higher residential densities, which may aid city officials in the long-term planning for transit provision. Furthermore, greenbelts have also been closely associated with planning concepts such as smart growth and the compact city.

By the mid-20th century the concept and even implementation of greenbelts were well established internationally and was effectively considered a mainstream planning principle. For example, greenbelts or some other form of urban growth boundaries were implemented in Vienna, Frankfurt, Berlin, Saint Petersburg, Copenhagen, and the Netherlands (Breiling and Ruland 2008, Ward 2000, Husung and Lieser 1996, Kühn and Gailing 2008, Anan'ich and Kobak 2006, Kühn 2003, Faludi 1994, Vejre et al. 2007). Tokyo and Hong Kong also put into practice Greenbelt policies, which were heavily influenced by the work of Abercrombie and the British experience (Okata and Murayama 2010, Watanabe et al. 2008, Tang et al. 2007). In Australia and New Zealand, several cities that attempted greenbelt policies included Melbourne, Sydney, Christchurch, Wellington (Buxton and Goodman 2003, 2008, Amati 2008). In North America, metropolitan areas and larger regions also saw the implementation of greenbelt legislations and examples include the Ottawa Greenbelt,

Portland Metro Urban Growth Boundary, the British Columbia Agricultural Land Reserve, and most recently the Ontario Greenbelt.

Despite the successful establishment of a greenbelt or other anti-growth policy/boundary, it does not presuppose that such spaces along the urban fringe will never be developed. In fact, such spaces are arguably the most susceptible to development resulting in pressures from the broader political economic climate and the other overarching neoliberal policies. British planner Peter Hall has brought attention to some of the shortcomings on relying on the greenbelts in his book *London 2000* (1963), where he notes that they may facilitate leap-frog development, and thus ultimately result in an increasingly dispersed urban development (Hall et al. 1973).

Greenbelts may also serve as spaces for production and utility that is closely tied to the needs and requirements of a growing urban region, and may include land uses such as aggregate construction, land fills, incinerators, and salvage yards (Chambers and Sandberg 2007). In Marco Amati's *Urban Greenbelts in the Twenty-first Century* (2008), he explains that the rise in popularity of greenbelts during the 20th century can be traced back to the theoretical underpinnings and assumptions of modernist planning, which recognized strict divisions between land uses. He adds that when town planners began to understand the implications of urban growth on rural areas, greenbelts were then utilized, "as part of a project to construct a universal planning canon." (Amati 2008, p. 1) Considering, the potential of utilizing greenbelts as a strategic planning tool, and their global implementation, the risk of leapfrog development remains. Furthermore, as new greenspaces are established, additional research examining their potential to merely aestheticize landscapes must be considered.

The Ontario Greenbelt

The establishment of Ontario's greenbelt in 2005 was considered a capstone achievement for both environmental planners and conservationists for its protection of approximately 728,000 ha of land. The greenbelt includes 323,000 ha of the Niagara Escarpment and also

encompasses the Oak Ridges Moraine.²⁰ The greenbelt is governed by the *Greenbelt Act* (2005) and empowers provincial cabinet to create the *Greenbelt Plan* (2005) that requires the official plans of relevant municipalities to be brought into conformity. The *Greenbelt Plan* establishes an ambitious set of priorities to permanently protect agricultural land from fragmentation, and further supports the existing natural heritage and ecological systems within the greenbelt. The greenbelt was established as a direct response to address its rapidly growing population in southern Ontario. It is expected that the population in the area will increase to 11 million by 2031 (Carter-Whitney and Esakin 2010). Like other recently established greenbelts in North America, Ontario's greenbelt was envisioned primarily as a planning tool to aid in combating the prospect of suburban sprawl and other types of low-density developments.

Following the *Greenbelt Act* and *Plan*, the provincial government also implemented the *Growth Plan for the Greater Golden Horseshoe* (2006), which was also envisioned to further support the objectives of the greenbelt, through a 25-year plan where one of the main initiatives is to curb sprawl and protect both farmland and greenspaces. Planning for the greenbelt included a moratorium on development put into place in 2003 by the newly elected provincial Liberal government, where the creation of a greenbelt was a key election promise. During the planning process conflicts ensued between residents, landowners, developers, and city officials over how and where the boundaries were to be decided. In short, these policy deliberations were politically charged, and featured numerous competing claims from residents and developers. Typically, landowners within the greenbelt raised challenges and argued for their legal rights to sell their property.

In the end, reports and environmental/planning policies such as David Crombie's²¹ work on the Royal Commission on the Future of the Toronto Waterfront, the establishment of the

²⁰ The Niagara Escarpment is a sedimentary rock formation that is mostly forested and is 725 m in length and the highest elevation point is 510 m above sea level. The escarpment is listed as a UNESCO World Biosphere Reserve. The area serves as a groundwater recharge area for numerous urban watercourses, provides a sites for recreational activities, and supports numerous ecosystems. The area is governed by the Niagara Escarpment Commission whose mandate is to administer the *Niagara Escarpment Plan* (Niagara Escarpment Commission 2011).

²¹ David Crombie was the 56th Mayor of Toronto (1972-1978), and was also elected as a MP (Progressive Conservative, Toronto Centre) from 1978-1988.

Rouge Park, the *Niagara Escarpment Planning and Development Act* (1973), the *Oak Ridges Moraine Conservation Act* (2001), and the *Greenbelt Act* (2005), have resulted in the creation of many different kinds of greenspaces in the GTA. These different greenspaces have been introduced by all levels of government and sometimes individually but most often through partnerships. It is worth noting that these greenspaces were not randomly envisioned by elected officials, but rather were the result of numerous key political, cultural, social events, some of which included the deliberate involvement of citizens working collectively.

The connection between society and nature raises some fundamental questions in how nature can be governed. Insight into how greenspaces are created and managed with respect to the broader political economy of an urban region have also shed light into how nature and its governance can be neoliberalised. Whether conservation is achieved through established government institutions or other private measures such as local easements, it reveals that nature itself has explicit links to the broader political economy of an urban region. These connections between greenspace and a city's political economy point to how nature can be commodified. Thus, nature and its ties to capital have also been explored through the work of environmental and critical geography scholars, interested in highlighting how different types of neoliberal policy manifestations can play out in the real world.

It should be noted, that some of the purported socio-economic benefits attributed to greenbelts have also been challenged and contested. A study by Wekerle et al. (2007) examining development and planning issues in Ontario over the past decade has revealed that the protection and preservation of natural areas, can in fact act as a lubricant for growth. The authors argue that despite the highly publicized establishment of Ontario's greenbelt, it has had a limited effect in slowing or hindering growth, and has failed to adequately address leapfrog development. Such a scenario can be countered if a greenbelt extends well beyond the urban boundary, but often this is not possible due to geography, conurbation or the proximity of neighbouring towns.

Protected Areas

When greenspaces have achieved formal legal protection they can be considered a protected area. The concept of a protected area means that some authority has recognized some ‘value’ of a space and has enacted policy measures to protect it from being converted to an undesirable state. The term is widely utilized in ecology, biology, and wildlife conservation literature. In contemporary terms, protected areas can be defined as designated areas that have been afforded some level of protection by legislative mandates due to their environmental, cultural or natural heritage features. Protected areas may provide both tangible and intrinsic benefits to individuals in terms of social health effects primarily as their popularity as a space for various recreation activities (Butler and Boyd 2000). In addition, protected areas also help sustain local economies while providing a number of employment opportunities in the surrounding areas, often in the form of tourism, tour guides, equipment sales, and user fees.

Throughout history, human civilization has set aside areas that were deemed to possess special traits or qualities. Sometimes land was protected, as it possessed special aesthetic qualities or other features that could be tied to spiritual belief and the divine. Land was also considered valuable if it contained fertile hunting, fishing or agricultural sites. Protected areas can be found in both terrestrial and aquatic ecosystems. In most cases these areas exist in the form of parks, conservation areas, wildlife refuges, sanctuaries, or nature reserves. Protected areas can vary dramatically between countries with respect to the level of actual protection they are given. The International Union for Conservation of Nature²² (IUCN) defines a protected area as follows:

A protected area is a clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the

²² The IUCN was founded in 1948 and is the world’s first global environmental organization, and is the largest professional global conservation network. It consists of over 1,000 member organizations in 140 countries. The group relies on the work and contribution of 11,000 voluntary scientists and experts working within six Commissions. The IUCN has Official Observer Status at the United Nations General Assembly.

long-term conservation of nature with associated ecosystem services and cultural values. (IUCN 2010)

Further building on this definition the IUCN through its World Commission on Protected Areas (WCPA) has developed seven Protected Area Management Categories that distinguishes protected areas based on their management objectives. This categorization system is recognized by several countries and the United Nations and enables some standardization and thus allows comparison of protected areas between different countries (Table 2). In 1972, the United Nations Conference on the Human Environment (i.e., the Stockholm Conference) highlighted the need to establish and coordinate conservation efforts globally, and recommended that nations protect all major ecosystems. This initial work was further supported by the *United Nations World Charter for Nature* (1982), the *United Nations Conference on Environment and Development* (i.e., the 1992 Rio Summit); and the *Johannesburg Declaration on Sustainable Development* (2002). Globally, there are approximately 138,000 protected areas and the numbers are increasing each year, and this represents approximately 11.9%²³ of territorial areas on Earth and represents only 0.7% of the oceans. (WDPA 2011, WDPA-Marine 2011)

A Canadian Perspective

Like other developed nations, the creation of protected areas in Canada has a history that can be traced back to the various policy decisions made by governments and their respective institutions and those individuals empowered to lead them. Canada has over 243,000 km of coastline along three oceans and another 9,500 km along the Great Lakes, and thus the longest coastline in the world (Parks Canada 2011). At the national level, Parks Canada is the federal agency responsible for protecting Canada's natural and cultural heritage, and is responsible for National Parks, National Historic Site, and National Marine Conservation Areas (Parks Canada 2011).

²³ This 11.9% figure excludes Antarctica.

Table 2: IUCN Protected Areas Categories System (IUCN 2011).

Category	Description
Ia Strict Nature Reserve	Category Ia are strictly protected areas set aside to protect biodiversity and also possibly geological/geomorphological features, where human visitation, use and impacts are strictly controlled and limited to ensure protection of the conservation values. Such protected areas can serve as indispensable reference areas for scientific research and monitoring
Ib Wilderness Area	Category Ib protected areas are usually large unmodified or slightly modified areas, retaining their natural character and influence within permanent or significant human habitation, which are protected and managed so as to preserve their natural condition.
II National Park	Category II protected areas are large natural or near natural areas set aside to protect large-scale ecological processes, along with the complement of species and ecosystems characteristic of the area, which also provide a foundation for environmentally and culturally compatible, spiritual, scientific, educational, recreational, and visitor opportunities.
III Natural Monument or Feature	Category III protected areas are set aside to protect a specific natural monument, which can be a landform, sea mount, submarine cavern, geological feature such as a cave or even a living feature such as an ancient grove. They are generally quite small protected areas and often have high visitor value.
IV Habitat/Species Management Area	Category IV protected areas aim to protect particular species or habitats and management reflects this priority. Many Category IV protected areas will need regular, active interventions to address the requirements of particular species or to maintain habitats, but this is not a requirement of the category.
V Protected Landscape/Seascape	A protected area where the interaction of people and nature over time has produced an area of distinct character with significant, ecological, biological, cultural and scenic value: and where safeguarding the integrity of this interaction is vital to protecting and sustaining the area and its associated nature conservation and other values.
VI Protected area with sustainable use of natural resources	Category VI protected areas conserve ecosystems and habitats together with associated cultural values and traditional natural resource management systems. They are generally large, with most of the area in a natural condition, where a proportion is under sustainable natural resource management and where low-level non-industrial use of natural resources compatible with nature conservation is seen as one of the main aims of the area.

Over the past decade there was a public and political commitment to complete Canada's national park system (Dearden and Rollins 2002). The majority of these new parks have yet to be finalized and the future success of these areas in terms of preserving ecological integrity while effectively planning for visitor usage is highly dependent on the type of management plan implemented. However, considering the recent staff and budgetary cuts to Parks Canada it raises questions whether or not the park system will be completed (Canada Newswire 2012). Currently the physical locations and borders of these new national parks have not yet been finalized and there will be further discussions regarding the policies which dictate both the human activities to be allowed and to what extent ecological integrity can or should be conserved within these newly created areas. The following section will build on the concept of greenspaces and further define, describe, and develop the role protected areas play in society.

In Canada, all levels of government are involved with park creation and maintenance. Environment Canada (through its Parks Canada agency) is the federal department responsible for the National Parks, National Historic Sites, and National Marine Conservation Areas. At the level of the province, provincial parks do not fall under the jurisdiction of a commonly named ministry. For example, in British Columbia, the provincial parks system is administered by the Ministry of the Environment, while in Ontario provincial parks fall under the jurisdiction of the Ministry of Natural Resources. Like the movement to establish national parks in the U.S. with the creation of Yellowstone National Park in 1872, Canada also followed in their footsteps and implemented a similar approach that identified land that had unique aesthetic, natural, or economic features. However, early park creation in Canada was more influenced with the nation's desire for economic development and less on the need for conserving wilderness (McNamee 2009).

Canadian national parks began as a grand vision to immediately preserve the diverse landscapes found throughout the nation. In 1885, the federal government reserved 26 km² of land surrounding the hot mineral springs in what is present day Banff, Alberta. Recognizing the potential for development opportunities, the springs and the immediate surrounding areas began to experience conflicting claims of ownership. This caught the attention of the federal

government and instead of granting private development rights, the government of Sir John A. MacDonald decided to retain the hot springs as a natural treasure. In 1887, the *Rocky Mountains Park Act* was created and officially established the Banff Hot Springs Reserve, and encompassed 405 km², for a “public park and pleasure ground for the benefit, advantage and enjoyment of the people of Canada.” (Parks Canada 2009)

In the ensuing decades, many additional parks were created including St Lawrence Islands National Park (1904), Point Pelee (1918), and Georgian Bay Islands (1929). By 1970, 20 National Parks had been established, yet there were no common guiding principles in the selection and establishment of the protected areas. Most often these protected areas were created due to a number of different factors such as the desire to capitalize on tourism opportunities, or the identification of wildlife sanctuaries. Recognizing the shortcomings of park creation process, a *National Parks System Plan* was devised in the early 1970s, which outlined the key principles in how national parks were to be selected. Officials decided that the park system should follow the principle of ‘representativeness’, and thus Canada was divided in to 39 different national park regions primarily based on key landscape features within each region.

The *National Parks System Plan* identifies and protects unique landscapes and natural phenomena in 39 distinct aquatic and terrestrial environs, located in every province and territory. The central mandate and objective for Parks Canada is as follows;

To protect for all time representative natural areas of Canadian significance in a system of national parks, to encourage public understanding, appreciation and enjoyment of this natural heritage so as to leave it unimpaired for future generations. (Park Canada 2009)

National parks are located on all three of Canada’s coasts, and range from the smallest at 9 km² (St. Lawrence Islands National Park) to the largest at approximately 45,000 km² (Wood Buffalo National Park). It should be noted that the system is currently incomplete and that only 60 percent of the 39 Natural Regions identified by Parks Canada have seen areas protected (Parks Canada 2009). These protected areas represent 2.25 percent of Canada, and

it is estimated that when the system is complete it will cover 3 percent, and until recently marine areas have been largely ignored (Parker and Munawar 2001).

Planning for Ecological Integrity

The manner and approach to how protected areas are to be managed has also undergone some major changes over the past half-century. Advances in science and technology (i.e., biology, ecology, remote sensing) has fundamentally changed and deepened our understanding of the function of ecosystems. These advancements have provided greater insight into the impacts of human activities on natural areas, and thus have altered how protected areas are managed. Traditionally, the first role or mandate of Canada's national parks has been to serve the user first. For example, in the early 1970s the main reason Fathom Five Provincial Park was established by the province of Ontario was to both promote recreational diving and to facilitate the cultural protection of the large number of shipwrecks in the waters of Georgian Bay (Wilkes 2001). However, this management method has been questioned, as the biodiversity/ecological integrity at some parks has been degraded as a direct result of human activity.

Officially, Parks Canada has operated on a 'dual mandate' of both access and protection. The mandate permitted the full enjoyment of the park for visitors while ensuring access to future generations. This policy was changed in 1979, when cabinet decided to place a stronger emphasis on ecological integrity over recreational use (McNamee 2009). Despite the notable and ambitious goals of the new mandate, it ultimately created a 'culture of confusion', which was further exacerbated under the federal Conservative government of Brian Mulroney, through a broad policy of tourism expansion in some parks (Searle 2000). Banff served as the poster child for all that was wrong with the Canada's park system, as the it placed a focus on recreation and tourism facilities which resulted in enormous pressures on the ecological integrity. The policy change which focuses on placing ecological integrity first and foremost, recognizes and addresses the negative impacts caused by human pressures such as road construction. The adoption of ecological integrity as a primary goal in conservation management recognizes that ecosystems are continually changing, and are susceptible and

even require disturbance.²⁴ This fundamental shift in ecosystem theory further recognizes that ecosystems are adaptable and do not evolve in a linear process. Furthermore, planning for ecological integrity embraces an adaptive management cycle, which recognizes that conservation managers will inevitably be put into a position of making decisions based on an incomplete set and continually changing set of parameters (Theberge and Theberge 2002, Woodley 2002, Holling 2001, Wynne 1996).

In the same manner that the word natural can be variously defined through social constructs, conservation managers have recognized that restoring and planning for nature can also have widely variable goals. With respect to the planning of protected areas, achieving restoration goals and defining success presents challenges as ecosystems are continually changing, adapting, and are inevitably complex. Therefore it may be open to discussion what the final restoration goals should be for any given protected area. In conclusion, planning and managing for ecological integrity presents a noteworthy advancement when compared to other management schema, for its recognition that ecosystems are inherently dynamic and complex.

Protected Areas in Ontario

In Canada, the approximately 80% of the population resides within urban areas (Statistics Canada 2007), and as these urban populations increase so will the need for both quality greenspace and public space. Such statistics are even more relevant in Ontario, which houses Canada's largest urban agglomeration (the GTA) which forms part of the larger Greater Golden Horseshoe, thus the need to have easily accessible greenspaces will become more acute. The irony is that as this urban agglomeration increases in both physical size and population, so too will the pressures to develop the remaining greenspaces. In Ontario, both provincial and municipal governments have also been instrumental in creating protected areas. Protected areas in Ontario are most commonly represented as provincial parks,

²⁴ For a detailed discussion on the role of disturbance and catastrophe in ecological systems and how it pertains to Hierarchy Theory and resilience see O'Neil et al. 1986, Holling 1973, 1986, 2001, Kolasa 1989, Gunderson 1997, and Noss 1990.

conservation areas, and city parks. These spaces can be administered by numerous provincial and municipal agencies, sometimes solely, but often partnerships are formed. Moreover, these agencies also differ in their respective governance structures, jurisdiction, funding models, and their day-to-day operations. David Crombie's (1992) report on the development of the waterfront was notable as it formally recognized the relevance and requirement of an ecosystem approach to environmental policy and planning within the GTA. The report called for policy officials to recognize the ecological significance of the GTA's multiple watersheds, and outlined how the relative social and economic prosperity of the region are mutually dependent to the health of the environment. The report also discussed how such watersheds were linked to the broader bioregional landscape features of southern Ontario, like the Niagara Escarpment and the Oak Ridges Moraine, and in doing so further provided credence to the existence of these landscapes, and the importance of efforts to link them to one another.

In conclusion, protected areas in the GTA have a distinct history that has been shaped by a wide variety of socio-political factors and events, some of which are recently completed/still ongoing. Moreover, Ontario's *Greenbelt Act* may have limited abilities in slowing development along the urban fringe, however, when such legislation is taken into context with other regional environmental/planning policies like the *Oak Ridges Moraine Conservation Act* (2001), the *Niagara Escarpment Planning and Development Act* (1990) and other planning reports such as *Regeneration* (Crombie 1992), it may prove that together these initiatives successively build on each other's strengths while minimizing each others weaknesses.

CHAPTER 4

METHODOLOGY

For this research I employed qualitative research methods in order to collect the primary data. I relied on participant observation, historical and archival research, and semi-structured face-to-face interviews. The method of triangulation through the selection of multiple mixed methods was carefully deployed during all stages in order to increase the overall rigour of the research. In the social sciences, triangulation refers to the claim that comparing findings from multiple research methods may provide the researcher with valuable insight into whether or not a particular phenomenon has been thoroughly measured. Moran-Ellis et al. (2006) argues that the concept of triangulation presents an epistemological claim that more reliable knowledge is produced and greater understanding may be achieved by two or more different research methods. This concept is based on the idea that if several research methods all studying the same phenomena produced consistent results, then it is likely that the different methodologies deployed were accurate and appropriate. Qualitative research methods are commonly used in human geography to investigate how both individuals and communities perceive and imagine landscapes, and are important in understanding the discourse of local level environmentalism and how it plays out on the ground.

The Theoretical Framework Put Into Practice

My research fit well into methodological perspectives of grounded theory, which calls for the gathering of data and then systematically developing a theory derived from the data (Dey 1999). Walker and Myrick (2006, p. 548) state that grounded theory garnered much attention when it was created as a qualitative approach, primarily because it challenged the then “dominant logico-deductive way of theorizing”, where a researcher would first develop a theory and then look for evidence that supported it. Walker and Myrick (2006) contend that as a research method, grounded theory has been heralded as revolutionary within the history

of qualitative traditions, while at the same time being the most frequently discussed, disputed and debated among popular research methods. Interestingly, the controversy surrounding grounded theory involves the methodological split between its co-founders Barney G. Glaser and Anselm L. Strauss. The rift between the authors became public when Strauss and Corbin (1990) released their version of grounded theory, which Glaser (1992) argued was not in fact grounded theory but another method altogether.

Walker and Myrick's (2006) exploration of the theory as a continually evolving qualitative research method, and the relative distinction between the Glaserian and Straussian versions of grounded theory has provided me with some valuable methodological insights into how I interpret the data I collected, and how it may relate to established theories. Specifically, grounded theory has provided me with some insight in how my own assumptions can affect my observations. Walker and Myrick's analysis has also highlighted the significance of coding when reviewing results from qualitative methods and although my research project does not involve quantitative data, the method in which I choose to analyze my data will inevitably be informed by theory. This axis between theory and data is one that I addressed at all stages of my research design, and I deployed grounded theory to aid in the analysis of my interviews and field notes.

Conducting the Research: A detailed view.

The first portion of my research began in the spring of 2007, and consisted of a document/literature review and analysis. I reviewed public record documents and other reports and publications produced by governments, institutions, individuals and civil society groups. Public record documents mostly included scientific/technical reports produced by government agencies, consultant reports, provincial policy documents/studies, municipal council agendas, minutes, and transcripts, and public correspondence. Ultimately, the planning process in Ontario produces a historical archive of planning documents.

Reviewing and Analyzing Documents

Since there are very few academic articles that discuss the Rouge, a detailed chronology in Table 3 (Chapter 5) is based on material collected from primary sources such as newspapers, reports, documents published by civil society groups and from my interviews. An initial search of the University of Toronto's library catalogue of the term 'Rouge Park' primarily returns documents and reports of a technical and scientific nature. These publications were from provincial agencies, and others were authored by commissioned environmental consultants. These documents were technical and highlighted the geologic or natural physical features that can be found in the park. G. Simeon Stairs submitted a Masters of Arts research paper, in the Department of Geography at the University of Toronto, that was titled, *Ecosystem-Based Protected Area Management in a Municipal Landscape: The Case of the Rouge Park* (2000). The research highlighted some of the governance challenges faced by park managers when planning for ecological integrity. Other publications included initial planning documents and heritage surveys.

Additional searches using other popular academic indexes such as *Scholars Portal* or *Web of Science* returns only a small number of peer-reviewed papers that list the Rouge Park (Ontario)²⁵ in the title or as a keyword. A search of the social science journals also reveals few results and there are no peer reviewed academic papers that look at any of the historical, political or social circumstances that have helped shape the park. Searching the pure and applied sciences indexes also reveals less than ten articles. These articles study the physical attributes of the Rouge River such as various watershed parameters or the geologic formations found in the immediate area. Much more academic work was been published on Ontario's Oak Ridges Moraine and Greenbelt, which were formally announced in 2001 and 2005 respectively.

My research of the events relevant to the Rouge Park also included other published material such as books, both daily and weekly newspapers (i.e., *Toronto Star*, *Globe and Mail*, and the *Scarborough Mirror*), popular magazines and printed media. Newspaper coverage of

²⁵ In the U.S. there is another park named 'River Rouge Park' located in Michigan.

events relevant to the park was much more regular and the coverage of announcements by public officials was widespread and also formed part of the conversation. In terms of published books specifically covering the Rouge Park and its watershed, there are very few sources.

The documents and reports produced by civil society groups were also considered and reviewed and provided key information for the creation of the chronology. These documents were either produced in-house, or commissioned externally. Interviewees from civil society groups stated that if a report was needed, they would try their best to complete it using their own internal resources, and only when requiring expertise that they did not have, they would carefully solicit and look for the required expertise from a third party. Some of the earlier documents created by individual civil society groups were also difficult to track down and obtain a copy of as some of the groups neglected to archive and hold onto such material.

Since there was no previous publication that covered the history of Rouge Park, I had to develop a chronology of events that outlines the specific and important dates of key meetings and developments. This chronology reveals how the park and civil society actors were represented to the broader public and throughout the policy formation process. This record also provides and helps shape the narrative imagined and perceived of the individual actors, institutions, and the broader public. The chronology has allowed me both to compare and contrast the timing and outcomes of such key events, and determine whether or not they were directly associated to other events of political, cultural, or scientific in nature.

Constraints to Creating a Chronology

It is well accepted that the use of documents is by no means an objective or neutral process, and for this reason I have taken careful steps to identify the authorship and other possible conflicting sources of interests a person or agency might have with the production and dissemination of a particular media release, publication, or report (Marshall and Rossman 1999). While researching the available literature I was careful to pay close attention to possible omissions or silences within the public record. For example, upon attending

meetings and taking my own notes, it was interesting to compare my notes with those of the official minutes of meetings recorded. Understandably, often missing in the official record is a note of the level of tension that may occur when discussing issues that are politically charged. It is also worth mentioning that these ‘silences’ in the official record can be construed as a politically charged or decisive moment within their own merit. During these moments, I was careful to make note of the context in which each person was speaking, what was being said and addressed, and which person would act in mediating the situation. Thus despite having the meetings recorded verbatim, the minutes of meetings often lack the overall sentiment being expressed by those who took part in various meetings, discussions and debates.

In Table 3, I have compiled a list of relevant dates and events that have shaped broader greenspace planning in the GTA. Included in the chronology is a list of key documents, publications, and scientific/technical reports that have also influenced the broader discourse of greenspace planning and management in Ontario. The earliest planning documents from the 1950s and 1960s could be found at the Rouge Park’s office in Aurora, where they share office space with the Ontario Ministry of Natural Resources (MNR). Some of the early planning and policy documents were easily accessible to me, since this particular district office of the MNR also had numerous early scientific reports produced specifically for the Rouge watershed. It should be noted that Rouge Park staff members were also able to provide me with a list of relevant publications. This list contained a variety of scientific/technical reports and early planning documents that were produced by MNR staff prior to the official establishment of the park. Despite having such a bibliography, a number of these reports produced by various government agencies could not be located, or were missing sections. The majority of these were primarily scientific and technical in nature, most often outlining the various natural features of the watershed, or reporting on the various states of flora and fauna in the bioregion.

Documents published by civil society actors were also very challenging to find and review. Some of the earliest documents (mid-1970s to mid-1980s) simply could not be found or were often incomplete. Finally, another constraint in creating an accurate chronology was

confirming precise dates of official community meetings. Another challenge was determining who or what factors led to a specific action that either my interviewee or I believed was significant in the development of the Rouge Park.

Observation

The second method I incorporated was direct observation. I observed public meetings held by both civil society groups and the Rouge Park Alliance and while at meetings I recorded which groups were present. This was necessary as I found out that the Rouge Park's official minutes of meetings did not always record all of the groups in attendance. Through observation I was able to observe the particular issues they were contesting and was able to gain a first hand perspective of the actual and perceived contention of the stakeholders involved. When observing RPA meetings, my position as a researcher never presented any problems. These meetings were openly advertised on the website and were open to the general public. In addition, I disclosed my status and intentions to all relevant officials including park staff attending the meetings. It should be noted that during meetings I did not actively take part in the discussions but just observed the various exchanges between individuals. When given the opportunity to observe the smaller meetings held by civil society groups, I also fully disclosed my identity as a researcher, which was necessary as I intended to make use of key informants for the effective recruitment of interviewees.

Data collected through direct observation provided my research rich background information to support the information collected during my formal interviews. Through direct observation and in combination with my interview data, it allowed to better contextualize some of the theoretical frameworks that are relevant to my research. By directly observing the meetings, I was able to collect a comprehensive and diverse set of field notes during all public symposia and meetings. One expected outcome of continually attending and observing meetings held by the RPA and other associated civil society groups is that I was able to forge and build better relationships with my interviewees. Through my attendance, I believe that those groups and individuals involved with the park became more comfortable with my presence throughout the duration of my research.

The Interview Process

The third approach I deployed was face-to-face, semi-structured, audio recorded (when permitted) interviews. I conducted 15 interviews and 4 of these were granted on a condition of anonymity, and therefore only 11 names are listed in Appendix B. Personal interviews were chosen primarily because the method has the potential to capture the in-depth experiences of individuals. In addition, taking part in interviews affords the ability for an interviewee to situate his/her knowledge within the broader understanding or definition of the topic being discussed. Dunn (2000) states that interviews are an excellent and proven method of gaining access to information about events, opinions, and experiences. Moreover, they allow a researcher to gain valuable insight into different and contrasting opinions. By deploying a semi-structured interview format it allowed me some flexibility in deciding specifically which topics I wish to further pursue during the course of the interview. A semi-structured format also allowed for interviewees to provide me with information that he/she feels most relevant to my research project.

Interviewees provided key information regarding the sequence of events but often could not recall specific dates. After collecting such information I then verified it with the public record. For some interviews, I would bring along particular documents (such as newspaper articles) and discuss the context and their significance in an attempt to clarify details and better understand the history of the development of an event or issue. My interviewees were able to provide me telling, and meaningful information that may not be available in any form within the public record. (i.e., recorded minutes from public meetings, official reports, websites, newspaper articles etc.)

Identifying Participants

Participants for the interviews were restricted to the officially designated leaders and spokespersons of civil society organizations. The interview respondents were acting in their official capacity and not as individuals of the general public. Civil society groups were identified through reviews of relevant Internet websites and associated media coverage that highlighted and stories relevant to the park. My interviews with key informants further

revealed and put me into contact with other significant interviewees. I employed a snowball method for locating information-rich informants by asking each interviewee to suggest any other potential contacts that they felt would aid my overall research goals (Patten 2002). I interviewed municipal and provincial politicians, city officials, university professors, and representatives from civil society who are involved or may have practical knowledge or expertise on the Rouge Park. As expected some interviewees were very forthcoming and willing to expand and discuss their experiences, while with others I had to make repetitive requests in an effort to schedule an interview. A list of all of my interviewees with the dates of when they were completed can be found in Appendix B.

Semi-Structured Interviews

Through a semi-structured interview format, an interview guide (Appendix A) was constructed to provide me with a list of some of the broader issues that I was interested in and formed the basis of the topics that informed the open-ended portions of the interviews. When designing the interview questions, I primarily used a ‘dynamic’ approach (Tremblay 1982) throughout the research process as it allowed me to continually hone my interview design (e.g., question order and/or wording) as new information or experiences were revealed to me (Dunn 2000). Employing a dynamic process enabled me to strategically modify my interview schedule specifically towards interviewees. I anticipated that when interviewing elected officials, government employees, or scientific experts that my time of engagement might be limited, and thus I altered my questions appropriately, and included questions with a tighter focus. When speaking to scientific experts or professionals, I also included questions that covered theoretical perspectives related to their work. These questions included aspects of ecology, conservation, or ecosystem theory. Questions that explore or address some of the critiques, of the specific ecological or scientific theory (e.g., adaptive management or the precautionary principle) might be more suitable towards this group of interviewees. For my interviews with environmental practitioners working in the non-profit sector, I tailored my interview questions towards a more practical basis, focusing more on some of the day-to-day activities, or constraints the particular group has faced and how such issues have been addressed.

This dynamic approach to interviewing was an important and key strategy in my research, as it allowed me to better focus my interview questions and thus become more efficient with the amount of time I was given for each interview. When requesting interviews I stated that each interview would require approximately 60 minutes, and the majority of my interviewees agreed to this amount of time. Upon completion of every interview, I re-contacted my interviewees and offered to send them a transcript of key portions of the interview that I decided were significant, and this allowed the individual to add, or amend any of their statements. This process known as ‘member checking’ provided both interviewees and myself an opportunity to ensure accuracy and legitimacy with regards to the factual and contextual information that I recorded.

Figure 2: Rouge Park Alliance Meeting held on 2 February 2011, in the Toronto Zoo Board Room, Scarborough ON.



CHAPTER 5

THE CASE STUDY: ROUGE PARK

The United Nations (2007) reports that more than half of the human population now resides in urban areas.²⁶ Scholars have referred to this as the ‘urban majority’ and it is a significant milestone in human history. In Canada, the number of individuals living in urban areas is significantly higher at 80% according to the 2006 census (Statistics Canada 2009). These figures help underscore the importance of urban areas for contemporary human civilization. The migration of rural populations into urban areas will inevitably increase both the rate and scale of development pressures. The Canadian experience shows that these development pressures will result in land use change along the urban fringe, where greenspace and agricultural lands are converted into new urban areas.

Along the edge of the city, the conversion of land into employment areas or housing developments has the potential to significantly transform both rural areas. However, despite increasing development pressures during a period of population growth (during the 1980s to 1990s), the City of Toronto, the province and the federal government have been successful in protecting a large amount of greenspace with the establishment of the Rouge Park. The lands of the Rouge watershed have a unique Aboriginal and European settler history and have also been a site of great importance for the development of Toronto and more broadly Ontario. At the beginning of this chapter, I review the settlement history of the Rouge watershed and review the socio-political factors and the relevant institutions that were fundamental in shaping the greenspace that we see today. Examining this regional history is important because it sheds light onto the process of how greenspaces are protected and formalized by governments. This chapter specifically addresses one of my research objectives, specifically

²⁶ The exact year of when the ‘urban majority’ was reached differs among sources. However, in the United Nations (2008, p1) report *World Urbanizing Prospects. The 2007 Revision. Executive Summary* its states that urban majority occurred in 2008.

to provide a comprehensive account of the factors that were instrumental to the establishment of the park. In Table 3, I have compiled a list of relevant dates and events that have broadly influenced greenspace planning in the Rouge Valley. Included is a list of key documents, publications, and scientific/technical reports that have also influenced the broader discourse of greenspace planning and management in the GTA.

Table 3: Chronology of greenspace planning in the Rouge Valley and the GTA.

1931	The establishment of The Federation of Ontario Nature. A civil society organization with a mandate of creating nature preserves throughout the province.
10 Sept. 1936	In an issue of <i>The Farmer's Advocate</i> an article titled, 'A New Reforestation Policy for Ontario' called for a more integrative conservation/management program throughout the province. The call for increased provincial involvement was a result of growing concern by farmers over soil erosion and drought as a direct result of unsustainable logging practices. The article draws interest from the Ontario Conservation and Reforestation Association (OCRA), which then convened a meeting attended by representatives from several municipalities and the Forestry Branch of the Ontario Department of Agriculture.
1946	With the support of municipalities and other conservation focused civil society groups like the OCRA, the province establishes the <i>Conservation Authorities Act</i> .
1950	<i>The Rouge-Duffins-Highland-Petticoat Conservation Report</i> was published and was the first comprehensive planning document that focuses on growth/development, cultural/historical and environmental issues of these watersheds located in the eastern portions of Toronto. The report was authored by the Ontario Department of Planning and Development.
15 Oct. 1954	Hurricane Hazel hits southern Ontario, causing widespread flooding of houses, roads throughout the GTA. The flood had a measurable impact in the Rouge Valley destroying more than 125 homes and buildings, ruining three kilometers of roads, and caused over 20 realignments of sections of the river.
1956	A. H. Richardson authors a follow-up publication to The Rouge-Duffins-Highland-Petticoat Conservation Report (1950). The second publication titled, <i>Report on the Conservation of the Rouge Valley, Duffins Creek, Highland Creek and Petticoat Creek</i> (1956) concludes that the areas in these watersheds should be the focus of protection by government agencies.
1957	Four smaller conservation bodies were consolidated to form the Metropolitan Toronto and Region Conservation Authority (MTRCA).

1959	MTRCA finalized the <i>Plan for Flood Control and Water Conservation</i> , as a direct response to the effects of Hurricane Hazel. In the following years the authority began acquiring numerous floodplain properties under the auspices of the Land Acquisition Program. This program enabled the MTRCA to take responsibility for the maintenance and conservation of floodplain lands. In doing so, it enabled the MTRCA to begin construction of flood protection works.
1962	Donaldson, W. Archaeological Research in the Rouge. <i>Ontario Archaeology Series A</i> , No. 5: 15-21.
1965	Iroquoian Development in the Rouge Watershed, Ontario- Part 1: The Elliot Site. <i>Ontario Archaeology Series B</i> , No.3, 1965, 18-38.
1968	Beare Road Landfill opened. The 80.5 ha site is located west of the Rouge River along the north-east boundary, adjacent to Pickering and was owned and operated by Metro Toronto.
1 Mar. 1972	After several economic and feasibility reports commissioned during the 1960s, the federal government proceeds with its plans to construct a second international airport in Pickering.
2 Mar. 1972	The following day, federal officials sign an agreement with the province, and reveal The North Pickering Development Project. The project calls for the expropriation of 7,800 ha of rural land for a new international airport, and an additional 10,000 ha for a city (Cedarwood) directly to the south. Local Durham residents, who then organize and stage numerous protests, immediately oppose the plans. Key civil society organizations working against the plans include People or Planes, and Land Over Landings.
1972	Ministry of Natural Resources. <i>Stream Survey Report: Rouge River and Little Rouge River</i> . Maple District, Queen's Printer: Ontario.
1973	Wainio A., Riley J. L., Therrien L. F., Coleman K. E., and Reinhart W. <i>A general biological survey of the lower Rouge River Marsh and lower valley</i> . (Unpublished)
1973	Ministry of Treasury, Economics and Intergovernmental Affairs. <i>The Historical Complexities of Pickering, Markham, Scarborough and Uxbridge, North Pickering Project</i> . Queen's Printer; Ontario.
1973	Konrad, V. A. <i>The Archaeological Resources of the Metropolitan Toronto Planning Area: Inventory and Prospect</i> . York University, Department of Geography Discussion Paper 10, 1973.
1973	Konrad, V. A. and Ross, W. A. <i>An Archaeological Survey for the North Pickering Project</i> . Ministry of Natural Resources, Historic Sites Branch, Research Report 4, Part I.
1973	Konrad, V. A. and Ross, W. A. <i>An Archaeological Survey of the North Pickering Community Development Project Area</i> . Ontario Ministry of Treasury, Economics and Intergovernmental Affairs, Toronto.
1973	Konrad, V. A. and Ross, W. A. <i>Archaeological Survey and Testing in the North Pickering Community. Report #1: Markham and Scarborough</i> . Report submitted to the North Pickering Community Development Project, Ministry of Treasury, Economics and Intergovernmental Affairs and Ministry of Culture and Communications.
1974	Kaiser J. and Copland P. <i>Botanical Description of the Valleys of the Rouge</i> . (Unpublished)

1974	Kaiser J. and Copland P. <i>Checklist of plant species for the valleys of the Rouge.</i> (Unpublished)
1974	Expropriations begin for the proposed Pickering Airport. Many houses and other heritage structures are demolished. Opposition to the development plans reaches an acute level resulting in numerous protests, which include a mock funeral processions to the Ontario Legislature.
15 Sept. 1975	Development plans for the Pickering Airport are temporarily abandoned by both the federal and provincial governments citing mainly issues related to its overall economic feasibility.
1975	After support for the Pickering airport fell through, it eventually prompted a re-evaluation of urban expansion plans in the immediate region both at the provincial and municipal level.
1975	Local citizens worried about the negative environmental consequences related to the operation of the Beare Road Landfill and other proposed infrastructure and housing developments throughout the watershed form Save the Rouge Valley System (SRVS). Data collected from interviewees consistently point to the early involvement of local Scarborough resident Lois James. Interviewees stated that much of the early activism, and the initial campaign calling for the creation of a protected area in the Rouge Valley originated with James. Other early members included; Robert Johnson, Paul Harpley, and John Boyd.
1977	Sibul, U., Wang T. and Vallery, D. <i>Ground Water Resources of the Duffins Creek Rouge River Drainage Basins.</i> Ontario Ministry of the Environment. Queens Printer: Toronto.
1977	Burns, S., Georgoulis, D., Herzog, M., MacDougall, C., Moretto, L. <i>Rouge Watershed Environmental Study, Phase 2.</i>
November 1977	Ecoplans Ltd. <i>Environmental Impact Statement for the Storm Water Drainage System West, Rouge Branch Tappscott Industrial District, Scarborough, Ontario: Final Report.</i>
1978	Kapches, M. C. <i>Archaeological Survey of the Markham Area: 1977.</i> Ontario Ministry of Culture and Communications. Queens Printer: Toronto.
1978	Riley, J. L. <i>Guide to the Vascular Plants and Wildlife of the Rouge River Valley in Metropolitan Toronto and Durham Region.</i> Ontario Ministry of Natural Resources. Queens Printer: Aurora.
1979	Harpley, P. <i>Save the Lower Rouge River.</i> Toronto Field Naturalists' Newsletter.
1979	MacLaren James F. Limited. <i>Hydrologic Model Study: Humber, Don and Rouge Rivers Highland, Duffin, Petticoat and Carrother's Creeks.</i>
1980	<i>Rouge Watershed Environmental Study: Identification of Conflict Areas</i>
1980	Riley, J. L. <i>The recognition of environmentally significant areas in the Metropolitan Toronto-the lower Rouge River Valley.</i> Ontario Ministry of Natural Resources. Queens Printer: Aurora.
1980	Riley, J. L. <i>A White Pine stand in the Rouge River Valley- What can we make of it?</i> Ontario Ministry of Natural Resources. Queens Printer: Aurora.

1980	Riley, J. L. <i>The Lower Rouge Valley - An environmentally sensitive area.</i> Toronto Field Naturalists' Newsletter.
1980	Varga, S. <i>Rare plants of the Rouge River Valley.</i> Ontario Ministry of Natural Resources. Queens Printer: Aurora.
1980	Varga, S. <i>Rare plants of the lower Rouge River marshes.</i> Ontario Ministry of Natural Resources. Queens Printer: Aurora.
1980	Varga, S. <i>Rare plants of the Rouge River Valley - streambank meadows.</i> Ontario Ministry of Natural Resources. Queens Printer: Aurora.
1980	Brumelis, G. <i>Study of two rare species in the Rouge River Valley.</i> (Unpublished)
1980	Wigham, P. <i>Lower Rouge Resource Management Report.</i> (Unpublished)
1980	Davies. B. <i>The Reesor Family in Canada: A Trail Through the Centuries - Genealogical and Historical Records 1804-1980.</i> Genealogy Committee.
1981	City of Scarborough, Planning Department. <i>At Last Count... An Assessment of Natural Areas in Scarborough.</i>
1981	Metropolitan Toronto, Planning Department. <i>An Environmental Appraisal of the Lower Rouge River.</i>
1982	<i>East Metro Transportation Corridor from Highway 401 Northerly to Proposed Highway 407, Volume 2 of 2.</i>
1982	Harpley, P. <i>White-tailed Deer Study.</i> Toronto Field Naturalists' Newsletter.
1983	Beare Road Landfill closed.
1983	City of Scarborough. <i>An Assessment of Natural Areas in Scarborough - Part 2.</i>
1983	Johnson, B. <i>Christmas Count data for the Metro Zoo, 1973-1989.</i> (Unpublished)
1983	Johnson, B. <i>Amphibians and reptiles in Metropolitan Toronto: 1982, inventory and guide.</i> (Unpublished)
1983	<i>Urbanization in the Rouge Watershed.</i>
1984	Varga, S. <i>A phytosociological analysis of forests of the lower Rouge River Valley near Toronto, Ontario.</i> (Unpublished)
1984	City of Scarborough, Planning Department. <i>North East Scarborough Land Use Study - Natural Environmental Sensitive Areas Report.</i>
1984	City of Scarborough, Planning Department. <i>North East Scarborough Land Use Study - Background Report.</i>
1984	Hanna, R. <i>Life Science Areas of Natural and Scientific Interest in Site District 7-4.</i> Ministry of Natural Resources.

1984	Hildon, L. L. <i>Summer Water Temperatures of Selected Headwater Tributaries of the Rouge River.</i>
1985	<i>Awareness Through Education- A Tour of the Rouge Valley.</i>
1985	<i>Biological, economic and social analysis of the Scarborough sport fishery.</i>
1986	Scarborough resident Jim Robb joins SRVS.
1986	Mahaney, W. C. and Sanmugadas, K. <i>Soil development as a function of time in the Rouge River basin south central Ontario.</i>
Jul. 1986	<i>Archaeological Survey North-East Scarborough.</i>
1986	Mohr, P. and Korn, U. <i>Water Quality Survey of the Rouge River System - South of Steeles Avenue.</i>
1986	SRVS lobbies Scarborough Board of Control to prevent the draining and development of housing on Centennial Swamp, located at the foot of Tallpines Boulevard (north of Port Union Road and Sheppard Avenue East). Their efforts were unsuccessful as the development proceeded.
Dec. 1986	<i>The Rouge River Watershed Urban Drainage Plan Study - Phase I: Volume 7, Watershed Environmental Studies.</i>
Dec. 1986	<i>The Rouge River Watershed Urban Drainage Plan Study - Phase I: Volume 1, Executive Summary.</i>
29 Jan. 1987	Archeological consultant Dana Poulton speaks at the SRVS annual meeting held at Scarborough Civic Centre. The topic of the talk is 'Archeological Sites on the Rouge River.' The meeting and the event were free and open to the public.
28 Apr. 1987	The Speech from the Throne speech by provincial Liberal government lays out its plan to address the chronic lack of affordable housing problems. The speech speaks to the discourse of growth and the broader political economy throughout the GTA, and supports Metro's focus to intensify growth in northern Scarborough.
1987	SRVS releases <i>North East Scarborough Plan</i> recognizing the need for appropriate scientific expertise to legitimize their position. SRVS hired planner Mark Dorfmann to help write the plan. Robb explains that this area of Scarborough did not yet have an official plan. SRVS The plan was so well conceived that the City of Scarborough actually used it as a guide/base reference for the actual <i>Scarborough Official Plan</i> .
17 Jul. 1987	The first Scarborough Official Plan meeting was held on this date, where extensive discussions regarding the Rouge Park were held. The meeting continued past midnight.
1 Sept. 1987	City of Scarborough, Planning Department. <i>Northeast Scarborough Land Use Study. Revised Concept Report.</i> The report outlines seven possible options ranging from leaving the area in its present state, or allowing 585 ha of low density housing with a 91 ha business area.

Sept. 1987	Scarborough City Planning Committee held a meeting to debate future development plans of approximately 2,100 ha of land associated with the Rouge Valley. Over 200 SRVS supporters attended the meeting. Other environmental civil society groups that made deputations including the World Wildlife Fund and the Ontario Federation of Naturalists. Eventually the committee voted 4-2 in favour to stop any development plans for the area and more importantly rejected all of the other various options that would have permitted future developments.
Sept. 1987	After the Sept. 3 vote by the Planning Committee, the decision faced another vote from all 19 council members. The meeting was attended by over 700 spirited residents, and lasted over five hours. SRVS organized a broad coalition of 25 speakers scheduled to speak in support of their position to halt development in the area. The meeting lasted over five hours but no decision or vote was taken and the meeting was to be continued on November 2.
1 Nov. 1987	The day before the vote SRVS organized a rally and a media event at a cliff overlooking the valley, which was attended by over 100 members. The event featured Ojibwa, Eddie Benton-Banai who performed a song in memory of aborigines buried in the area. SRVS members also planted an Eastern White Pine at the rally site to symbolize their struggle. SRVS proclaimed support from the Mississauga First Nation, who stated that they were prepared to file a court injunction and tell council that they have a land claim for the area.
2 Nov. 1987	On the day of the meeting, SRVS was able to organize an even larger contingent of residents. It was estimated that 600-800 residents showed up to the council chambers to show support for SRVS's position. Furthermore, the group of supporters consisted of 46 of 52 active ratepayers' groups in Toronto (i.e., 46 of 52 groups were present at the meeting that day). After midnight and after 10 hours of debate Scarborough Council voted 16-1 to keep development out of the area, while allowing some recreational uses. The one vote in opposition was from Mayor Harris who asserted that Scarborough needed the tax revenue.
1988	City of Scarborough, <i>Planning Department. Northeast Scarborough Land Use Study. Notification Report.</i>
Apr. 1988	Prime Minister Brian Mulroney acknowledged support for the Rouge Park along with Federal Minister of the Environment Thomas McMillan (Conservative, Hillsborough PE, 1979-1988). McMillan visited and took a tour in the Rouge Valley, which was led by SRVS member Jim Robb. After the tour the Minister announced a \$9000 grant for the SRVS.
16. Sept. 1988	Federal Minister of the Environment Thomas McMillan announced a \$10 million pledge for the creation of a new protected area in the Rouge Valley. The announcement was made at Scarborough's Winston Churchill Collegiate.
Jun. 1988	<i>The Rouge River Urban Drainage Plan Study, Phase II, Volume 2, Watershed wide studies.</i>
27 Jun. 1988	Scarborough Council held a public meeting to consider the <i>North-East Land Use Study</i> , and to amend the <i>Scarborough Official Plan</i> , with regards to the changes approved by council in November of 1987. The report recommended halting development and to retain the land for recreational purposes. SRVS again rallied its supporters for the meeting and helped arrange numerous speakers to back their position. At the meeting Scarborough Council failed to make a final decision, and thus called another meeting for July 11 th .
11 Jul. 1998	As in all the previous council meetings the citizen turnout was large, as over 700 people were in attendance. The meeting concluded with Scarborough Council this time unanimously voting 17-0 to preserve the Rouge River Valley lands in north-east Scarborough and to prevent development.

Feb. 1989	More than 300 citizens attend SRVS's 14 th annual meeting. Attendees included Ward 14 Councillor Edith Montgomery, Scarborough East MP Bob Hicks and City of Scarborough Mayor Joyce Trimmer.
30 Aug. 1989	The federal government appointed former Toronto Mayor and MP David Crombie (Progressive Conservative, Toronto Centre, 1978-1988) as the head of the Royal Commission on the Future of the Toronto Waterfront. The Commission was to examine the future of Toronto's waterfront and make recommendations with regards to future development. The Commission also examined both the environmental and legislative context governing the public's use and enjoyment of the waterfront. The Commission included research and public hearings involving 300 groups and individuals and published seven major reports in its first year. The final report was titled <i>Regeneration. Toronto's Waterfront and the Sustainable City: Final Report</i> (1992).
Nov. 1989	SRVS published a planning report titled, <i>Saving the Rouge and Satisfying Future Inter-Regional Transportation Demands</i> , in response to addressing various planned transportation corridors through the Rouge Valley.
1989	<i>Scarborough, The Archaeological Facility Master Plan Study of the Northeast Study Area.</i>
1989	Save the Oak Ridges Moraine (STORM) was founded and served as a lead civil society group concerned with development of the Oak Ridges Moraine.
1989	<i>The James Pearse Jr. House. A Rouge Valley Landmark.</i> (Unpublished)
1989	Regier, H. A., Steedman, R., Stepheson, T. and Martin-Downs, T. <i>Current Ecological State of Toronto Area Waters as Reflected by the Fish Associations.</i>
Jan. 1990	Federal support for the park was put forth by MP Pauline Browes (Progressive Conservative, Scarborough Centre, 1984-1993), seconded by then and current MP Derek Lee (Liberal, Scarborough Rouge River, 1988-2011)
26 Mar. 1990	Official support for the Rouge Park came when Premier David Peterson announced that his government would support the creation of a new park. The announcement of a new park, effectively served to stop any development plans for a landfill or a highway through the Valley. After the announcement, the province brought together a multi-stakeholder advisory committee to create a park plan, and in May 1994 the <i>Rouge Park Management Plan</i> was approved by Cabinet and formally released by the Ministry of Natural Resources in May 1994, with the official opening of the park in April 1995
12 Jan. 1990	Toronto and Region Conservation Authority. <i>A Comprehensive Basin Management Strategy for the Rouge River Watershed.</i>
Jul. 1990	<i>Space For All - Options for the Greater Toronto Area Greenlands Strategy.</i> This report was commissioned by the province and authored by MPP Ron Kanter (Liberal, St. Andrew-St. Patrick, 1987-1990). Kanter was appointed by the Premier Peterson to identify ways to forever protect the headwaters flowing from the Oak Ridges Moraine south to Lake Ontario. Kanter's appointment was a direct result of the recommendations put forth by Crombie in the Royal Commission report. The report made some broad recommendations with regards to the need to conserve public greenspaces, however more noteworthy was the call to create links between parks, river valleys, and other natural corridors. Furthermore, the report highlighted the importance of the Oak Ridges Moraine as a significance landscape feature in southern Ontario, and its potential to provide natural corridors and links to various watersheds.

1990	de Groot, P. and Carvio, J. <i>Report on the first phase of the Rouge River Valley Mammal Study</i> (Unpublished)
1990	Harpley, P. <i>Christmas Count data for the Metro Zoo, 1973- 1989.</i>
1990	Ministry of Natural Resources. <i>Identification of a Regional Greenlands System- Greater Toronto Greenlands Strategy</i> . Ontario Ministry of Natural Resources. Queens Printer: Aurora.
1991	<i>A Map of the Rouge River Valley Area of Natural and Scientific Interest and Proposed Park: Historic Landscapes between 1850-1990.</i>
1991	<i>A Greenspace Framework - The Protection and Management of Natural Heritage in the Greater Toronto Area.</i>
1991	Northeast Metro. <i>Southeast York and West Durham Strategic Transportation Review.</i>
Sept. 1991	<i>Comprehensive Heritage Inventory Interim Report: Rouge Valley Park Project.</i>
Nov. 1991	<i>Detailed Inventory and Evaluation Report, Rouge Valley Park Project.</i>
Dec. 1991	Varga, S., Jalava, J. and Riley, J. L. <i>Ecological Survey of the Rouge Valley Park</i> . Ontario Ministry of Natural Resources. Queens Printer: Aurora.
Dec. 1991	Eyles, N. and Boyce, J. I. <i>Earth Science Survey of the Rouge Valley Park.</i>
Dec. 1991	Kamstra, J. <i>Life Science Survey of the Northeastern Portion of the Rouge Valley Park</i> . Ministry of Natural Resources. Queens Printer: Central Region.
1992	<i>Built Heritage Inventory, Rouge Valley Park.</i>
1992	TRCA and Ministry of Natural Resources. <i>Rouge River Fisheries Management Plan - Part I: Management Strategy.</i>
Dec. 1992	TRCA and Ministry of Natural Resources. <i>Rouge River Fisheries Management Plan - Part II: Assessment and Rehabilitation.</i>
1992	Crombie, D. <i>Regeneration. Toronto's Waterfront and the Sustainable City: Final Report.</i>
May 1994	Multi-stakeholder advisory committee created the first park plan titled, <i>Rouge Park Management Plan</i> , approved by cabinet and formally released by the Ministry of Natural Resources.
1994	Regional Municipality of York. <i>A Greenlands System for the York Region.</i>
Apr. 1995	Official opening of Rouge Park, and the Rouge Park Alliance was officially formed. Work on a detailed management/implementation plan for Rouge Park south of Steeles Avenue began.
Apr. 1995	Ministry of Municipal Affairs and Housing. <i>Duffins Rouge Agricultural Preserve Strategy.</i>
1995	Ron Christie was appointed as the first Chair of the RPA, which was originally known as the Rouge Park and Watershed Council. Gord Weeden was hired as the first General Manager, and was to lead the park's staff. The original \$10 million pledge by the federal government was placed in a trust fund and the interest gained provides a source of annual income for the RPA.

18 June 1996	<i>Proposal To The Rouge Park Alliance For A Rouge Watershed Natural And Cultural Heritage Implementation Program.</i>
1996	FRW is awarded the Scarborough Bicentennial Award from the City of Scarborough.
1996	FRW is awarded the Conservation Stewardship Award from the Town of Markham.
1996	<i>Minto Markham Partnership Resource Management and Recreation Use Master Plan - Rouge Valley Lands.</i>
1997	<i>Rouge Duffins Draft Natural Heritage System.</i>
May 1997	<i>Rouge Park Vegetation Management Study - Vol. 1: Management Study.</i>
May 1997	<i>Rouge Park Vegetation Management Study - Vol. 2: Management Study.</i>
1997	<i>Revised Wetland Evaluation, Jefferson Swamp.</i>
Sept. 1998	<i>The Rouge Park and Rouge River Watershed Natural and Cultural Heritage Action Plan.</i>
1997	FRW is awarded the Urban Design Award from the City of Scarborough.
1998	<i>Rouge Park Action Plan</i> , which outlines the implementation of the <i>Rouge Park Management Plan</i> (1994)
1998	Varga, S. <i>Inventory of the Jefferson Forest Area of Natural and Scientific Interest, Town of Richmond Hill, Ontario. Ontario Ministry of Natural Resources</i> . Queens Printer: Aurora.
Jun. 1998	<i>Rouge Park Trail Development and Management Plan.</i>
1998	Former MP Pauline Browes is the inaugural recipient of the Rouge Park Award. The award recognizes individuals who have made significant contributions to the goals, vision and objectives of the Rouge Park.
1998	FRW is awarded the Greening Our City Award from the Metro Toronto Zoo.
1999	<i>Geomorphic Assessment of the Upper Morningside Tributary.</i>
May 1999	<i>Rouge Watershed River - Cultural Heritage Inventory Report - Vol. 1: Overview.</i>
May 1999	<i>Rouge River Watershed - Cultural Heritage Inventory Report - Vol. 2: Built Heritage.</i>
1999	Lois James is the recipient of the Rouge Park Award.
1999	FRW is awarded the Natural Heritage Award from the RPA.
1999	FRW wins the Award of Excellence from Environment Canada, Waterfront Regeneration Trust and the TRCA.
2000	Stairs, S. G. <i>Ecosystem-Based Protected Area Management in a Municipal Landscape, The Case of The Rouge Park</i> . Masters Thesis. Department of Geography, University of Toronto.
2000	<i>Rouge Park Interpretive Plan.</i>

2000	Former Scarborough Mayor Joyce Trimmer is the recipient of the Rouge Park Award.
2001	<i>Rouge North Management Plan</i> (Revised in 2001). Plan to guide the implementation and development of the Rouge Park lands located north of Steeles.
2001	<i>Oak Ridges Moraine Conservation Act</i> is passed by the Ontario Government.
2001	Town of Pickering. <i>Pickering Waterfront. The Mayor's Task Force - Final Report.</i>
2001	FRW members Jim Robb and Cathy Gregorio-Robb are the co-recipients of the Rouge Park Award.
2002	Storm Water Assessment Monitoring Program (SWAMP) authors <i>The Rouge River pond monitoring study</i>
2002	SRVS is the recipient of the Rouge Park Award.
2002	FRW member Jim Robb is the recipient of the Queens Silver Jubilee Award.
2002	FRW is awarded the Volunteer Involvement Award from the City of Toronto.
Apr. 2003	Vegetation adjacent to the Canadian Pacific rail line in the Rouge Park caught fire affecting a 24 km stretch of land from Sewells Road to Brock Road. The fire was investigated by the Ontario Fire Marshal and it was believed that the fire originated from sparks from the train wheels ignited low lying bush adjacent to the rails. Three planting sites (1994, 1995, 1996, and 2001) planted by both 10,000 Trees for the Rouge and FRW were destroyed.
2003	Former Toronto Mayor and MP David Crombie is the recipient of the Rouge Park Award.
2003	FRW is awarded the Urban Stewardship Award of Excellence from Evergreen, Wildlife Habitat Canada and York Region.
2003	FRW's Restoration Program Director Rob Johnson is awarded the Rouge Park Award.
2004	RPA publishes the <i>Rouge North Implementation Manual</i> , which provides directions on applying boundary delineation criteria within the <i>Rouge North Management Plan</i>
2004	The province of Ontario transfers an additional 1400 ha of land for the Rouge Park, bringing the total to 38 km ² .
2004	Carolinian Canada recognizes the efforts of the Rouge Park in conserving Carolinian habitat and biodiversity in the GTA. A plaque commemorating the achievement is placed at Glen Eagles Vista.
2004	Former RPA Chair Gord Weeden is the recipient of the Rouge Park Award.
2005	<i>Greenbelt Act</i> , is passed by the Ontario government.
2005	<i>Places to Grow Act</i> , is passed by the Ontario government.
2005	<i>Duffins Rouge Agricultural Preserve Act</i> is passed by the Ontario government

2005	In recognition of the Rouge Park's achievements, the Ontario Parks Association awards the Rouge Park with a 'Protecting Tomorrow Today' award.
2005	The Rouge Park publishes its first official <i>Park Map and Visitor Guide</i> .
2005	Gord Weeden the Park's first General Manager is appointed as the RPA Chair.
21 Aug. 2006	Premier Dalton McGuinty officially opens the Bob Hunter Memorial Park, which is located in Markham. The park adds approximately 200 ha of land to the Rouge Park bringing the total size of the park to 40 km ² . The announcement comes with a \$100,000 pledge to develop a master plan for the park.
2006	<i>The Bob Hunter Memorial Park Master Plan</i> . The plan includes some major improvements in connecting and creating connectivity between trails.
2006	Rouge Park officially opens the 'Celebration Forest' in Toronto, to commemorate the lives of park supporters prior to its official establishment.
2006	Premier Dalton McGuinty is the recipient of the Rouge Park Award.
2006	FRW is awarded the Green Toronto Award for Environmental Leadership;
2007	The province of Ontario dedicates another 600 ha of land in the eastern portion of Markham along Steeles Avenue East. The addition of land brings the total area of the park to 46 km ² .
2008	<i>Heritage Appreciation and Visitor Experience Plan for Rouge Park</i> . The HAVE plan consisted of a suite of programs, activities and services that serve to assist Rouge Park stakeholders in achieving the park's mission, values, and goals.
2008	Former RPA Chair Ron Christie is the recipient of the Rouge Park Award.
Aug. 2009	Rouge Valley Park governance review initiated by the RPA to undertake a comprehensive review of the governance, and finances of the organization.
2009	Several civil society groups working in the park unify their call for the Rouge Park to be transitioned into a National Park. The groups form the 'National Park Now Committee', which is a completely separate entity from the RPA. The group consists of several RPA board members and other groups such as the Friends of the Rouge Watershed.
Feb. 2010	RPA releases a report titled, <i>Governance, Organization and Finance Review of the Rouge Park Alliance</i> . Report concludes that many of the jurisdictional, governance and financial shortcomings of the RPA can be best addressed by transitioning the Rouge Park into a National Park. The recommendation was supported fully by the RPA and numerous civil society groups working in the park.
19 Nov. 2010	Motor vehicle fluids originating from Standard Auto Wreckers site (1216 Sewells Road) was discharged into the Little Rouge Creek and surrounding area. The spill traveled at least 300 m downstream from the site of origin.
2010	Former MP Thomas McMillan is the recipient of the Rouge Park Award.
2 May 2011	During the federal election, several candidates representing all parties with ridings in and adjacent to the Rouge Watershed, pledge in their campaign literature that if elected they would work to establish a Rouge National Park.

3 Jun. 2011	After winning a majority, the Conservatives in their Speech from the Throne state that they will work to establish an urban national park in the Rouge Valley.
17 Jun 2011	At the RPA Annual General Meeting, Federal Environment Minister Peter Kent (Conservative, Thornhill, 2008-) stated that the creation of a new near urban National Park was a priority of his government and that work would begin soon.
2012	Parks Canada hosts a series of forums in Scarborough and Markham to gather public input. Events included a visioning workshop, meetings with First Nations, and a youth forum.
25 May 2012	Federal government commits \$143.7 million over 10 years to develop the Rouge National Urban Park.

Early History of the Rouge Watershed

Throughout its history the Rouge watershed has undergone changes as a result of natural forces and human activity. The Rouge River and the physical landscape that we see today is the result of glaciation, flooding and erosion events. Archaeological surveys reveal that the watershed has been settled, utilized and altered by human activity for a period of over 10,000 years. During this period Aboriginal hunters/farmers, European explorers, traders, soldiers, and eventually settlers occupied the watershed. They were drawn to the watershed's rich loamy soil, which allowed for the planting of crops such as corn and squash.

The Toronto and Region Conservation Authority (2007) reports that the entire Rouge watershed may contain more than 1,360 cultural and archaeological sites, revealing a geographic area rich in heritage value. According to the *Heritage Appreciation and Visitor Experience Plan for Rouge Park* (2008), there are 170 archaeological sites identified in the park alone. Moreover, past investigations have documented approximately 60 archaeological sites within the Little Rouge watershed and one-third of these sites contain significant cultural finds spanning the entire period of human occupation of the valley (Rouge Park 2008). Some of these settlements were those of the first occupants of present-day southern Ontario following the last ice age. During this period of human occupation the landscape itself served as a defining force in shaping both the people and cultures of the region. The humans of this period were most likely nomadic, hunter-gatherers, and were drawn to the

region for its abundance of resources. In later periods along with the advent of agriculture, these Aboriginals cleared forests to plant crops to support their hunts, and established more permanent villages and settlements. Evidence from this period (up to the late 1500s) reveals that many of these settlements were located in the lower portions of the valley, as it provided a key strategic position of the trade trail, which was later to be known as the Carrying Place Trail (Rouge Park 2008).

Eventually as the fur trade made its way to Upper Canada, the Rouge River became as a strategic gateway to hunting grounds located in the north. European settlements were established in the late-1700s, which led to the clearing of forests for the establishment of farms. Eventually, as additional settlements were founded numerous types of mills were scattered along the river, and a small but active lumber industry was established. Oak and white pine was harvested and sent to Britain for the construction of ships. The high demand for Ontario lumber resulted in much deforestation in the lower watershed (Rouge Park 2008). Following the immigration of European settlers, the 1800s-1900s was defined by the establishment of larger family farms throughout the watershed. During this period small scale watercourse diversion was normal, land was graded and as a result various wetlands were drained in an effort to improve the farmland. In the mid 20th century, Toronto's population began to rapidly increase and suburban housing developments boomed in the city's suburbs like Scarborough.

The watershed also contains architectural resources such as buildings and other rural structures. These built form examples reveal some of the wide range of social, cultural, religious, political, military, and economic patterns that can be traced back to Ontario's early European settler history. Evidence of past human occupation is drawn from the collection of physical artifacts, and reveals the rich cultural heritage of the watershed and its relative significance to the contemporary built environment that surrounds it today. This evidence can also highlight the relationships between early settlers and the environment that they faced, and how they utilized natural resources. This examination of this cultural ecology underscores the importance of understanding the role of the natural environment in human settlement and also helps develop our understanding of the relationships between society and

nature. There are a few key sources of information that outline the unique cultural history of the peoples that settled in the watershed. These documents include the *Rouge, Duffins, Highland, Petticoat Conservation Report* (1956) by Richardson and Barnes, and the *Ecological Survey of the Rouge Valley Park* (1991) by Varga (et al.) The following section will provide a brief chronology of the significant settlement groups that have occupied the watershed.

Paleo-Indian (10,000 to 7,000 BCE)

The Rouge Valley was settled first by Paleo-Indians (10,000 to 7,000 BCE) when the glaciers retreated in southern Ontario approximately 12,000 years ago (Toronto and Region Conservation Authority 2007). The humans that settled the area lived in small nomadic groups and hunted caribou herds and other sub-arctic fauna. Simple stone tools such as scrapers and large spear points characteristic to this period have been found in the park (Rouge Park 2011d). Evidence of Paleo-Indian settlement in the watershed comes from three separate finds of artifacts, which have also been corroborated by well-defined archeological sites along the Humber River in the west, and in the Peterborough area to the east (Toronto and Region Conservation Authority 2007).

Archaic Period (7,000 to 1,000 BCE),

During the Archaic Period, human settlements in the area were more affected by climate and technological change, primarily in that a warmer climate allowed humans to take advantage of hunting along lakeshore environments. Technological advances during this period included the usage of more advanced tools such as axes, and gouges, which would have enabled the construction of hollowed out canoes (Rouge Park 2011d). The discovery of Native copper from Lake Superior in southern Ontario excavation sites suggests that humans in the Rouge watershed were involved in trade with other settlements. In response to the warming climate, Archaic bands capitalized on the annual seasonal variations, and hunted and collected foodstuffs during the most productive months (Ellis et al. 1990). There have been 43 identified sites in the watershed that would indicate that Archaic peoples inhabited

the area, but overall the finds are considered ‘not significant’ as the majority of the sites have undergone many land use changes and were not fully protected or investigated (Toronto and Region Conservation Authority 2007).

Initial Woodland Period (1,000 to 700 BCE)

The Initial Woodland Period (1,000 to 700 BCE) introduced advanced hunting techniques and bow and arrow technology. This period was also characterized with more elaborate ritualistic, cultural and artistic endeavours, and the usage of burial mounds (Rouge Park 2011d). Humans began to make use of ceramic vessels, which enabled the collection and storage of foodstuffs, which greatly improved survivability and reduced stress during times of hardship. The period also ushered in an era of larger family clans, increased populations, and a lifestyle that allowed for seasonal mobility. Villages were located near resource rich areas and landscapes that provided plentiful harvest and bountiful hunting and fishing areas. Spence et al. (1990) states that due to seasonal mobility, the Initial Woodland sites did not display substantial evidence of lengthy habitation or built structures. Therefore their visibility on the landscape is minimal, and thus challenging for archaeologist to locate. However, artifacts from this period have been located in farmers’ fields south of Steeles Avenue and west of the Little Rouge River (Toronto and Region Conservation Authority 2007).

Ontario Iroquoians (Late Woodland, 700 CE to 1651 CE)

This period included the introduction of corn from the south into southern Ontario and enabled some major advantages in the overall subsistence of humans occupying the watershed (Toronto and Region Conservation Authority 2007). These groups constructed ‘longhouses’ as their primary structure for habitation and villages were then formed. Remnants of these villages have been found in the watershed, and numerous artifacts have been recovered including smoking pipes, projectile points, ceramic pots, and grinding stones, all of which can be associated with village life (Kapches 1981). Moreover, the Ontario Iroquoians began to migrate further north towards Georgian Bay, in response to the eventual depletion of the soil and the overall reduced quality of the resources surrounding their

villages. These groups would eventually form the Petun and Huron Nations, which were eventually exterminated (by diseases) through contact with 17th century French missionaries, and continued warfare from the Iroquois from New York State (Toronto and Region Conservation Authority 2007).

Contact (1651 CE to 1800 CE)

After the eradication of both the Petun and the Huron, the watershed and its surrounding region were left vacant for 15 years, until the Iroquois from New York attempted to establish/expand their fur trading activities and villages along the north shore of Lake Ontario (Toronto and Region Conservation Authority 2007). One of these villages built by the Seneca, known as ‘Gandatsekiagon’²⁷, was located just east of the mouth of the Rouge River, and offered a strategic position in terms of controlling the fur trade route. The river was also recognized by the Seneca, as a stream that provided shelter for distressed canoes and the Aboriginals of latter half of this era first named it ‘Katabokokonk’ meaning ‘the river of easy entrance’ (Robinson 1933). The current name of the river is derived from observations by early French explorers who called it the ‘Rivière Rouge’ since it passed a hill of red tenacious clay that coloured its waters (Robinson 1933). Evidence reveals that the location of the Gandatsekiagon village corresponds to the archaeological site know today as Bead Hill.²⁸ The site was home to 500 to 800 villagers during (1665 to 1687) and also contained a Seneca burial site. Excavation studies uncovered 321 artifacts of 17th Century Seneca village life and included, ceramic cooking pots, glass trade beads, and copper kettles (Parks Canada 2010). The site played a key role in the trade and interaction of Aboriginals and Europeans during this period of Canada’s history, and as such the area was designated a National Historic Site in 1991.

²⁷ Other sources and authors writing about the Native history of the Rouge River have provided alternate spelling of Gandatsekiagon. Robinson (1933) uses, ‘Ganatsekwyagon’ and ‘Gandatchekiagon’ meaning ‘sand cut’, derived from ‘gandechia’ (sand), and ‘gaiagon’ (cut).

²⁸ Bead Hill was named after the beads that were found on the site. The site is a sensitive area, only one of three known in Ontario, is not publicly accessible, and protected by the *Ontario Heritage Act* (1975) (Parks Canada 2010).

Early French Period

In 1614 Samuel de Champlain began to explore Ontario, and paddled the Ottawa-French River route and spent the winter in a Huron village. Although there is no evidence that Champlain or his fellow explorer Étienne Brûlé ventured into the watershed, it is assumed that explorers of this period traveled the Toronto Carrying-Place Trail. The trail had two distinct pathways that permitted a much easier route to reach Georgian Bay and the upper Great Lakes. The trail had two arms, the Humber River to the west, and the Rouge River in the east. Both arms permitted passage from the shores of Lake Ontario over the Oak Ridges Moraine, and into the Holland River-Lake Simcoe watershed. The trail provided a shorter and easier passage to reach the north, as compared to a route towards Niagara Falls and Lake Erie (Toronto and Region Conservation 2007). According to Percy Robinson (1933) the first detailed map indicating Toronto and the Carrying-Place Trail was not drawn earlier than 1673. The Rouge provided a strategic position to control the movement of furs and other goods, and played a significant role in both the region's and Canada's development.

Settlement Period

The earliest European settlers on the Rouge River can be traced back to a group of German-speaking farmers led by businessman William von Moll Berczy, who organized a group of Mennonites from New York State to emigrate in 1793. The Berczy settlement had a significant impact on the river and allowed for many additional families to immigrate into the area and begin farming and constructing mills.²⁹ (Toronto and Region Conservation Authority 2007) By 1817 there were eight mills on the river and by 1861 there were 54 (36 were water-powered sawmills, 10 grist mills, 4 woolen mills and 4 steam-driven sawmills). During this period both Highway 2, and Highway 48 were well-utilized roadways, and there were 17 established town and villages.³⁰ (Toronto and Region Conservation Authority 2007) The watershed and its settlements also played a role in the Upper Canada Rebellion, as

²⁹ The Berczy settlement was located in present day Markham, Ontario.

³⁰ These villages included: Rouge Hill, Markham, Lemonville, Cedar Grove, Milneville, Unionville, Cashel, Cormley's Corners, Buttonville, and Headford (Toronto and Region Conservation Authority 2007).

William Lyon Mackenzie found many supporters living in the region. Mackenzie had strong ties to the area where he used the homes of farmers to plan and strategize the Rebellion.³¹

Modern Period - 20th and 21st Century

After the initial arrival of European settlers, the area served as a immigrant catchment area for the Toronto region. Remnants of the early Mennonite villages can be witnessed in the street signage, and several churches and their associated built structures still exist. The mouth of the Rouge River has served as cottage country for city dwellers, and many of the homes built in the area reflect this recreational heritage. Like other urban centres in Canada, the GTA underwent a major population boom after World War II, as veterans sought affordable housing. This population increase was also facilitated with the construction and expansion of the 400 series highways. For the most part the area was primarily rural until the early 1970s, after which many suburban low-density housing developments were planned throughout both the lower and upper regions of the watershed. In response to the rapid urban growth in the area during the 1960s to the early 1980s, the federal government revealed plans to develop and construct a new international airport in Pickering, located north east of Toronto along the northern reaches of the watershed. The airport would require large tracts of land, so the federal and provincial governments began to expropriate farmland in both east Markham and Pickering. Government action included the demolition of century old farmhouses, barns, and homesteads. Due to the sizeable area of these federal and provincial lands, they inevitably play a significant role in both the watershed's cultural and natural heritage, especially in terms of stabilizing the ecological integrity and connectivity of the watershed to the Oak Ridges Moraine.

³¹ The Upper Canada Rebellion was a rebellion against the British government in 1837 and 1838, centered on the access and allocation of land. William Lyon Mackenzie was a Scottish born American and Canadian who led the Rebellion and was the first Mayor of Toronto in 1834.

Protection for the Rouge Valley

The Rouge River is one of six Toronto watersheds that flow south and drain into Lake Ontario.³² The waterway is situated in one of Canada's most urbanized regions with the Region of Durham to the east, and the Regional Municipality of York to the north. Development pressures in the watershed are typical of a rapidly expanding urban area and include the construction of low-density tract housing, roads and sewerage (Macaraig and Sandberg 2009). The watershed drains an area of approximately 336 km² from its headwaters located in the Oak Ridges Moraine to Lake Ontario. The biodiversity associated with the watershed is noteworthy as it contains provincially significant wetlands and environmental sensitive areas. Furthermore, it encompasses one of 36 critical Carolinian forest sites remaining in Canada (Varga et al. 1991). This ecological integrity of the watershed is primarily made possible by the fact that the Rouge River still flows through primarily forested areas, and its watercourse has not been significantly altered like other watercourses in the GTA.³³ Today, a wide variety of land uses and designations can be found in the watershed and these include, agricultural, commercial, religious, cemeteries, recreational, employment, industrial, greenspace, and many types of residential developments.

While the lands of the watershed have been associated and influenced the behaviours of its early settlers, over the past half-century residents and successive governments in power (at all levels) have paid more attention to the area primarily for its land value, and prospects for urbanization. Simply put, the urbanization in the region has been both an instrumental and influential force on land use change in Ontario. The decisions of elected individuals and government institutions operating at 'higher than local scales' have always played a significant role in Ontario's development and planning history, and its effects in the watershed are no different. In constructing this history, I draw upon personal interviews, social histories, and archival research using newspapers and official government

³² The other watersheds include, Etobicoke Creek, Mimico Creek, the Humber River, Highland Creek, and the Don River.

³³ The Don River is an example of watercourse that has been dramatically altered. The lowermost portion of the Don River was straightened in 1891, in an effort to increase and promote shipping (Don Valley Historical Mapping Project 2011).

publications. During my research and review of the written material on the Rouge Park, many sources highlight the importance of the establishment of conservation authorities as a key factor in the protection of greenspaces in Ontario. In fact, the Rouge Park website makes a clear statement of their relevance by stating;

By 1956, there was strong support from a government body, the Rouge Duffins Highland Petticoat Conservation Authority, to protect the land in the valleys as a public park. It would take almost 40 years for that vision to become a reality. (Rouge Park 2010)

This top-down approach to decisions involving land use change is still in operation today in the province. Furthermore, my research indicates that broader scale issues relevant to urban growth and both the real and imagined values of greenspaces are profoundly shaped by provincial and national policy frameworks.

Conservation Authorities in Ontario

The series of political and social events that led to the official opening of the Rouge Park in 1995 can be traced back to the establishment of conservation authorities and the *Conservation Authorities Act* (1946) (Conservation Ontario 2011). The act was created by the provincial government primarily in response to concerns expressed by municipalities, agricultural societies, and civil society groups focused on recreational activities and were concerned with the overall state of natural resources (Conservation Ontario 2011). Prior to the establishment of the Conservation Authorities, civil society organizations such as the Ontario Conservation and Reforestation Association (OCRA), the Federation of Ontario Nature³⁴, and contributors to publications such as *The Farmer's Advocate*³⁵ lobbied officials

³⁴ The Federation of Ontario Naturalists was established in 1931. The group believed that wildlife be considered the property of all citizens and thus made a case for the creation of nature preserves throughout the province. The group was renamed Ontario Nature in 2004 (Ontario Nature 2011).

³⁵ *The Farmer's Advocate* was an agriculture-focused publication produced by farmers. The publication facilitated communication between farmers and provided a forum to post the location of upcoming fairs. It was published by Dawson and Bro. at the City Printing Office in the City of London, Ontario from 1866 to 1965 (Kyeremateg 2011).

for a comprehensive plan to protect natural resources. The call for increased provincial action and involvement in resource management was also a direct response to the weak natural resource management practices (especially logging) that were common throughout the province during the 19th and early 20th century. Such unsustainable practices led to widespread soil erosion and as a result drought and flooding were common events in many of the provinces watersheds (Porter 1940).

In the September 10, 1936 issue of *The Farmer's Advocate*, an article titled 'A New Reforestation Policy for Ontario' called for the establishment of a new and more integrative conservation program. Upon its publication, the article attracted much interest throughout the province, and as result W. H. Porter (Secretary of the OCRA) called a meeting in London, Ontario. Invitations were sent out to the wardens of nine counties located throughout the province. At the meeting six wardens were present and the other three sent their representatives, while other attendees included officials from the Forestry Branch of the Ontario Department of Agriculture, and other village agricultural representatives. The recommendations of this initial meeting and other subsequent meetings provided the impetus for shaping the policy program of the OCRA (Porter 1940). With the support of municipalities and other conservation groups, the OCRA pressed their provincial counterparts for comprehensive natural resource management strategies placed a focus on individual watersheds. Despite the fact that the management of land and water resources was under the direct jurisdiction of the province, numerous municipalities became involved. This combined effort led to the realization of the *Conservation Authorities Act* (1946), which provides the means for municipalities and the province to join together and form a conservation authority for a given watershed.

The establishment of the act laid out three fundamental concepts and approaches to watershed management in Ontario. The first calls for a 'Local Initiative' that states that a Conservation Authority can be formed in any area if requested by local residents. These residents would then have to assume the responsibility to contribute financially to the daily tasks and to finding solutions to the problems it identified. The second concept 'Cost Sharing' stipulates that both the province and municipality would share any costs of the

projects. Finally, the third concept of ‘watershed jurisdiction’ permitted conservation authorities to have jurisdiction and provide stewardship over watersheds that extended over multiple municipalities. Having jurisdiction over an entire watershed ultimately reserves a lot of control to these agencies as it ultimately allowed for an integrative and comprehensive approach to both flood control and land use planning (Conservation Ontario 2011). As conservation authorities gained power to establish regulations they became an important stakeholder in a wide range of provincial planning initiatives. Over the years, they have expanded their involvement in local level programs, and are involved in activities such as planning for outdoor recreation, environmental education, source water protection, water quality monitoring, wildlife/forest management, and perhaps most importantly flood control and flood plain management (Conservation Ontario 2011).

Currently, there are 36 conservation authorities in Ontario and each is independently governed by a board of municipally appointed members, two-thirds of which are elected municipal councillors. The authorities ultimately serve as a lead agency for their municipal government counterparts and are to provide professional scientific advice and input to official plans and planning processes (Conservation Ontario 2010). This involvement in watershed and floodplain planning has been one of the most significant developments in the creation and protection of greenspaces in Ontario. Their role is noteworthy, as their mandate has effectively permitted the conservation of large swaths of greenspace, primarily in the form of floodplains throughout the GTA.

Hurricane Hazel and Planning for Greenspace

On October 15, 1954 Hurricane Hazel deluged southern Ontario and hit Toronto with 110 km/h winds and 285 mm of precipitation within a span of 48 hours.³⁶ The storm caused numerous houses, roadways and bridges to be washed out and left thousands homeless. The official death toll was 81, the majority of whom drowned in flash floods. The total cost of the damage was estimated at \$100 million, a figure that would be well over one billion in today’s

³⁶ Hurricane Hazel was a Category 4 storm on the Saffir-Simpson Hurricane Scale.

dollars (Toronto and Region Conservation Authority 2011a). In the aftermath of this devastating storm, again there was a re-examination of the regional approach to flood control and water management that was already in place. As a result of the storm, the province amended the *Conservation Authorities Act* (1946) enabling authorities to acquire specific properties for recreation and conservation purposes and to further manage such land for the greater safety of the community. The Metropolitan Toronto and Region Conservation Authority³⁷ (TRCA) was formed in 1957 replacing four smaller conservation bodies and in 1959 the *Plan for Flood Control and Water Conservation* was finalized (Toronto and Region and Conservation Authority 2011b).

In the following years, the Lands Acquisition Program enabled the TRCA to acquire floodplain lands and transfer the liability of their maintenance and conservation from private owners to the authority, which was the first necessary step in the construction of flood protection works. The next stage of the flood control plan was the Flood Control Works Program, which called for the construction of necessary infrastructure to address and control future flooding events. The plan called for the construction of dams, reservoirs and channel improvements. Accompanying such infrastructure projects was the development of additional provincial flood plain policy and regulations (Toronto and Region Conservation Authority 2011c). These measures were primarily conceived to control future development and seek suitable land use activities in areas where flooding poses a threat.

The Rouge Duffins Highland Petticoat Conservation Authority

The establishment of conservation authorities proved to be crucial in the aftermath of Hurricane Hazel, as it they provided the institutional groundwork for creation of several key greenspaces in the province. The areas that were eventually designated to become the Rouge Park were part of these initial lands that were set aside by conservation officials. In 1956 the Rouge Duffins Highland Petticoat Conservation Authority released a highly detailed report

³⁷ After the amalgamation of the City of Toronto in 1998, the former Metropolitan Toronto and Conservation Authority was renamed the Toronto and Region Conservation Authority (TRCA). The TRCA is the lead agency in coordinating watershed management in the Greater Toronto Area. For the purpose of this dissertation, TRCA will be used for any reference to the MTRCA.

calling for the creation of a series of protected areas within the Rouge Valley. The publication was authored by A. H. Richardson and A. S. L. Barnes and was titled the *Rouge Duffins Highland Petticoat Conservation Report* (1956) and was lauded for its comprehensiveness and the level of detail it included. It should be noted that this publication was actually comprised of several individual reports that examined various aspects of the valley including the physical geography, cultural history, flora and fauna, and even potential conservation sites. Lewis Yeager, General Manager of the Rouge Park Alliance, states that these series of publications served as the original guiding documents for watershed and overall development planning in the Rouge Valley. Yeager says that the final report contains much detail and was extremely comprehensive in its scope, even when compared to current-day planning documents (personal interview, 12 September 2008). One of the chief recommendations derived from the *Rouge Duffins Highland Petticoat Conservation Report* (1956) was a call for all levels of government to protect a variety of greenspace and tablelands associated with the Rouge watershed. Despite the many conservation and policy recommendations outlined in the report, there was not much movement on the part of provincial officials until many years later. During the 1960s and early 1970s numerous agencies from all levels of government authored and published scientific/technical reports, but they resulted in very little provincial action with regards to creating a new protected area.

Development and Growth in Scarborough (1970s to 1980s)

Much of the population growth Toronto experienced during 1940s to 1960 came to the outer suburbs namely Etobicoke, East York, and North York. In the 1970s and early 1980s, when other areas in Metro's suburbs were already fully developed, and areas in the core began evaluating urban renewal projects, large swaths of the City of Scarborough remained the exact opposite, as there were several farms still in operation in its northern reaches. This abundance of undeveloped land, and overall perception of its distance and inaccessibility eventually led to the pop culture pejorative of referring to Scarborough as 'Scarberia'. During this period Scarborough was experiencing a tremendous boom in population and economic investment. One factor that played prominently in Scarborough's growth was the large influx

of immigrants settling in the area seeking different types of housing. The overall role and impact of immigration can be witnessed by rapid increase and change of the cultural makeup of Scarborough. Proof of the changing makeup of residents living in the watershed can be witnessed in the results of the 2006 census where Scarborough's population increased by 2.4%, and 12% of the population had arrived in Canada within the previous five years. In addition, 57% of the population was immigrants and after English (58%) the top three languages spoken at home were Mandarin (6.4%), Cantonese (6.3%) and Tamil (5.9%). At the time, the Scarborough's Economic Development Department was registering an average of 25 subdivisions a year and added 5,350 housing units in 1983. Speaking on the development in the Rouge Valley, Scarborough Mayor Gus Harris stated;

There's no way building can slow down, nearly all the residential units built last year were pre-sold and nobody's building on speculation....we'd like it to be protected valley land but we see room for some estate lots. (Allemand 1984, p. H1)

One developer, Monarch Homes reported that they sold 2,300 homes in Scarborough in the early 1980s, with their vice-president Jim Moir claiming that;

Generally Scarborough has matured a lot over the last 10 years. It's not the boondocks now, but the heart of activity with better shopping and transportation. (Allemand 1984, p. H1)

Also during this period, the plans to develop Malvern community were also being finalized, and when complete it was projected to house 50,000 residents (Allemand 1984). When compared to any other housing development in Metropolitan Toronto, a project on that scale would be extremely large, however at the time in Scarborough it was considered routine. Scarborough's growth was epitomized by several large commercial, housing and other infrastructure-related projects and the most notable were the completion of the Scarborough Light Rail Transit (LRT) line, and a \$57 million water works plant designed to serve 700,000

residents.³⁸ The LRT extended the eastern portion of the Bloor-Danforth subway from Kennedy Station to McCowan Road connecting the Scarborough Civic Centre complex, which was also undergoing a building boom with the constructing of the Consilium office tower project. The Scarborough Town Centre shopping mall, the Civic Centre, and the office developments adjacent to it, were fully intended to serve as a city centre by Scarborough planners. It was well known and reported that Mayor Gus Harris gave speeches to employees of corporate tenants of the Consilium development promoting the benefits of buying a home and settling in Scarborough.

The advent of locating head offices that are connected by public transit in the suburbs eventually dictated that city planners re-examine their housing stock. Elaine Hitchman, planner responsible for the Scarborough Official Plan Review stated;

To attract business, we have to get managers to live here. Our only executive housing has been concentrated along the lakeshore at the southwest corner of the city. But we plan 60 and 70-foot lots in developments near the Rouge Valley. (Allemand 1984, p. H1)

In conclusion, during the 1970s and 1980s, Scarborough underwent massive changes in terms of development and its overall demography. The suburb witnessed a housing boom, and the corresponding infrastructure investments required (i.e., public transit and public works) to support its growing and changing populace. The unfolding development pressures on the northeast portion of Scarborough in the Rouge watershed, was a microcosm of the broader political economy and rapid development occurring throughout the GTA, and would effectively ‘set the stage’ for the upcoming confrontations over the conservation of the Rouge Valley.

³⁸ The Scarborough LRT (now known as the Scarborough RT) is a rapid transit line on the Toronto Transit Commission subway and RT system. The line was officially opened on March 22, 1985.

Civil Society Involvement in the Rouge Valley

In order to appreciate and better understand the various factors that led to the opening of the Rouge Park in 1995, it is useful to carefully trace back the specific roles of civil society and their respected members. Simply put, the park would not exist in the form we see today without the careful and deliberate involvement of civil society actors. The following section will detail the key events and the associated individuals, civil society groups, and public officials who were instrumental in establishing the park.

During the 1970s development pressures along the northeastern border of Metropolitan Toronto were increasing, spurred along by the demand for housing by a rapidly growing population and regional economy throughout the GTA.³⁹ Throughout the GTA, the 1960s to 1980s represented a period of rapid population growth. During the period between 1976 and 1991, Toronto and the four suburban regional municipalities increased their population by over 1 million, with 86% of this growth occurring in the regional municipalities (Frisken 2001). During this growth phase, all three municipal governments⁴⁰ that had lands in the Rouge watershed had extensive development plans within their respective political jurisdictions. The huge scale of some of these developments proposed during this period is epitomized with the plans to construct an international airport in the City of Pickering. Local resident groups mounted a vigorous campaign against its construction, and challenged the plans for the airport. However despite the public contestation, the federal government still expropriated approximately 7800 ha of countryside, and demolished entire homesteads (Transport Canada 1974). The removal of residents from their homes was met with opposition from civil society organizations based in the surrounding areas. Groups such as People or Planes (POP) and VOCAL (Voters Organized to Cancel the Airport Lands) galvanized local support against the plans. The groups planned numerous rallies and an extensive media campaign that included lawn signs and even a mock funeral procession to

³⁹ The eastern border of the City of Toronto consisted of the former City of Scarborough. The City of Toronto was amalgamated on January 1, 1998. The six municipalities of the former Municipality of Metropolitan Toronto included; Toronto, York, East York, North York, Etobicoke, and Scarborough. For an explanation of Toronto's amalgamation history and its past two-tier model of municipal governance see Keil (2000) and Sancton (2005).

⁴⁰ The former City of Scarborough, Regional Municipality of Durham, and the Regional Municipality of York all have jurisdiction over land in the Rouge Watershed.

Ontario's state legislature, to symbolize the death of their communities. Opponents cited concerns over the overall feasibility of the development and pointed to Montréal's economic struggles with supporting two large international airports.⁴¹ Locals also criticized the planned airport site for its relative proximity to the Pickering Nuclear generating station, arguing that flight paths would be dangerously close to the site. Eventually, both the federal and provincial governments decided to delay the Pickering Airport plans, and the land that was expropriated remained in government control (Shanahan 1988). This situation eventually led to a re-evaluation of urban expansion plans throughout north Pickering and thus the lands associated with the Rouge Valley.⁴²

The Involvement of Save the Rouge Valley System (SRVS)

As both Scarborough's and Toronto's population continued to grow in the 1980s so too did the demand for housing, which was referred to as being at 'crisis levels' by both developers and government officials (Duffy 1988, Todd 1987, Speirs 1988b, Josey and Armstrong 1988). This demand predictably led to contestations over the undeveloped portions located adjacent to the Rouge Valley. Specifically, northeast Scarborough was often referred to as 'Metro's last frontier', 'the last wilderness' and 'the last green door' both by elected officials and the popular media (Taylor 1985, James and Page 1987, Fine 1988). Claims and projections for growth by both city staff and elected officials from Metro became a common news feature in the popular media. These development plans eventually caught the attention of local citizens who became concerned with their potential impact on the Rouge Valley. They mobilized and called for protection of the valley and its watershed. Through their concern over the potential impacts of development, local citizens formed Save the Rouge Valley System (SRVS) in 1975, the first group established working to protect the

⁴¹ During the 1960s Montréal experienced large economic growth, and underwent many large-scale construction projects that were tied to Expo 67. During this period, the Montreal Metro transit system was established, and the construction of a second airport in Mirabel, located approximately 50 km from downtown also began. Despite the economic optimism of city officials, the Montréal-Mirabel International airport never reached its passenger capacity goals, as Montréal-Pierre Trudeau airport was located only 20 km from downtown. Currently, Montréal-Mirabel International Airport only serves cargo airlines.

⁴² The plan to construct the Pickering Airport has been renewed at different times by successive governments in the proceeding decades, and even most recently during the past 2011 federal election by the Conservative Party of Canada (Brennan 2011).

watershed.⁴³ The group began with a small number of volunteers, of whom some of the primary members were residents Lois James and her husband Robert James.⁴⁴ In its later years, other key members of SRVS included Jim Robb, Glenn De Baeremaeker, and Ron Moeser.⁴⁵

Some of the early members had a spatial connection to the area as they lived very close to the Rouge Valley. Although they were seeking to protect lands in their backyard, they were not motivated by property values but rather by more compassionate and altruistic reasons, particularly they wanted to protect a landscape they admired and regularly visited. Although areas in the valley and the watershed were deforested and farmed at different periods in past centuries, many of these greenspaces have returned to something close to its pre-European condition. SRVS saw the valley as an impressive and wild landscape (when compared to other Toronto ravines and greenspaces during the 1970s-1980s) and their initial motivation was emotional, as they wanted to protect the character of the valley and perhaps prevent development similar to what is found in Highland Creek or the Don Valley. The initial reaction eventually evolved into a more objective position that encompassed a pragmatic realization of the ecological significance of the valley. This focus on the flora and fauna led to the involvement and support of the Federation of Ontario Naturalists, the WWF and other nature based civil society actors.

SRVS's advocacy and involvement in the protection of the valley was both broad and extensive. Robb states that SRVS was most active from 1980 to 1990, and was primarily motivated to protect the valley from numerous developments throughout its watershed. Furthermore, De Baeremaeker states that SRVS was fundamentally against the construction

⁴³ The exact date of when SRVS was formally created is uncertain, even for the earliest members. Robb states that the group was created in the late 1970s, however several newspaper articles state that the group was created in 1975 (Reid 1988).

⁴⁴ Robert James was a Professor of Sociology at the University of Toronto Scarborough.

⁴⁵ In 2003, Lois James was appointed a Member of the Order of Canada in recognition for her work towards establishing the Rouge Park. James was also inducted into the Scarborough Walk of Fame in 2009. Jim Robb eventually left SRVS, and formed another civil society organization, Friends of the Rouge Watershed where he is currently the general manager. In 2003, Glenn De Baeremaeker was elected as a City of Toronto Councillor for Ward 38, and is currently the incumbent. Ron Moeser was elected as a Scarborough Councillor from 1988-2003, and again as a City of Toronto Councillor for Ward 44 in 2006 where he is currently the incumbent.

or roads/highways, and promoted the expansion and implementation of blue box programs in Scarborough. SRVS was officially opposed to numerous infrastructure and housing developments in Scarborough and Markham throughout the 1980s. These projects included the construction of large-scale suburban housing developments, the expansion of the Beare Road Landfill, and the proposal for an expressway through the watershed to connect Highway 401 to the 407 Express Toll Route.⁴⁶ In addition to opposing large infrastructure projects, SRVS was also involved in other very small local scale issues such as the bid to save Scarborough's Centennial Swamp, a small 2.5 ha swamp which was eventually drained for a small housing development.⁴⁷ (Abbate 1986)

During my interviews with Robb, he states that SRVS at the time was the lead agency working to protect the watershed. It should be noted that some of the other civil society groups working in the Rouge Valley during the early 1980s included the Toronto Field Naturalists (TFN), Save Our Streams Inc., and Orienteering Ontario Inc. (OOI). As additional support for the park began to galvanize in the latter half of 1980s many other civil society organizations lent their support for the creation of a new protected area (Table 4). It should be noted that some of my interviewees could not recall the complete names of some of the smaller community, neighbourhood, or ratepayer associations that are no longer in operation, but had supported the position of SRVS. Since SRVS was small, the group utilized the strengths of each of its members throughout its campaign. Lois James served as the secretary and public relations point person, and Robb's background was in science (forestry) so he handled all matters relevant to biology and ecology. De Baeremaeker handled the politics and advocacy aspects of the group, while Moeser worked with and built relations with the various community and neighbourhood groups (Jim Robb, FRW, personal interview, 26 June 2008).

⁴⁶ The Beare Road Landfill is an 80.5 ha site opened in 1967 and was in operation until 1988. The site is located in the Rouge Park and is bounded by the Toronto-Pickering Town Line to the east, the CN Rail line to the west, Finch Avenue East to the North, and the hydro corridor to the south. In 1971, The City of Scarborough expressed desire to develop the site as a ski resort, but the plans were eventually abandoned by the City in 1982, primarily due to the potential of land-use conflicts in the immediate area (City of Toronto 1999).

⁴⁷ Scarborough's Centennial Swamp was located at the north end of Tallpines Court, west of Highway 401 and Sheppard Avenue East.

Table 4: Civil society organizations working in the Rouge Valley.

Civil Society Group	Initial Year of Involvement
Save the Rouge Valley System	1975
Toronto Field Naturalists	1983
Save Our Streams Inc.	1983
Orienteering Ontario Inc.	1983
Rouge Valley Foundation	1984
Ontario Federation of Naturalists	1986
World Wildlife Fund	1987
Carolinian Canada	1987
10,000 Trees for the Rouge	1989
Friends of the Rouge Watershed	1991
Rouge Valley Naturalists	1994
Rouge Park Alliance	1995
Ontario Streams	1995
Citizen Scientists	2001
Rouge-Duffins-Greenspace Coalition	2003
David Suzuki Foundation	2011

In the years after it was founded, SRVS began to lobby their elected officials with the ultimate goal of establishing a new protected area. The group made use of and was bolstered by a number of government reports (published between 1950 to 1980) most authored by various conservation authorities and other provincial agencies, most often by the Ministry of Natural Resources. Some of these reports were greatly influential in supporting the SRVS's claim that the valley had notable ecological significance. The group initiated common strategies such as letter writing campaigns, selling T-shirts and buttons, making phone calls to local residents, pitched possible stories to local television stations, and eventually self-

authored their own scientific reports and planning documents. Furthermore, SRVS began discussions with elected officials at all levels of government. De Baeremaeker states that although the group endeavoured to contact politicians of all stripes, the group made the most headway at the municipal level, more specifically at the City of Scarborough. De Baeremaeker recollects taking part in personal meetings with numerous city officials, and states that it took a tremendous effort from SRVS members to gain the support of Scarborough's elected officials. He further describes the political contestations to protect the valley by saying;

The battle to get political support for the park was vicious...if both city and provincial governments were to get its way, the park would not have existed.

(Glenn De Baeremaeker, SRVS, personal interview, 17 September 2008)

Public support for SRVS became fully galvanized when the province revealed plans in the mid-1980s to both widen existing and construct new roadways that would cross the watershed. During my interviews both Robb and De Baeremaeker, they said that SRVS saw these specific infrastructure plans as the critical first step that would eventually make way for further development into the watershed. The Scarborough Planning Department had also proposed developments that included affordable housing, mixed residential housing and even executive housing. Moreover, the proposals included a new shopping mall, a re-alignment of Finch Avenue, and the construction of a major highway (Todd 1987).

On September 3, 1987 the future of approximately 2,100 ha of land associated with the Rouge Valley was to be debated and decided by the Scarborough City Planning Committee. The area in question is bounded by Steeles Avenue to the north, Pickering town line to the east, Twynn Rivers to the south, and Staines Road on the west. The committee was to vote on seven possible options outlined in a staff report titled *Northeast Scarborough Land Use Study. Revised Concept Report*. The options ranged from leaving the area in its present state, to permitting the development of low density housing on 585 ha with a 91 ha business area. With the release of the report SRVS member De Baeremaeker commented;

We want Scarborough council to adopt an option in the interest of the environment and the people of Scarborough - not just the developers...in the next 20 years when all of Markham, Pickering and Toronto is built up this could be the only green space left in Metro. (Page 1987a, p. A6)

Scarborough Controller Joyce Trimmer⁴⁸ said;

Metro is growing out of control...no level of government is controlling it and it's about time we did. (Page 1987a, p. A6)

Trimmer further explained that developing the area of northeast Scarborough would require many more roads and sewers and would cost the city a fortune, in terms of overall construction and maintenance costs. This observation also worried De Baeremaeker who explained that the construction of sewers and roads and its resulting storm water runoff would turn the river into an open sewer system and, "it will literally trample the life that is there." (Page 1987a, p. A6) SRVS also found support in Scarborough Alderman Edith Montgomery, who added, "ideally it would be nice if it could remain working farmland." (Page 1987a, p. A6)

At the vote over 200 residents attended the meeting in support of SRVS. A coalition of speakers representing several environmental civil society groups, including the World Wildlife Fund and the Ontario Federation of Naturalists, all made claims that the valley was notable for its biological diversity and thus represented an environmentally significant area worthy of protection. Steven Price of the World Wildlife Fund reported to the committee that the area had 16 environmentally significant sites, and is one of 36 areas identified by the province meriting protection (James 1987b). In the end, the committee voted 4-2 in favour of the proposal to halt development plans for the area and ultimately rejected all of the other various options that allowed development, one of which would have allowed up to 35,000 new residents in the area. After the vote Alderman Maureen Prinsloo stated;

⁴⁸ As a show of public support for SRVS, Trimmer wore a SRVS 'Wild in the City' T-shirt at the meeting.

I can't see anything wrong with leaving a large rural area in Metro Toronto especially with the surrounding area developing to the hilt. (James 1987a, p. E5)

It should be noted that the committee's position to preserve the valley was opposed by Scarborough Mayor Gus Harris, who stated that the development would result in much needed tax revenue for the City further adding;

It's the asphalt jungles that pay taxes, so that people can look at reindeers, blue herons, and wild canaries. (James 1987b, p. A20)

After the vote Joe Lebovic one of two developers who own land in Scarborough, predictably supported Mayor Harris's position arguing that Scarborough needs to provide executive housing for the major corporations, and that if the city votes to stop development in the valley he threatened to erect a highway sign reading, "if it weren't for the white tailed deer you'd be home by now." (James 1987b, p. E5) Lebovic also noted, "the little deer can go in the valleys, all I want to do is build on the tableland." (Stein 1987a, p. A27)

Officials from the Ontario Land Corporation (a major owner of the contested land, along with the TRCA), also favoured a decision that would allow development in the area (Page 1987b).⁴⁹ Lebovic was also the chairman of the Urban Development Institute for Metro and publicly stated that he wanted the province to sell its approximately 2000 ha in the Rouge, which he estimates is worth \$500 million. His plan was to use the money to build affordable housing elsewhere. Many of Lebovic's statements published in Toronto newspapers also point to the broader political economy in operation during the 1980s, and how it is closely tied to pro development interests. Lebovic also claimed that the entire development industry would become alienated if the government sides with environmentalists wanting to preserve the valley. He said;

⁴⁹ The Ontario Land Corporation is known today as the Ontario Infrastructure and Lands Corporation. The agency serves as the real estate service arm of the provincial government.

How can we take (the government) seriously about wanting to solve the housing crisis when they give that much land away?...in future when they come to us begging for affordable housing, we'll tell them where to go. (Josey 1988, p. A6)

After the Planning Committee vote and recommendation for preservation of the Rouge, the future of the area still faced another critical vote from all 19 council members. The meeting and corresponding debate was set for September 21, 1987 at the Scarborough Council Chambers and was attended by over 700 residents (James 1987c). That impending vote would finalize the land designation, which would then be ultimately incorporated into Scarborough's Official Plan.

At the meeting SRVS organized a coalition of 25 speakers scheduled to speak in support of preserving the area, including Michael Sherry, an aboriginal rights lawyer representing the Nishnawbe-Aski Nation, which is located near Timmins, Ontario. Sherry, who received a standing ovation, urged council to preserve the land as it contains important native sites and that Aboriginals have a land claim for the valley with the federal government (James 1987c). Due to the number of speakers, the meeting lasted over five hours but no decision or vote was taken, since a vote to continue lost 10-6, as it needed a two-thirds majority for the meeting to continue. The meeting was adjourned and scheduled to continue on November 2. After the meeting De Baeremaeker said;

They were under a microscope and basically they didn't want to vote in front of the people...it's a David and Goliath fight and they are hoping we'll lose impetus." (James 1987c, p. A6)

On November 1st, the day prior to the continuance of the September 21st Scarborough Council meeting, SRVS members organized a rally at a lookout overlooking the valley. The event was attended by more than 100 residents and featured a member of the Ojibwa, Eddie Benton-Banai who performed a melancholy song in memory of aborigines buried in the area. SRVS members also planted an Eastern White Pine at the rally site to symbolize their struggle. Benton-Banai further commemorated the event by tying an eagle feather to the top

of the tree (James and Page 1987). SRVS was able to garner further support from the Mississauga, another First Nation group who stated that their representatives were preparing to use a court injunction and tell council that the band has a land claim for the area. The claim is based on various private and provincial reports highlighting archeological evidence that the watershed contained native burial grounds.

On the day of the vote, De Baeremaeker recalls that SRVS was able to organize an even larger contingent of residents as compared to the earlier meetings. He estimated that there were approximately 600-800 residents that showed up to the council chambers to show support for SRVS's position.⁵⁰ The group of supporters included nearly all of the active ratepayers' groups in Toronto (i.e., 46 of 52 groups were present at the meeting that day). The turnout was estimated by security officials to be the largest ever at a Scarborough Council meeting (James 1987d). Columnist David Stein (1987b, p. A27) reported that he had not witnessed such a militant, well-organized movement of residents since the anti-expressway battles of the City of Toronto's urban reform movement almost 20 years past. SRVS member Robert James emphatically stated, "putting any kind of development in the Rouge will be a death sentence", and Scarborough residents were, prepared to, "give the province hell if they give us difficulty." (James 1987d, p. A7)

An interesting twist occurred on the day prior to the vote, council received a request from the province's Government Services Minister Richard Patten to defer the issue to allow more study. Mayor Harris urged that council was;

Making a tremendous mistake if you (council) don't wait another month or two to sit down with the minister who asked for more time. (James 1987d, p. A7)

The origins and reasons for such a request were never fully understood or revealed to SRVS members, but it appears it was just a final attempt by the province to somehow permit development in the area. At the time, Premier of Ontario David Peterson (Liberal), was

⁵⁰ My interviewees have stated that the actual number of residents at the meeting were well above 1000, a figure that has been reported in numerous newspaper articles and reports.

investigating the potential for locating new affordable housing in north Scarborough. Ontario's overall shortage in housing stock during the 1980s was especially severe in the GTA's inner suburbs which were experiencing rapid growth. Moreover, the provincial Liberal government in its Speech from the Throne on April 28, 1987 devoted an entire segment to outline its plans to address the housing problems. The speech made numerous clear and specific references to create affordable housing and initiate programs to help facilitate its goals. The following passage from the speech summarizes the government's intention to address the issue;

A "housing first" policy will be applied to all available provincial lands to create more housing for low- and moderate-income earners. Where lands are deemed inappropriate for such use they will be sold and the proceeds applied to an assured housing development initiative. We invite the federal government and all municipal governments to join with us in committing their leadership and resources for this effort. An innovative program will be introduced in partnership with the private sector to create new units within the reach of moderate-income families. It will offer affordable leases that can lead to an option to purchase. Home owners and municipalities will be encouraged to explore creative low-cost approaches to increasing housing supply.
(Legislative Assembly of Ontario 1987)

The passage reveals some of the broader factors and political economic forces that were in operation at the time throughout GTA. It was through provincial policy measures and announcements in the throne speech, coupled with Metro's determination to focus and intensify growth in northeast Scarborough that SRVS and its supporters became increasingly determined to prevent development in the Rouge. De Baeremaeker (SRVS, personal interview, 17 September 2008) explained that Metro, the City of Scarborough and the province had full intention to develop housing throughout the valley and referred to their intentions as a, "pave it all", ideology.

Revealing the province's intention to seek out land in the Rouge for affordable housing, Scarborough Council heard from Ken Rovanelli from Ontario Land Corp, which was a

branch of Ministry of Government Services (i.e., Patten's ministry) Rovanelli stated that he was shocked to hear that Scarborough politicians were planning to stop development in north Scarborough, and Queen's Park has interest in studying the matter further (Stein 1987b). In response, Scarborough Controller Joyce Trimmer replied;

You asked us to consult with the community and the people are telling you what they want tonight. (Stein 1987b, p. A7)

In the end, the formal request by the province did not sway the determination and support SRVS had rallied through Scarborough's elected officials. At the meeting council heard from over 50 speakers who all made a case to stop development in the valley. After nearly 10 hours of debate, in two separate meetings (six months apart), after midnight Scarborough Council voted 16-1, to keep development (i.e., primarily housing) out of the area, while allowing some recreational uses such as campgrounds, hiking trails, and sports fields. Elected officials had to vote on one of seven possible options put forth by the planning department. While the votes were being tallied, and it was apparent that SRVS was going to achieve its goal of protecting the valley, the crowd of over 600 began to cheer and applaud. Not surprising, the one vote in opposition was from Mayor Harris, who steadfastly maintained that the City of Scarborough critically required the tax revenue (James 1987d).

After the major victory at Scarborough Council, in early 1988 SRVS then began working on a plan calling for a new 2,832 ha 'Canadian heritage park', that would be a jointly managed by the province and federal government. In a newspaper article, De Baeremaeker states;

There's a lot of pressure to drop this publicly-owned land into private hands...that would totally destroy the valley system. Residential subdivisions and wildlife are mutually exclusive." Further adding, "Now we're reaching a point where if we're going to protect this wealth, we've got to formalize it somehow. (Temple 1988, p. A32)

The plan put forth by SRVS included the land in northeast Scarborough and also all the ravine land running south all the way to the mouth of the Rouge River.⁵¹ Furthermore, the plan also called for an additional 405 ha running north of Steeles Avenue well into Markham and connecting to Bruce's Mill Conservation Area. The tablelands located north of Steeles Avenue (i.e., Markham) were most often referred to as 'Rouge North'. During our interview, Robb described the plan that SRVS published as one of the most notable and comprehensive of all the reports that the group authored. The report was eventually forwarded to Scarborough's elected officials and bureaucrats, and Robb maintains that the section of Scarborough's Official Plan that deals with its northeast portions were heavily influenced by the SRVS report. He said when he compared the official document to the earlier SRVS plan he recalls at being very surprised of the many similarities, and thus he maintains that the groups had influenced the policy-making decision.

Federal Involvement and Interest in the Rouge Valley

In April 1988, after releasing their planning report for northeast Scarborough, SRVS along with the Coalition of Scarborough Community Associations, made plans to take federal Environment Minister Thomas McMillan (Conservative) on a walk through portions of the valley. Their goal was to show its importance as a Carolinian forest site and further highlight, "two nationally rare species of fish among the 35 species in the clear river waters." (Temple 1987). The event with the Minister was well publicized, and covered by numerous media outlets. After the tour (which was led by Robb), McMillan stated that the area should be preserved for all and contained unique ecological features and, "it would be a darn shame if the area were leveled and replaced with million-dollar mansions." (Abbate 1988a) The Minister further announced that SRVS would receive a \$9000 grant and that he would immediately meet with Ontario Environment Minister James Bradley (Liberal) in an effort to persuade the provincial government to protect the valley. In the period immediately after McMillan's tour, Bradley vowed that he would take steps to protect a significant portion of the valley. Curiously, Bradley also took the opportunity to take swipes at his federal

⁵¹ Despite many efforts, a copy of the SRVS plan/report could not be located.

counterpart calling McMillan's visit a mere convenient photo opportunity, and that he should provide money instead of advice (Armstrong 1988).

Eventually, on September 16, 1988 Minister McMillan pledged \$10 million for the creation of a natural heritage park in the Rouge Valley, and further added that neither a landfill nor housing belonged in the area (Abbate 1988e). McMillan said the announcement actually came in response to a written request from Ontario Minister Bradley, who requested help to establish the park. McMillan made the announcement in an auditorium of cheering high school students at Scarborough's Winston Churchill Collegiate stating;

The federal government is saying the Rouge is special and ought to be protected from commercial or resource exploitation. (Josey 1988c, p. A1)

The announcement and promise of \$10 million from the Conservative federal government was applauded by both SRVS and Scarborough's elected officials, and served to surprise/upstage the Liberal provincial governments efforts in proclaim protection for the area (Speirs 1988b). In response, Minister Bradley pledged that the land in northeast Scarborough would become an 'urban wilderness park'. Immediately after the announcements Scarborough controller Ken Morrish formally requested Metro Council to abandon its plans to locate a landfill anywhere in the Rouge, a request that would be ignored as plans for Metro to expand the Beare Landfill continued in the years to come (Josey 1988c, p. A1).

SRVS Involvement in Markham

In the 1980s, York Region was also experiencing rapid growth and in response to the popularity and their successes in Scarborough, SRVS established a Markham chapter led by local resident Stephen Marshall to contest development plans in the northern reaches of the watershed. Specifically, the Markham chapter was opposing a 351-house development along 14th Avenue, east of Markham Road. The group was concerned that the developments are situated too close to the river. Marshall stated;

The river system has been nibbled at by development for a long time. But the wreckless [sic] speed of development how is setting the stage for the serious degradation of the river system...we'd be left with pockets of green space rather than a continuous river valley system. (Duffy 1988, p. A7)

In response to the planned development, SRVS hoped to persuade both Markham officials and the developer to adopt a 50-metre setback from edge of the Rouge. As witnessed in Scarborough, the Markham chapter was also very successful in shoring up community support to establish a new natural heritage park. The first scheduled public meeting was on April 26, 1988 and on the agenda was to discuss the Rouge North development plans in Markham. On the day of the meeting, Markham officials decided to cancel the meeting when approximately 250 residents filled Markham's council chambers (Duffy 1988). The meeting was then rescheduled, in order to find a larger venue. Elson Miles, Chairman of Markham's planning committee stated that development plans are being submitted to the town much faster than expected (Duffy 1988).

In continuance of the previous meeting of Markham's Planning Committee, a new meeting was held on May 30, 1988 and was hosted in the gymnasium of Markham District H.S. At the meeting 250 residents again showed up to contest development in the area. SRVS's efforts were joined by the Raymerville North Ratepayers Association and the Federation of Ratepayers of Markham, which represented 19 groups (Abbate 1988b).⁵² One resident expressed his disappointment in the entire process by claiming;

There are always a lot of fine speeches about being environment-minded but when it gets to the crunch Markham Council doesn't do much about protecting the environment. (Abbate 1988c)

At the meeting, these civil society groups were protesting development plans that would enable a 10-metre setback for buildings from the edge of the valley, whereas they were

⁵² At the time the chairman of the Federation of Ratepayers of Markham was Colin Creasey, who is also the current general manager of 10,000 Trees for the Rouge.

proposing a 45-metre minimum. In the end, the committee voted 8-2 in favour of developing 121 ha (351 homes) in the Rouge North tablelands.

Development Plans for Northeast Scarborough

During this period, notable pushback against a new protected area came primarily from developers who owned land in the area and Mayor Harris, who believed that Scarborough simply did not need and could not afford a large nature park. Harris was concerned that the municipality would be forced to buy 200 ha of privately owned land stating;

Once we rezone that land as open space, then we send a signal to private land owners in the area that we want to expropriate...we cannot afford to buy the land now in private ownership, and I don't know who can. (Josey 1988a)

Despite such setbacks in contesting developments in Markham, the call to create a new protected area, continued and seemingly built momentum from 1988-1990. On June 27, 1988, Scarborough Council held a public meeting to consider the *North-East Land Use Study*, which would set the future goals and land use designations for the area. The study recommended that the majority of the land be retained for open space and recreational purposes. The purpose of the meeting was to amend the Official Plan and designate approximately 2000 ha of northeast Scarborough for rural and recreational uses. These amendments were the result of the changes that were approved by council in November 1987.

It should be noted that regardless of any decisions made by Scarborough Council, in Canada's federalist political system, provincial decisions pertaining to land use supplants those made by municipal governments. As in earlier meetings held the year before, Richard Patten, provincial Minister of Government Services, again sent a letter to Mayor Harris stating that the province wished to do additional consultations with neighbouring municipalities and other interested ministries. The lands in question represented a large swath of northern Scarborough, where the province owns 32 per cent, and 1,600 ha is developable tableland, while the remaining contains hydro corridors, major railways, gas pipelines, and

the Little Rouge River and the Rouge River. Finally, the conservation authority also owned another 620 ha (Abbate 1988d).

During my interviews, both Robb and De Baeremaeker recall that of all the meetings held at council, this particular meeting had the largest group of residents that showed up to support SRVS. Robb in particular recollects that tempers and attitudes at the meeting were emotionally charged, especially when after his deputation he received a standing ovation. Rob stated;

We don't want major arterial roads bisecting the area adding noise that exceeds the levels of the rustling of trees and the songs of the birds. (Josey 1988b, p. ME1)

Moeser, who at the time was the chairman of a coalition of Scarborough ratepayer associations, urged residents to;

Send a strong message to Queen's Park that the Rouge is beyond price and should be preserved for future generations. (Abbate 1988d, p. A7)

Other speakers included MP Robert Hicks (Conservative) who was booed when he stated that preserving the Rouge is compatible with building affordable housing. While Scarborough Centre MP Pauline Browes⁵³ (Conservative) added that development in the Rouge could be avoided as there were other places in Metro, that could accommodate affordable housing (Abbate 1988d). As in previous meetings, there were a large number of speakers, both young and old, from all political stripes and after four hours, council failed to reach a decision, and thus adjourned while planning another meeting for July 11.

At the next meeting, which was attended by over 700 people, Scarborough Council voted 17-0 to preserve the Rouge Valley from development, which was followed by a raucous standing ovation (Wong 1988a). Robb said the vote was a major win and a severe blow to the interests of developers some of which owned land in the area. In an interview, Robb

⁵³ Browes was the parliamentary assistant to Federal Environment Minister Thomas McMillan.

described his relief at the vote and he elaborated that the unanimous vote represented a historic decision for politicians in both Metro and Scarborough. (Jim Robb, FRW, personal interview, 26 June 2008).

All of my SRVS interviewees pointed to the votes in Scarborough Council in 1987 and 1988, as the critical and defining moments in the movement to preserve the area. During the period after Scarborough Council passed its Official Plan Amendment, SRVS continued to rally support through various means. The three-year period from 1988-1990 also saw increased politicking between Scarborough's elected official/bureaucrats, the province, private interests, other municipalities, and even other government agencies such as the TRCA. In July 1998, the TRCA released a staff report stating that the 1,219 ha of Rouge tablelands above the floodplain were not "technically necessary, practical or affordable as an environmental protection measure." (Taylor 1988, p. E2) TRCA's Chairman William Foster told SRVS that he cannot personally create a 4,000 ha national park in the valley, and estimated that the plan would cost \$100 million to purchase privately owned 'hazard land' within the floodplain. In response to the report, Scarborough planner Elaine Hitchman countered the findings in the report by suggesting that the TRCA was just another commenting agency (Taylor 1988).

Further opposition to Scarborough Council's decision came from neighbouring municipalities and developers. Developer Joe Lebovic, who already voiced his displeasure numerous times before key council votes, stated that the vote was a mere 'election ploy' (in reference to the upcoming provincial election) while adding, "I don't see how it's fair that you can give the land to the deer instead of the people?" (Wong 1988b, p. E1) Durham Chairman Gary Herrema further added, "saving that area won't last forever. But the timing before an election is good." (Wong 1988b, p. E1)

The overall status and appropriate land uses within the area of northeast Scarborough were also repeatedly challenged by Metro after Scarborough's 1988 vote. During the late 1980s, Metro was facing a looming crisis with its solid waste, namely it needed to find another landfill site by 1993. Metro Council even passed a vote recommending that the Beare Landfill be expanded and placed on a list for consideration for a potential site.

Unsurprisingly, both Scarborough and its numerous elected officials from all levels of government clashed with Metro Council members including Chairman Alan Tonks who supported locating a dumpsite in the Rouge. Scarborough Mayor Joyce Trimmer on several occasions stated that her council would vigorously fight any plans that would site a landfill in the watershed (Leaney and Kilgour 1989).

Another example that illustrated the provincial government's approach to development is exemplified in a report that was leaked to the press in September 1989. The report proposed to transfer responsibility for environmental assessments from the Ministry of the Environment to both individual municipalities and the Ministry of Municipal Affairs (Girard 1989a, 1989b). The proposal called for a reforming of Ontario's land use and development laws and would have likely reduced environmental protection in favour of an expedited development and approvals process. The report was immediately criticized by local environmental organizations including SRVS who expressed their disapproval through a letter to Premier Peterson. Toby Vigood of the Canadian Law Association, which represented 15 environmental groups authored the letter to Premier Peterson and stated;

It's the most serious setback we've ever faced...people are calling us from all over the province. (Girard 1989a, p. D2)

This report makes a mockery of the Ontario government's repeated commitment to open government and the current public review of the Environmental Assessment Act. (Girard 1989b, p. E2)

Robb commenting for SRVS said, "this pays lip service to the environment but full speed ahead on development." (Girard 1989b, p. E2) Reaction to the leaked report was also swift from Scarborough's elected officials, who again defending their plans to protect the valley. Scarborough Mayor Joyce Trimmer stated;

This new provincial initiative for slicing and streamlining the development approval process contains potentially the most destructive and dangerous legislation introduced by a provincial government, at a time when the average

citizen of the world is beginning to comprehend the desperate necessity for improved environmental protection. (Girard 1989b, p. E2)

Scarborough Centre MP Pauline Browes (Conservative) also questioned the province's motives and backed SRVS's position and commented that the proposal was;

A serious document that requires the complete outrage of people in Ontario and particularly the people of Metro Toronto. (Girard 1989b, p. E2)

In the end, the leaked document served to challenge Premier Peterson's overall credibility on environmental issues, while SRVS worried that the plan would somehow facilitate the development of housing on Rouge tablelands.

Gaining Federal and Provincial Support

From 1988 to 1990, buoyed by the three decisive votes at Scarborough Council, and the \$10 million pledge by the Conservative government, SRVS intensified its lobbying efforts through apparel sales, membership drives, and organized massive letter writing campaigns targeting provincial elected officials. SRVS also pitched their goals and highlighted their achievements in the valley to any media outlet willing to hear their story and document their cause. The campaign gained political traction at the provincial legislature and support came from politicians regardless of their political stripe. On November 20, 1989, members of the Ontario Legislature agreed unanimously that the province should move to designate the Rouge Valley as a provincial park (Mackie 1989, Maychak 1989). The resolution was proposed by MPP Margaret Marland (Conservative) and served to address and counter mounting development pressures in the valley (i.e., the building of subdivision, new highway and roadways, and the siting of a landfill) After the vote, Marland told reporters:

Its centuries-old forests, significant wetlands, plants and flowers, including several rare species, must be preserved...this is not a subject for rhetoric and vague promises. (Maychack 1989, p. A6)

Interim Conservative party leader Andrew Brandt also claimed that situating a landfill in the southern portions of the valley would prove detrimental, and further urged the creation of a new park. MPP Michael Breaugh (NDP) stated the importance to protect the valley, and noted that several Liberal MPPs were complaining that the land would be worth billions if sold to developers (Mackie 1989). The decision was predictably praised and welcomed by SRVS, noting that members of the Toronto Federal Liberal Caucus sent a letter to Premier Peterson stating their support for the creation of a park. SRVS member Robb added;

These developers and their allies in the provincial bureaucracy are advising the cabinet that bulldozing a six-lane highway, a several-million-tonne garbage dump and new housing subdivisions along the edge of the Rouge Valley won't harm the park's sensitive environment. (Maychack 1989, p. A6)

Environment Minister Jim Bradley said that the vote represented;

A very strong sentiment that the Rouge will be preserved. A lot of people were concerned about that. I think it will be preserved. (Mackie 1989, p. A18)

Furthermore, Bradley did not rule out the construction of a new highway and reiterated that cabinet would ultimately make the decision on which lands will be included, and the types of land uses to be permitted.

In the following year on March 26, 1990, formal provincial support for the creation of a new park in the Rouge Valley was announced by Premier Peterson. The announcement came at a press conference attended by numerous MPPs and was held near a historic bridge in the Rouge. Moreover, the province pledged to add an additional 650 ha of land for protection, for a total of 4,250 ha. The new park was bounded by Steeles Avenue in the north, south to Lake Ontario, along the western edge of the valley, and east to the Scarborough-Pickering Town Line. In addition, the new park also included lands in both Durham and York Regions. The announcement also served to bring to a close any further discussion of a proposed expressway connecting Highways 401 and the future 407. Peterson thus stated;

Our intent is clear, no new roads will be permitted in the Rouge valley area south of Steeles Avenue. (Irish 1990, p. A1)

No development will be permitted. No new transportation corridors across the Rouge Valley will be permitted. (Wright 1990, p. A1)

However, the provincial Liberals did not fully rule out Metro's tentative request to expand and extend the life of the Beare Road Landfill. Provincial Natural Resources Minister Lyn McLeod said that the landfill could be considered only if the land would eventually be returned to open space and was further contingent on stringent environmental approvals (Irish 1990).

After the announcement, the federal government, who were first to back their pledge for a park with actual funding (\$10 million) made clear their objection to locating a dump in the valley. Environment Minister Lucien Bouchard (Conservative) told reporters outside the House of Commons;

We will insist on making sure it will be a real park, not a park with a nice addition like a garbage dump. (Wright 1990, p. A1)

At the announcement Premier Peterson saluted the work of SRVS and further praised Robb who was the Chairman at the time. Peterson said, "You have kept the dream alive." (Wright 1990, p. A1) During our interview, Robb vividly recalls the announcement and the details of the event. He particularly recalls the elation and cheers from the public and his fellow SRVS members, when in just a few words, the Premier vindicated their group's decade long efforts, while effectively putting an end to the two most significant threats facing the valley since the votes at Scarborough Council in 1987 and 1988, a new expressway and an expanded Beare Landfill.

Along with the announcement came the \$10 million originally promised from the federal government, which would form the initial seed money needed to get the park off the ground. After the announcement, Minister of Natural Resources Lyn McLeod said that an advisory committee would be formed to make recommendations regarding boundaries and the

possibilities for the overall governance and management of the park (Allen 1990). These provincial appointments to the advisory committee were highly politicized, as numerous stakeholders such as developers and First Nations groups all raised concern (Taylor 1992; Vincent 1991). Eventually, the committee was represented with members from federal and provincial governments, Metro, Markham, Pickering, TRCA, SRVS, the Chiefs of Ontario, the Coalition of Scarborough Community Associations, Metro Zoo, the Ontario Archaeological Society, and the Architectural Conservancy of Ontario.

Later in 1990, after the official announcement to create a new protected area, Premier Peterson, who held a significant lead in opinion polls, called a snap election, which proved to be costly as his government was defeated by Bob Rae's New Democratic Party with a majority of 74 seats. It is worth mentioning that after the provincial announcement, conservationists hoped that the promise to create a new protected area would ultimately shelve plans for a new expressway and also the expansion of the Beare Road Landfill. However, at the time of the announcement Metro Council had still not found another/new landfill location and therefore was still considering expanding the Beare Road Landfill.

Predictably, this possibility worried both Scarborough's residents and elected officials, who began discussing the possibility of erecting roadblocks to prevent Metro garbage trucks from entering the valley. Metro Chairman Alan Tonks warned;

If Scarborough throws up roadblocks and we have no sites, no happy hosts, we have no alternatives, but to dump in the valley. We are going all over the province trying to find a way not to dump in the Rouge, but we have to keep that option open. (James 1990a, p. A7)

Scarborough Mayor Joyce Trimmer countered;

Is the Metro Chairman threatening Scarborough, I wonder? Scarborough is geared up and willing to do anything possible to stop the dump. (James 1990a, p. A7)

In late 1990, Metro Council was preparing a list of potential landfill sites throughout Ontario, and it was expected that the Rouge Valley was to be considered. The decision to expand the Beare Road Landfill was immediately rebuked by SRVS, a position that was backed by Mayor Trimmer (James 1990b, p. A8). Over the next few years, Metro Council considered numerous other sites and after much debate, the provincial NDP government decided that an expanded landfill was not a suitable land use adjacent to a future protected area.

In the years that followed the announcement in 1990, the province immediately struck a 14-member committee to study appropriate land use designations and the actual borders of the park. The committee also examined and considered potential governance and management schemes, and further raised questions as to which government institution would have jurisdiction of the park. In addition, the committee was tasked to submit a draft management plan to the Ministry of Natural Resources for both the southern portions (south of Steeles Avenue) and northern portions of the park. Additional detail of the history and governance structure of the park will be discussed in the following chapter.

The Opening of Rouge Park

In the years that followed, the advisory committee held numerous public meetings, with a goal to submit its recommendations to the Natural Resources Ministry in early 1992. In 1993, the provincial NDP government then convened another multi-stakeholder Rouge Park advisory committee to create a park plan. In May 1994, the *Rouge Park Management Plan* was approved by provincial cabinet and released by the Ministry of Natural Resources, with the official ceremonies opening the park in April 1995, with a claim that it was the largest urban park in all of North America (Leahy 1996).

After the official opening the province created a new agency called the Rouge Park Alliance (RPA), to oversee the implementation of the *Rouge Park Management Plan*. The agency was a voluntary partnership organization consisting of board members each representing a provincially determined stakeholder group. The board members are appointed by their own respective organizations and represent all three levels of government, other state agencies, and a single not-for-profit group. (Table 5) It is worth noting that the RPA has never been

incorporated and is not a legal entity, thus it cannot receive monies. Therefore the original \$10 million pledge by the federal government was placed in trust that was managed by the Waterfront Regeneration Trust, which is an arms length agency of the province created to direct future development along Lake Ontario and the St. Lawrence River. The funds to operate the park come from investments and interest gained and serve as the chief source of income for the RPA.

After the opening, the RPA began working on implementing the *Rouge Park Management Plan*. In 1995, the RPA also appointed its first Chairman Ron Christie, and the first General Manager, Gord Weeden. In the proceeding years, the RPA began adding a few staff members, and published/released several planning reports, including; *Rouge North management Plan* (2004); *Natural Heritage Actions for the 21st Century* (2008); *Heritage Appreciation and Visitor Experience Plan for Rouge Park* (2008); and the *Rouge Park Governance Report* (2010). Perhaps most importantly, during this early period the RPA also initiated a funding program for civil society groups who were interested in working in the park. Initially, there were only a small number of groups that applied to work in the park, but as the park continued to expand in area, its profile also increased in a corresponding manner and numerous other organizations became involved.⁵⁴

⁵⁴ The size of the park has continually increased through the addition of both small and large plots of land throughout its history. Currently, the park is 46 km² and some notable additions include, 1400 ha added by the province in 2004, 200 ha added to commemorate Bob Hunter Memorial Park in 2006, and most recently another 600 ha added in 2007.

Table 5: Members of the Rouge Park Alliance.

Chair (appointed by the province)
Government of Canada (a Member of Parliament)
Province of Ontario (a Member of Provincial Parliament)
Region of Durham (a Regional Councillor)
Regional Municipality of York (a Regional Councillor)
Town of Markham (a Councillor)
Town of Richmond Hill (a Councillor)
Town of Whitchurch-Stouffville (a Councillor)
City of Pickering (a Councillor)
City of Toronto (two Councillors)
Toronto and Region Conservation Authority (a member of the executive)
Toronto Zoo (a member of the executive)
Waterfront Regeneration Trust Corporation (a member of the executive)
Save the Rouge System (a member of the executive)

Conclusion

The potential for social change through collective action represents a powerful concept throughout contemporary society. The prospect that civil society actors can precipitate positive change by standing up to other more formidable actors such as the state or private sector epitomizes a cornerstone of democracy. Since the 1970s, scholars of social movements have investigated the specific factors that have enabled certain movements and/or groups to achieve their goals. In Sidney Tarrow's *Power in Movement* (1994), he explains that examining the factors external to a specific movement itself is essential to understanding both the overall strategic orientation and internal dynamics of a struggle. Sorting and

identifying the relevant external factors to a movement helps construct an explanation as to why some groups who share a grievance can achieve successes through mobilization, while others cannot. Tarrow's observation provides context into how and where civil society groups can take advantage of openings in the political structure. Tarrow (1994, p. 86-89) further expands on the importance of political shifts and the availability of influential allies in facilitating the opening of windows of opportunity for 'resource-poor challengers'.⁵⁵ Moreover, he elaborates on the relevance of 'cycles of protests' stating urban movements progress through a series of cycles that may serve to transform their strategies, tactics or goals. I add that these continuing cycles of protests present a powerful discursive strategy for local citizens and groups seeking political engagement for their struggles. Perhaps most importantly, this concept of continuous protests may open up additional spaces for engagement for a wider range of civil society organizations. Furthermore, increasing participatory activities may also serve to 'lower the bar' for future organizations especially with regards to social and political costs. In particular, initial groups/movements can face new challenges associated with fundraising, volunteer recruitment or dealing with the media, and through such trials future organizations may learn and supplement the efforts of an early group.

Tarrow's theoretical comments are helpful in contextualizing my observations on the chronology of events that were pertinent to the establishment of Rouge Park and other greenspaces in the GTA. The main objectives of this chapter were to parse the social and political factors and further highlight the institutions that contributed to the establishment of the park. With regards to the social and community factors, my fieldwork revealed that the movement to protect the valley was initiated in the early 1970s by a determined but small group of Scarborough citizens most of whom lived within the watershed. As is the case when examining the mobilization of social movements it can prove difficult to precisely pinpoint a specific moment that proved crucial or a single event that galvanized support for an issue. Specifically, the movement was not a result of an isolated political struggle, but should be viewed as the culmination of a long-term mobilized social movement, involving dozens of

⁵⁵ For additional discussion on the importance of internal resources to the mobilization of civil society groups see Zald and McCarthy (1987).

public and private stakeholders negotiating continuously over decades. The primary challenge was that there was an exceptional pro-growth political economy promoted at both Metro and the provincial government. These civil society groups were able to defend the merits of conservation and perhaps more importantly negotiate their vision into the political process. The movement to preserve the valley was the result of a continuous and cumulative process that involved both individual citizens and collective action insofar these specific actors were successful in capturing the attention and political will of elected officials.

The chronology of this case study reveals a unique place-based conservation narrative where people worked against notable odds to challenge the state in order to present their own vision of their community. My results reinforce Castells' three themes of modern urban social movements he outlined in *The City and the Grassroots* (1983, p. xvii). Firstly, this protest movement rallied around the demands over collective consumption and in this case it was focused on the conservation of greenspace. Secondly, the movement also encompassed elements of preserving and defending the cultural identity of the community, and was clearly focused in a localized is a specific place. Thirdly, Castells emphasizes the significance of local government and how political mobilization can redefine the relationship between the state and civil society through demands of autonomy and self-organization. This theme was apparent in how civil society actors achieved success in their attempts to become involved in the park's operations.

However, there are some key events and proceedings that merit emphasis and they will be outlined below. When considering the early government involvement in the watershed, the political opportunity structure was key and I maintain that the passing of the *Conservation Authorities Act* (1946), allowed the creation of a regional network of institutions empowered to specifically address unsustainable land use practices throughout the province. The establishment effectively formalized and perhaps more importantly helped centralize land-use policies within particular watersheds. These conservation authorities also made available both planning and scientific expertise to their member municipalities, which proved useful in the development of long-term watershed specific planning/land-use reports. With respect to the Rouge watershed, the Metro Toronto and Region Conservation Authority published *The*

Rouge-Duffins-Highland-Petticoat Conservation Report (1950), which represented the first comprehensive planning document that focused on growth, development, cultural history, and environmental features of these watersheds located east of Toronto. These early reports were significant in that they helped ground and support civil society's case for conservation. In 1954, the devastation caused by Hurricane Hazel served as an impetus for both the province and local governments to work with its member conservation authorities to develop and act upon its flood mitigation plans.

In the 1960s, ownership and responsibility for vast tracts of floodplain land in the GTA were eventually transferred to the MTRCA, who then converted, developed and managed these areas for primarily recreational usage. With development restrictions in place, the provincial institutions such as the Ministry of Natural Resources began scientific studies in several GTA watersheds and this work continued until the 1980s. During the 1960s and 1970s the population of the Greater Golden Horseshoe was experiencing rapid population growth and development which prompted federal officials to consider the construction of a second international airport located in north Pickering. Several airport development studies were initiated by federal agencies that were vigorously opposed by local residents. Despite the controversial expropriation of a huge tract of land by the federal government, plans for the airport were delayed. The termination of these development proposals resulted in the reconsideration of urban expansion plans throughout Pickering and north Scarborough. These expropriated lands represented a vast amount of developable land in the GTA and ultimately presented a chance for all levels of government to re-examine long-term growth plans.

Other key events in the conservation movement and the regional planning history of the area happened in the late 1960s to early 1980s. In 1967 when Metro Toronto opened the 80.5 ha Beare Road Landfill site, which is located in the valley. The opening of the landfill was noteworthy in that it served to raise awareness, and the safe operation and long-term effects of the landfill on the Rouge River became the concern of local area citizens. In the early 1980s, additional developments were proposed throughout the area, which mainly consisted of low-density housing, several new roads, a major expressway, and the expansion of the Beare Road Landfill. The opening of the landfill and other development proposals for the

watershed served as a catalyst for citizens and local civil society mobilization. Moreover, it was during this period when SRVS was founded and became increasingly involved in these issues, and began working to rally local support against several small and large developments, with the eventual goal of preservation through the creation of a new protected area. At the beginning SRVS was the only group working on the issue, but throughout the 1980s it found support from many more organizations, ranging from local community associations to broader provincially recognized NGOs. I argue that SRVS's initial participation in the issue proved to be useful in facilitating involvement and also the establishment of other local community organizations, further legitimizing the cause through a unified cause. It should be noted that some early SRVS members eventually left the organization to start their own Rouge focused civil society groups. This indicates how one group or issue can spawn new groups and networks of collective action as political opportunities are both created and seized.

With community support coming from a wide spectrum of civic society organizations, these groups began to mobilize a continuous campaign seeking support from both their municipal and provincial elected officials. These actions represented a key tactic of the movement, as I argue that SRVS was extremely successful in finding widespread and committed political support from members of Scarborough Council. This commitment and pledge to protect the valley from elected officials was instrumental throughout several pivotal votes at Scarborough Council. In particular, SRVS was able to garner strong support in several proceedings, which included plans to restrict urban development in north Scarborough, which then led to an amendment of Scarborough's Official Plan. Scarborough's politicians also provided a joint and concerted opposition to Metro Toronto's calls for expansion of the Beare Road Landfill.

I argue that conservationists were able to gain a high level of political traction especially at Scarborough Council and this proved crucial when windows of opportunity and engagement opened at the provincial level of government. This is especially notable when considering the uneven amount of command and control provincial agencies can exert on municipal governments in Canada. I further argue, that this level of commitment from Scarborough's

municipal politicians laid the groundwork for obtaining equal pledges from both its corresponding provincial and federal elected officials. Eventually the call for conservation achieved multi-party support both federally and provincially, and for the most part it was sustained throughout the 1980s and 1990s, culminating with the establishment of the park. Obtaining broad and multi-party support at all levels of government from Scarborough politicians, simply proved to be a decisive factor. The unified political support for the conservation narrative especially during periods during elections speaks to Tarrow's idea of the importance of timing in mobilizations. Tarrow states;

Political opportunities are both seized and expanded by social movements, turned into collective action and sustained by mobilizing structures and cultural frames. (Tarrow 1994, p. 7)

In this case study, citizens deployed a strategy of continuously increasing awareness coupled with the lobbying of local elected officials (and their respective political challengers, regardless of party affiliation), can prove to be a notable plan of action. Moreover, in this case study the collective action was very successful in asserting their narrative and capitalizing on the 'political opportunities structure' that must be both considered and negotiated by the movement.⁵⁶ Specifically, civil society groups took advantage of perceived openings during periods leading up to elections and were able to get commitments for conservation from candidates, and thus make the preservation of the valley a key election issue for Scarborough, Markham, and Pickering. During this process after each favourable/key vote at Scarborough Council, conservationists gained new influential allies, created new political alignments, and division among elites. More recently, another example of how pervasive and effective civil society groups working in the park are at taking advantage of political opportunities/openings can be witnessed with the most recent federal election in 2011. During this election, civil society groups working in the park unanimously supported a call to convert it into a new national park, and this issue was aggressively

⁵⁶ Tarrow (1994, p. 17) describes the political opportunity structure as the particular formal/informal political processes, which can either encourage or discourage individuals to participate in collective action.

championed and identified by all parties and their candidates running in ridings within and surrounding the park (National Park Now Committee 2010).

In addition to politicians publicly announcing support, government(s) and their respective institutions also played a major role in this planning issue. Federal/provincial ministries and other arms length agencies such as the TRCA through their respective, functions and mandates, inevitably becomes a key stakeholder in the policy process. Although the individuals and staff of these agencies are not elected, they are not immune to politicking, interference, and/or the broader policy objectives of governments in power. Moreover, their activities, testimony, and published reports/studies are utilized by bureaucrats and civil society organizations alike, and in this case study they served and helped facilitate a predominantly science-based nature conservation narrative by residents. The involvement of other government agencies and specific individuals working on planning issues in Ontario, such as the Waterfront Regeneration Trust and David Crombie's *Regeneration* (1992) on the Royal Commission on the Future of the Toronto Waterfront, and Ron Kanter's *Space For All - Options for the Greater Toronto Area Greenlands Strategy* (1990), serve as key examples of other noteworthy policy documents that have aided in shaping environmental public policy in the GTA. Perhaps at a more discursive level, the cumulative effect of state involvement is crucial to the success of a social movement with regards to its ability to help articulate how the public may envision the relationship between nature and society and how it considers future growth.

This case study reinforces the importance of local-level activism in precipitating change in an effort to actively create windows of opportunity. This case study also includes other achievements as several of the key politicians who supported the efforts of SRVS remained in politics and continued with successful careers, and SRVS members Glenn De Baeremaeker and Ron Moeser were eventually elected as City of Toronto councillors themselves. In conclusion, the overall ability and ingenuity of civil society groups to identify and rally support for their goals can provide future lessons. The establishment of the Rouge Park reveals that civil society groups through collective action can overcome challenges from traditionally powerful and dominant political economic interests. The ability of civil society

actors to sustain, endure and adapt their tactics over a period of many years was also paramount to their overall success. Civil society was clearly successful in gaining support from the majority of Scarborough's municipal-level elected officials. Next, these municipal politicians were also surprisingly successful in achieving broad support from Scarborough's provincial and federal elected politicians. It clearly shows that a strong place-based movement can achieve significant and extraordinary goals, by not only obtaining support from local officials, but the continuous consolidation of support at all levels of government proved to be a major factor in the success of these groups.

CHAPTER 6

CONSERVATION NARRATIVES IN THE ROUGE WATERSHED

This chapter examines competing narratives in the battle to create a protected area in the Rouge River Valley, focusing on how civil society actors put forth scientific arguments to legitimize their case for conservation, and utilized expertise to challenge competing positions. This chapter will answer my primary research question in that it will identify the strategies, methods and arguments utilized by civil society to gain political traction in their efforts to conserve the valley. Furthermore, I examine the potential benefits and constraints when science and ecologically-based paradigms are placed at the forefront of policy deliberations.

The questions that have guided this portion of my research include; What types of narratives or arguments were utilized by civil society groups working to protect the park? What were the benefits and limitations to framing a debate in terms of science? I highlight an ‘inter-’ and ‘intra-related’ politics of claims-making between competing stakeholders involved in the Rouge watershed, primarily between civil society groups working to conserve nature, the government (Scarborough and Metro Toronto), and the private sector (developers). Overall, these questions above are related to the literature on scientific expertise and environmental politics covered in Chapter 2, and will answer and address my secondary set of research questions, on science and society. In particular, I demonstrate how civil society groups utilize scientific expertise to build support, legitimize their position, and increase their authority.

The objective of this chapter is to go beyond a narrow examination of the work of individual experts, their publications, and their related institutions, but to further consider how nature could be reified through positivistic rationales and scientific studies, and thus reveal the significance of scientific narratives in the history and movement to protect the valley.

Finally, this chapter highlights the challenges and complexities of creating robust greenspace conservation policy within Canada's most urbanized region.

Science and Environmentalism

In any modern democratic society, science and scientific expertise play a prominent role in policy formation. The reliance on science is pervasive and scientific knowledge plays a fundamental role in transforming everyday life. The presentation of scientific evidence by experts is a key feature in legal proceedings and policy discussions in both more and less developed regions. Science and the importance in understanding its processes and methods are apparent through its acceptance as a foundational subject in the curricula of education systems worldwide. However, despite this recognition of the significance of science, there is still a clear tension between democratic governance of society/policy making and scientific expertise. When thinking about democracy one may consider ideas of plurality, citizenship and equality, and for a lay public, science is believed to be highly specialized and only those with specialized training, with the proper accreditation (i.e., experts) may take part in the practice of it. In this regard, science can be associated as being closed and rational, primarily for its perceived ability to limit participation to experts and dismiss 'un-scientific' observations. Despite this tension and its related shortcomings, there is an extensive body of scholarship crossing several academic disciplines that has critically examined how to better address the gap between experts and lay citizens, all within the context of enacting more robust and democratic policies. Undoubtedly science and scientific evidence will continue to play a substantial role in the overall progression of the environmental movement and environmental dialogue. Whether it is local-level development disputes or global controversies, science is a prominent feature of the debate and discourse.

For most, science is valued for its ability to objectively assess both social and ecological phenomena, and is closely tied to rational decision-making. However, despite the pervasive influence of scientific expertise, science does not operate in a vacuum. There is an extensive body of scholarship that has looked beyond the normalized view/position that science represents the sole arbiter of objective reality in favour of one that also considers the

influence of social processes in which scientific knowledge is produced. The fundamental basis to such claims are inquiries that examine the social factors an that have motivated individual scientists, their associated research agendas and their funding sources. Furthermore, examinations into the procedures and the underlying processes that allow or enable scientists to support certain claims and research over the work of others have also been recognized as having links to social processes. Ethnographic studies into the day-to-day activities and management of scientists and their laboratories, including an examination of the historical accounts of scientific controversies have revealed useful insights into the social dimensions of knowledge production. Moreover, the methods, processes, the individuals and even the subject matter itself (human or non-human) can all be considered actors and have influence (Latour 1987, 1999, Latour and Woolgar 1979). On the other hand, if scientific claims may be constructed then the reverse may also be possible so that these claims can also be deconstructed. In *The Fifth Branch: Science Advisors as Policy Makers* (1990), Sheila Jasanoff argues that if science can be deconstructed, science could lose its factual status, adding, “it would be possible under appropriate circumstances to melt “reality” back into its constituent statements.” (Jasanoff 1990, p. 13) Her insight speaks to the potential influences that social processes can have on individuals and their respective positions.

As a point of departure, I argue that facts can be socially constructed, in that they are not simply what may occur in nature, but rather what may accurately be certified as true by those individuals and institutions that have been certified as proficient to make such claims. This social construction of scientific facts may first originate with the individual actually doing the science, and continues on to their laboratory, their institution, out into the broader public to lay individuals, their local communities and eventually into the media. This results in the premise that ideas and narratives of science and technology, the environment, space, place, and the city can be socially produced. These concepts are further accompanied by specific narratives and assumptions that are often competing and in conflict with one another. This chapter’s purpose is to not just explore the history and philosophical viewpoints of the experts involved in the Rouge Park, but rather to investigate the benefits and pitfalls of mainly using positivistic rationales to frame the issue and cause for conservation. Furthermore, the research presented here examines how scientific studies may affect the

overarching narrative and perhaps on a broader scale, how certain individuals connect with and imagine their neighbourhoods and communities.

Ideally, policy makers would have full and complete knowledge and facts that are relevant to and in operation in the system that they are concerned with. However in reality, this is seldom the case. Decision-makers are confronted with incomplete knowledge, and rely on experts and their ability to present their results in an objective unbiased manner. These results are then subjected to scrutiny and then become part of an often politically charged deliberation process. With regards to environmental contestations, the very ‘nature’ of nature itself can be considered a complicating factor. Natural phenomena, both biotic and abiotic, are inherently complex, continually evolving and punctuated by disturbances, so our view into any system will always be limited and incomplete.⁵⁷ (O’Neill 1986, Holling 2001) Since science and expert knowledge plays a foundational role in policy, there is a notable gap for the lay public in what science, and experts may, or may not be able to provide. The connection and relationship between the expert and society presupposes that all things ‘environmental’ can be epistemologically linked to positivistic or technological vocabularies.

Confronting and coming to terms with the limits of both science and experts will be a tough proposition for a lay public which most often assumes that scientific knowledge is ‘the’ qualified neutral arbiter. The lay population also presupposes that the results and data produced by scientists and experts are free of prejudice and objective. Positivism is the idea that there are indeed ‘real’ facts, and these facts can be fully rationalized to assess both policy and the policy process. However, it can be argued that science and those who practice it are also affected by socio-cultural and political influence, and that in practice a reliance on science/experts in the policy process has the potential to obfuscate policy deliberations (Fischer 2003). This post-positivistic approach suggests that facts are shaped by society and individuals, and therefore shaped by policy processes. In this view, policy regimes become part of and are affected by ideology and further may use these ideas to shape the discourse,

⁵⁷ This observation is further supported and illustrated through different conceptualizations of ecosystem theory such as Complexity theory, Hierarchy theory (O’Neill 1986), and Panarchy (Holling 2001). Such models elaborate how ecosystems handle punctuated change and disturbance and it links to connectedness, resilience, and space/time.

scripts, and the scenario. From this perspective, policy formation is far from objective, and simply represents a specific perception of what is real, based on particular ideas, interests, individuals, and politics at large.

Throughout the history of the environmental movement, scientific experts have played a critical role in quantifying, validating, and measuring changes in natural processes. In the years following Rachel Carson's *Silent Spring* (1962), environmentalists have recognized the significance and importance of expert voices when debating and negotiating environmental policy. In an ideal situation the overarching policy process would accommodate and provide an opportunity for experts to present and decode their results directly to policymakers and further outline possible recommendations. Science also plays a key function both in measuring changes to highlight where policy action is needed, and then again measuring changes to validate the policy response. Examples of the process include the policy enacted to lower acid rain/lake acidification in North America, and the global response to curtail ozone damaging gas emissions originating from aerosol propellants. In both cases science first identified the issue, predicted potential outcomes, suggested possible remedies and policies to achieve them, and was also used to monitor the effects of the policy actions. As the environmental movement progressed through the late 20th century, it also further developed its scope and domain along with increasing levels of concern over the potential for global scale crises. During this period, our understanding of the human effects on the natural environment was 'scaled up' from the local to the global. This came with a broader and greater appreciation and acceptance of how local ecosystems are interconnected on a global scale, which has shed light on how humanity can have a significant impact on the natural world. Long gone was the early 20th century notion that industrial waste could be merely discarded or buried in a remote location and forgotten with the assumption that there would be minimal future impacts. This paradigm has been supplanted by one that recognizes the global interconnectivity of the biosphere, and this in turn has greatly expanded the perception of what comprises the global commons.

Science and expertise has played a foundational role in bringing to light how all human activities, no matter how seemingly insignificant, can have an impact. By redefining and

expanding the idea of a global commons, it has also raised new concerns over equity and access to resources, and further captures the scalar politics of environmentalism. Advances in all fields of the pure and applied sciences have helped substantiate the claims of environmentalists working at all scales of inquiry, from the microscopic to the planetary. Measurable scientific evidence of the global transport of pollutants expounded by Carson was made possible through the refinement and improvement of scientific methodology and instrumentation. Technological advancements such as remote sensing have also greatly improved our ability to monitor changes and quantify global environmental processes, which in turn have helped identify and reveal the complexity of Earth's environs. These advancements have also helped facilitate countless discoveries and help broaden our understanding of the connections between nature and society. For example, over the past two decades work by ecologist Eugene Stoermer and atmospheric chemist Paul Crutzen have developed the idea of an 'Anthropocene', which suggests that human activities on Earth are so extensive and dramatic that they can be measured and thus warrant a new geologic era (Crutzen and Stoermer 2000, Steffen et al. 2011).

The shift away from anthropocentric environmentalism and towards a more holistic view of humans' relationship with Earth has been grounded in the idea that human/society cannot be separated from nature. But rather society and nature are connected and functioning as a whole. Put simply, humans are part of the environment, in that we require oxygen, water and are composed of the same organic building blocks as all other organisms on Earth. This conceptual position was explored by environmental writer Aldo Leopold in *A Sand County Almanac* (1949), where he builds a case for the development of a 'land ethic', and the importance of incorporating it into one's worldview. Leopold states, "[a] thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise." The development of this position has laid the groundwork for other avenues of inquiry and interpretation such as environmental ethics, animal rights, ecofeminism, metaphysics, and deep ecology. Leopold's statement presents a normative worldview, and one that may be further entwined and complicated through processes of globalization where the negative/localized impacts of human activities can be easily obscured. It also raises important questions regarding global equity, development, capitalism,

access to resources, and the political challenges in achieving sustainability. In the end, science and expertise will continue to play a major role in environmental policy deliberations and will remain crucial in further developing and deepening our understanding of the interconnectivity of both biotic and abiotic processes.

Science Politicized

Industry, civil society and government all utilize specific narratives and discourses to frame both controversy and their respective debates (Castree 2005, Sandberg and Clancy 2000, Bocking 1997, 2005). This is especially important when it comes to investigating environmental contestations such as access to natural resources, or the formation of conservation/resource management policy. It is also accepted that in such debates, scientific expertise plays a role in the facilitating and promotion of science-based narratives. Such case studies are politically charged as those civil society groups involved in the controversy will demand a clear and concise position statement from their elected officials and governments in power.

However, it is less common to explore how external forces such as the broader political economy of a region, or how higher level state agencies may influence or even trump scientific narratives. Other ideas and concepts associated with human health, and the potential effects of urban expansion on nature are fundamentally socially produced and are derived from societal values/norms (Bocking 2004, Frickel and Moore 2006). These narratives are historically contingent, continuously evolving and thus not ontologically absolute (Marston 2000, Cox 1998). Furthermore, these narratives play a role in conveying how society ultimately imagines and perceives the relationship between; humans and nature; space and place; and the growth, development and relationship between a city and its surrounding rural areas.

When science has been used to frame the issue from the onset, the resulting debate will only further rely upon scientific expertise, in an effort to bring additional ‘objectiveness’ into the discussion. In the end, the debate can result in a defacto competition between scientific

experts with each trying to discredit the other's positions, findings and credentials. Simply put, science can be politicized and its objectiveness is continually questioned and disputed in any policy debates (Fischer 1990, 2000, Fuller 2000, 2006, Bocking 1997, Flyvbjerg 2003, Beck 1999, Latour 1999, Dryzek 2000, Sandberg and Clancy 2000)

Despite the presumption of continuous advancements in science (i.e., positivism) its methodologies and its philosophies, in practice elected officials/bureaucrats will consider many other types of arguments and considerations when crafting policy. Other perspectives may include the economy, human health and other socio-cultural norms and values. It is important to consider that these perspectives can complement one another, but they can also discredit and contrast a competing point of view. In highly charged controversies that contain several specialized interests, these different perspectives aid in the production of narratives that compete for supremacy, in an attempt to convince the public that the issue should be framed, discussed and dealt with in a specific manner.

Further building on the connections between science, experts, policymakers, nature and environmentalism is the conceptualization of risk, and its implication to modern society. During the 1990s sociologists Anthony Giddens (1999) and Ulrich Beck (1992, 1999) theorized and developed the idea of a 'risk society', in an effort to make connections on growing concerns over global-scale environmental problems, and the method/manner in which society systematically rationalized hazards and risk. Implicit with the potential of human induced global crises is the idea of risk and how it is defined, calculated and negotiated. Beck's theorization of how risk has become a key feature of both modern politics and decision-making brings to light how humans have transformed nature through politics. Beck (1999) points out that 'ecology' is intimately tied to culture and with the global focus on the importance of the nation-state, the overall condition of the environment has been merely handed off to ministers and managers. Jasonoff (1990, p. 232) through her examination of the regulatory agencies and expertise adds that decisions to accept or reject certain levels of risk are fundamentally tied to individuals' personal and social values. Overall, the theorization of risk and its relationship to science is useful to my

research/analysis in that it underlines the limitations of environmental policies and disputes that primarily utilize scientific discourse.

Case studies such as the Love Canal dumpsite in New York, the Fukushima Nuclear Power Plant meltdown, and the Bhopal, India explosion are examples of ‘manufactured risk’, which are defined by their high levels of human agency. The potential for planetary scale disaster was envisioned, imagined, and associated with the mass proliferation of nuclear arms and later with the development of nuclear power. Today, these ideas continue to be developed through an environmental ethic that recognizes that local level issues are connected to global scale ones. Evidence of such connections can be witnessed in the multitude of research projects that examine the effects of climate change on local environs.

Overall, the conceptual framework of how risk can be manufactured, determined and eventually translated into mathematical equations and probabilities fed into the broader popular environmental policy discourse. The conceptualization of risk ultimately sheds light on how science, technocracy, and expertise could be politicized and were not immune to politics and other socio-cultural factors. The development and expansion of the environmental movement was greatly aided through science and in turn helps facilitate new avenues of inquiry such as environmental politics and political ecology. It has also highlighted how human-induced environmental disasters can create a level of distrust between the public, industry and government stakeholders who are relying on scientific expertise to ground their sometimes contradictory positions.

Science in the Rouge Watershed

The following section will explore the role of science and scientific expertise within the policy formation process in the creation and management of the Rouge Park. Specifically, I examine how science affects technical experts and the policy formation process itself. I argue that if governments and civil society actors define an issue in terms of science or other primarily science-based rationalizations, it can ultimately narrow and limit the scope of the debate. Using a ‘science first’ rationale may also serve to negate the overall efficacy of

government efforts aimed to increase public participation, in that they place a premium on the testimony and input of experts. Perhaps most importantly, centering and focusing the policy debate on science serves to limit potential solutions and masks other considerations relevant to a rapidly urbanizing region. This investigation goes beyond a simple analysis of the validity of specific arguments to conserve nature, towards a much broader story about how citizens and urban regions envision the relationship between growth and nature.

Examining Narratives Within a Historical Context

The examination and corresponding analysis of this case study on the social and political factors that have helped shape the Rouge Park, must be considered within the historical context in which it took place. It should be recognized that during the 1970s to the 1980s, broad public awareness of environmental issues was much more limited when compared to the present day. The globalization of politics, culture, economics and communication are continually changing humans' perspective on the relationships formed between society and nature. The significance of primarily utilizing science-based arguments and experts in order to frame the Rouge Park planning issue should be considered within this historical context of the broader environmental movement. Such environmental concepts/paradigms as sustainable development, environmental ethics, ecofeminism, deep ecology, product lifecycle analysis, environmental health, carbon/ecological footprint analysis were still in their infancy or in some cases were yet to be theorized. The current state of the global environmental movement must be taken into consideration when examining the types of arguments that were espoused and utilized by grassroots activism.

Environmental practices and initiatives that are commonplace today, such as household recycling, the collection of organics and yard waste were also not yet on Metro Toronto's political agenda. During 1970s (when SRVS was formed) environmentalism whether the focus was on a local, regional, national or transnational scale, was simply not as extensive/universal and simply did not permeate aspects of daily social life as compared to the present. Such observations provide context of the social and political dynamics of Metro Toronto and the City of Scarborough during the 1970s and 1980s. Also, the political structure

in place during this period was markedly different from the amalgamated City of Toronto witnessed today and these factors are relevant and should be noted when analyzing the narratives constructed by conservationists.

One last consideration is that during this period when SRVS became involved the overall quality/costs of desktop publishing and the rate at which information could be disseminated were dramatically different to present-day technical and computing abilities. Interviewees recall the significant monetary costs required to research and publish newsletters and other scientific reports and media backgrounder intended for elected officials. They further discussed how lobbying support for their various causes took immense amounts of time and personnel obligations common with any campaign. Planned activities included door knocking, letter writing skills, fundraising, and a continuous search for potential media outlets willing to cover their actions/stories.

Productivist and Conservation Narratives

In exurban and suburban spaces that are experiencing rapid growth, like Scarborough did during the 1970s to 1980s, there are two hegemonic narratives that are in operation and are competing with one another. The first is associated with a productivist narrative and the other is a nature conservation narrative (Macaraig and Sandberg 2009). The former largely aims to support and continue population growth, by facilitating and accommodating the requirements of the broader political economy in operation. This productivist narrative is associated with mega projects and other large-scale infrastructure developments such as roads and sewers. It is also strongly allied with other development activities such as aggregate extraction, landfill creation/expansion, and the construction of suburban housing, shopping malls, and industrial parks. As argued in Harvey Molotch's *The City as a Growth Machine* (1976) and further elaborated with John Logan in *Urban Futures* (1987), the authors point out the power exercised by growth coalitions operating at different political scales. In the Canadian experience, provincial governments and their associated institutions/agencies are the primary agents responsible for setting long-term provincial growth targets, and play a key role in working with municipalities to identify and meet associated infrastructure requirements.

Examples of this top-down governance can be witnessed in how provincial ministries provide the final say through the issuing of development permits, or how they play a key role in adjudicating planning disputes and perhaps most importantly are a key stakeholder in the environmental assessment process. Similarly, GTA municipalities also play crucial role in a productivist narrative by continuously promoting growth in an attempt to lure economic opportunities, all in a broader attempt to remain globally competitive (Hanna and Walton-Roberts 2004).

In contrast to the above, a conservation narrative primarily takes the position that unchecked rapid economic and population growth will result in correspondingly negative consequences. This position espouses the view that growth should be carefully questioned and favours the conceptualization of slow or no growth, and the prioritization of precautionary science and its principles. A conservation narrative also places value in addressing technological challenges locally, while seeking more holistic and ecologically-based solutions to such challenges. Proponents of the conservation narrative would also support a long-term view when considering and planning for population growth targets and its related infrastructure requirements.

This conservation narrative can also be linked to other post-productivist values related to the town and country lifestyle, or pastoral/rural aesthetics and identities. Characteristics of this lifestyle are associated with the safety and the supposedly imagined pristine/pure natural environment that can be found and experienced in the countryside, a juxtaposition of the crowded contaminated and sullied environments of the inner city (Bunce 1985). In addition, these pastoral ideals may also be tied to conceptions of class, privilege, and exclusivity that are associated with countryside landscapes. It may also frame nature in a manner where the once primarily agricultural lands are no longer fully productive or economically profitable, and have been transformed into a space/landscape of consumption (i.e., real estate commodity), rural gentrification, or recreation where nature can be experienced for wealthy urbanites (Bunce 1985, Marsden et al. 1993, Murdoch and Marsden 1994). Such a process further underlines the decline of productive classes (labourers and farmers), and the

emergence of service class professionals living and/or retiring outside of the city (Sandberg and Wekerle 2009).

This shift may ultimately aid in facilitating the gentrification of non-urban landscapes, where the countryside has been converted from a once productivist space to a consumptionist landscape. Perhaps the most salient discussion point of this theoretical framework and process is that it reveals how nature and landscape can be aestheticized, and further imagined as a ‘public good’. It also serves and aids in the marketisation of the city-region, in order to maintain its competitiveness within the global context (Keil 2002). It is worth noting that the transformation/gentrification of rural landscapes has been identified in other industrialized jurisdictions, and has been the focus of investigation within the context of Ontario’s recent Greenbelt and Oak Ridges Moraine conservation legislation (Patano and Sandberg 2005, Chambers and Sandberg 2008).

Interestingly, this conservation narrative is also closely related to other noteworthy post-productivist values, which are relevant to Canadian suburbs and their associated spaces (Murdoch and Marsden 1994, Wallace and Shields 1997). Furthermore, I wish to highlight the somewhat conflicting position of a strong conservation narrative inherent to suburban spaces, as is the case made by civil society actors working to preserve the Rouge watershed from development. In particular, a suburban conservation narrative can be fundamentally contradictory in its ambitions, since suburban urban form (i.e., low density tract housing), arguably places higher demands on and causes greater and more significant effects on the natural environment compared to other types of housing. Specifically, building and maintaining suburban lifestyles requires vast aggregate extraction and increased road and sewer infrastructure. Those espousing precaution are also further open to charges of NIMBYism, elitism and thus the movement may be viewed as being socially exclusionary while further aestheticizing nature to uphold and maintain property values (Duncan and Duncan 2004).

The suburban conservation narrative to fight development, and protect nature originating in northeast Scarborough may also serve to mask alternative possibilities for growth and other ideas of how nature can be accommodated or how landscapes along the urban fringe could be

developed. Further, it also excludes other post-productivist perspectives of a growing region inherent to other social classes, or new immigrants who may require markedly different needs like lower cost moderate housing and investments to public transportation.

Competing Narratives

In the case study of the establishment of the Rouge Park, as described above, both productivist and nature conservation narratives play a prominent role in the debate. Clearly, these narratives were the main positions articulated by stakeholders. Namely, those who fought for its protection invoked specific ecological and conservation-based narratives from the very onset. It was the concerns of local citizens over the rapid urban development occurring throughout northeast Scarborough during the 1970s that initially spurred their collective action. Specifically, they were concerned with certain growth scenarios (low density housing) and infrastructure development (roads, sewers, and landfills) that were proposed for Scarborough by both Metro and the province.

Narratives of Growth and Development in Scarborough

As outlined in Chapter 5, during the 1970s to 1980s Scarborough was referred to and considered as ‘the last frontier’ for development in Metro. During this period Scarborough experienced notable growth in population that was accompanied with a corresponding expansion of infrastructure development. This period of growth was punctuated by several developments in Scarborough including; the completion of the TTC Rapid Transit Line connecting Scarborough Town Centre Shopping Mall and Kennedy subway station; the construction of a new sewage treatment plant, and the erection of numerous high and low rise office buildings surrounding Scarborough Town Centre. Moreover, several other infrastructure developments were proposed which included numerous suburban developments and their obligatory sewers, roads, and expressways.

In this case study, the call for conservation had to contend and surmount powerful productivist narratives. This pro-productivist narrative was facilitated by the broader political

economy and is reinforced by political and economic interests. In the Canadian experience, provincial governments wield significant power and influence over municipalities (Sancton 2005, Frisken 2001). Municipalities are limited in terms of their overall legislative capabilities and their taxation powers and will often consider growth and the accompanying development charges to supplement revenues. Provincial ministries typically exert a large amount of control over their municipal counterparts, are the primary agents that ultimately direct population growth targets, and dictate when and where infrastructure should be developed (Sancton 2005). This is most often accomplished through provincial legislation that stipulates conformity and changes to a city's official plan. Municipalities within the GTA also play a role in facilitating and ultimately prioritizing growth with the rhetoric of strengthening local economies in the context of remaining globally competitive (Hanna and Roberts 2004).

In addition, a broader pro-growth political economic agenda operating in the GTA was typified and supported with calls from developers and their associated lobbyist groups⁵⁸ that there was an impending housing crises and shortage throughout the province (Josey 1988a, 1988d, 1988e, Josey and Armstrong 1988, Wong 1988a). The recognition of a lack of affordable housing, is related to the apparent infrastructure requirements of a region experiencing rapid growth. In Ontario during the 1980s, this issue of a lack of affordable housing options eventually prompted the provincial government to announce several housing initiatives with the eventual goal of building thousands of new homes.⁵⁹ Notably the province initiated a 'housing first' policy with a focus of identifying and selling of suitable provincially owned lands to developers (Legislative Assembly of Ontario 1987).

In March 1985, the Ontario Land Corporation (OLC) published a report calling for the development of 750 ha of provincially owned land in northeast Scarborough. The OLC recommended a development for 9,000 residents in executive style housing, with a density between 9 to 11 units per hectare. Scarborough City Council authorized the report in

⁵⁸ Pro-development special interest groups active during this period in Ontario include the Urban Development Institute, the Ontario Homebuilders Association and the Alliance for Housing.

⁵⁹ Several of my interviewees challenged the idea that there was an impending housing crisis/shortage in the GTA, claiming the issue was simply a red herring prompted by a development friendly provincial government.

response to Metro planning Commissioner John Bower's report that recommended that some lands within the Rouge and Little Rouge Valleys be transferred to the TRCA for flood and erosion control. After its release, Scarborough Controller Joyce Trimmer heavily criticized the report and questioned why Scarborough could not have farmland and open spaces (Abbate 1985a). This dichotomy between the infrastructure requirements inherent to a growing suburb/city-region and a narrative of preservation captured the attention and interest of the public. Proof of how much residents and civil society organizations was able to capture the broad interest of the public can be witnessed in the large number of supporters who attended several key Scarborough Council Meetings. Although the precise numbers are difficult to determine, my interviewees cite three meetings where over 1000 citizens came to support SRVS's position and call for conservation, a figure confirmed through several other sources and media reports.

It was made clear by interviewees that the seminal figure that initiated a call for conservation in the watershed was Scarborough resident Lois James. During our interviews James recalled that she became motivated primarily because of planned development in the watershed. Specifically James recalls that she became increasingly concerned with the impacts of development in the area with the opening of the Beare Road Landfill, which was in operation from 1967 to 1988. She states that her own involvement in activism began with the landfill issue, and pointed to the potentially negative consequences of siting the landfill in an environmentally significant area. Put simply, the landfill served as the lightening rod for collective action during the early 1970s in Scarborough.

It is through this issue that James along with the support of her family and neighbours created Save the Rouge Valley System, a locally-based group with a specific mandate to protect the watershed.⁶⁰ James imagined SRVS as being a 'watershed association' that would serve to educate and raise awareness of development issues facing north Scarborough.⁶¹ Perhaps most importantly, the establishment of SRVS consolidated their collective concerns with respect to

⁶⁰ James states that the group also considered the name Save the Highland Creek.

⁶¹ Through my research I have determined that during this time in Scarborough (early 1970s) there were no other analogous groups like SRVS working to protect the Rouge River watershed.

their immediate community, all levels of government, and finally the general citizenry. James further explains;

At the time the Planning Commission of Markham said development wouldn't go past 16th Avenue. We knew that there was trouble (development) but we did not know what. People were worried, every community has issues, but when you have someone (SRVS) to talk to it helps out a lot. (Lois James, personal interview, 10 August 2010)

The first SRVS chair was local citizen John Boyd, and James served as the secretary. Through their various community connections they were able to make use of some available office space at the University of Toronto Scarborough (UTSC).⁶² With their campus office SRVS was able to make use of other resources most notably the library and its collection of government documents and maps. After its establishment, the group began investigating and questioning public/elected officials about the future growth plans for north Scarborough and Markham. James recalls;

The dump was the most visible issue that we had to deal with, and we kept asking questions...but it seemed that nobody was in charge. (Lois James, personal interview, 10 August 2010)

Through their early actions and inquiries with respect to future growth plans for the area, SRVS came to a realization that they also had to become familiar with the public policy process and its related jurisdictional framework/dynamics. Like many other civil society groups working towards a goal, SRVS began to formulate potential strategies and it is here that they began examining the public record and history of the Rouge watershed.

⁶² UTSC was founded in 1964 and originally called Scarborough College and is one of three campuses of the University of Toronto.

Science Narratives

The following section examines how civil society actors utilized science to support their position for protection of the Rouge Valley. In particular, my research focused on the types of arguments that were put forth and considered throughout the issue, and moreover how these arguments prevailed throughout the discourse, and ultimately helped enforce a predominantly science-based conservation narrative. I argue that scientific narratives were a fundamental aspect in the overall success of the conservation movement. Furthermore, civil society actors were key actors in helping advance and facilitate the broader discourse of science in the watershed in the following three distinct ways:

1. They identified and utilized existing science and expertise.
2. They authored and produced their own science and scientific reports.
3. They drew on scientific expertise and best practices in their conservation rehabilitation efforts.

This section will explore each of the above factors through the investigation of several environmental planning contestations between conservationists, developers and the government during the period prior to the official announcement of the Rouge Park, and the period after its opening. The section will include a typology of significant Rouge watershed planning case studies highlighting how civil society groups handled and utilized science and expertise in their efforts to achieve the goals.

Utilizing Existing Science and Expertise

Firstly, civil society groups were successful in identifying and utilizing existing science and experts. During the mid-1970s when local residents formed SRVS, one of their initial tasks of the groups was to research and complete a literature review of publications relevant to the watershed. Specifically, they made use of government published reports/documents to

educate themselves, their community and the broader public about why the valley warranted protection.

As detailed in Chapter 5, I have produced a chronology of major events and publications that cover the history of the watershed. One prominent document was the *Rouge-Duffins-Highland-Petticoat Conservation Report* (1950), which was notable in that it represented the first comprehensive planning study laying out the plans for growth of the area. It underscored the environmental significance and made note of the biodiversity throughout the watershed. The publication was praised by my civilian interviewees for its scope and was also recommended to me by several park staff members including General Manager Lewis Yeager. Although the report was written before the devastation of Hurricane Hazel in 1954, a follow up publication titled *Report on the Conservation of the Rouge Valley, Duffins Creek, Highland Creek and Petticoat Creek* (1956), reinforced the call for conservation and concluded that the areas in these watershed required formal/legal protection based on their natural/cultural landscape features and to help ensure public safety during floods.

Lois James also pointed to the relevance of the document in the overall planning and strategizing of SRVS. James explains, “the *Rouge-Duffins-Highland-Petticoat Conservation Report* was simply the most useful plan as it showed us why protecting the Rouge was important.” (Lois James, personal interview, 10 August 2010) The report presents a comprehensive case for the establishment of a protected area based on the ecological significance, biodiversity and unique landscape features that the area affords. It also reveals that there may be rich Aboriginal cultural sites throughout the watersheds, and recommends additional archaeological surveys.

Upon reviewing and examining the documents I collected in compiling the chronology it reveals that a majority of these publications focused their analysis and investigated various ‘natural science’ characteristics of the watershed. Examples of these publications include: biological surveys and inventories; studies that identify rare flora and fauna; hydrogeological and geomorphic assessments; and ecological/botanical descriptions of the Rouge Valley. Documents published from the 1940s to 1970s were produced and authored by provincial agencies most often by various conservation authorities and the Ontario Ministry of Natural

Resources (MNR). This research published by MNR scientists strengthened the overall conservation narrative and bolstered scientific discourse through several key publications from the 1980s to 1990s. It should be noted that these reports have been continually referred to and referenced throughout both the public record and the written history of the park and watershed.⁶³

In the chronology, the documents reveal that the specific types of reports/publications that were utilized by civil society have in part enabled the overall nature conservation discourse utilized by SRVS and in the media. This observation has been supported by several of my interviewees who were asked; “How has science and/or scientific based arguments played a role in protecting the Rouge Valley?” Several of my interviewees from civil society organizations and also private citizens who were involved in the movement to create the park stated that science was the key factor in building and legitimizing their overall cause. Lois James explains that SRVS researched and referenced government authored scientific publications to help guide and build the group’s overall case into why the valley merited protection. In particular, SRVS made note of and utilized scientific studies that revealed that the watershed was distinctive in that it contained unique Carolinian forests and had numerous rare species. James states that these reports were important and used by the group to bring focus to and validate their claims to their local community and local officials.

The significance of both the biological and ecological arguments were made clear, and were a dominant and common theme by citizens deputing at key Scarborough Council meetings where the future of the watershed was being debated (James 1987c). My interviewees vividly recalled passionate citizens speaking in support of SRVS’s position based on the possibility that development would harm several endangered species. Interviewees recalled citizens who

⁶³ In the late 1970s the Ontario Ministry of Natural Resources initiated several comprehensive scientific studies on the Rouge Valley. Interviewees could not confirm whether their individual actions/activism prompted the studies, however they recall that the reports were useful in providing support and overall credibility to their belief that the area was unique. Notable titles published by MNR include; *The recognition of environmentally significant areas in the Metropolitan Toronto - The lower Rouge River Valley*. (Riley 1980); *Rare plants of the Rouge River Valley - hemlock slopes*. (Varga 1980); *Rare plants of the Rouge River marshes*. (Varga 1980); *Rare plants of the Rouge River Valley - Streambank meadows*. (Varga 1980); *A White Pine stand in the Rouge River Valley - What can we make of it?* (Riley and Varga 1980); *A phytosociological analysis of forests of the lower Rouge River Valley near Toronto, Ontario*. (Varga 1984); and *Ecological Survey of the Rouge Valley Park*. (Varga et al. 1991)

pointed to MNR publications that the Rouge River contained critical coldwater fish habitat and that the valley was a significant biological corridor for migrating species. These specific science-based arguments were pervasive throughout the policy debates at the Scarborough Planning Committee meetings and were continually reiterated by other broad based environmental groups who supported protection for the Rouge.

In the lead up to a key Scarborough Council meeting and vote in September 1987, environmental groups such as Ontario Nature⁶⁴ and the World Wildlife Fund Canada (WWF) released statements to the media declaring the Rouge Valley merited protection on ecological grounds. WWF representative Steve Price stated that the area has 16 environmentally significant sites and was one of 36 areas identified by the province as endangered. He further added;

Some of the animals found here are found nowhere else, we take it for granted because it is in our backyards. (James 1987c, p. E5)

Ontario Nature also lent its support by stating that 12 to 14 species regulated under the Ontario Endangered Species Act could be found in wetlands such as the Rouge Marsh and that the area contained national and provincial areas of environmental significance.

Another example of how SRVS utilized scientific expertise to support their claims regarding the unique ecological integrity found in the watershed can be witnessed in the Scarborough Centennial Swamp development battle (1983-1986). In this planning issue SRVS opposed a small (18 ha) suburban housing development in east Scarborough, which would require the draining of the swamp located at Tallpines Avenue (north of Port Union Road and Sheppard Avenue East). SRVS with support from the Toronto Field Naturalists lobbied both the Scarborough Board of Control and Scarborough elected officials stating that the swamp should not be drained. SRVS obtained a detailed report published in June 1983 from the Scarborough Planning Committee that states that the area should be conserved for its natural features. SRVS points to a section of the report that states;

⁶⁴ The Federation of Ontario Naturalists has since changed its name and is currently known as Ontario Nature.

It (the swamp) is a high quality natural area worthy of preservation. The area has great educational value given its forest composition, habitat diversity and successional range. Marked trails, boardwalks etc. can facilitate pedestrian use of the area while minimizing impacts. (Sewell 1984, p. M1)

Despite SRVS's initial efforts Scarborough officials permitted the development, and in the years that followed SRVS continued to raise awareness and the Nature Conservancy of Canada, a group that raises money for land acquisitions showed interest in acquiring the property. Eventually the developer, who had earlier promised to notify the Toronto Zoo, which made preparations to save some of the fauna, drained the swamp. The swamp was home to several varieties of turtles, ducks, frogs, fish, owls and muskrats. The draining drew a negative response from Robert Johnson, Curator of Reptiles at the Toronto Zoo, when the developer began the process unannounced without informing Zoo officials. Johnson visited the swamp afterwards and stated;

There was nothing there, the swamp was completely drained and the only life left were birds feeding off the remains of some fish. (Abbate 1986, p. A16)

Furthermore, Lois James of the SRVS called the entire situation tragic (Abbate 1986, p. A16). Nancy Patterson, Wetland Specialist for the Federation of Ontario Naturalists said, "I'm afraid everyone's hands are tied on this one, but it's going to be a great educational loss." (Donovan 1986, p. E3) SRVS claimed that the swamp was a viable and thriving ecosystem consisting of ponds containing native flora and fauna. The group also stated that the ecosystem represented an opportunity to preserve a habitat that would be considered unique for city such as Scarborough. SRVS made a clear and directed effort to seek out external/third party expertise from the Toronto Zoo and other NGOs, in order to substantiate their claims. Ultimately, the broader goal of utilizing experts in the planning issue was to present a convincing case to both elected officials and the public that there was scientific consensus over the unique ecological features found in the swamp.

SRVS member Jim Robb, now the General Manager of Friends of the Rouge Watershed (FRW) also repeated the importance of science in putting forth a case for protecting the park.

He explains that having reliable scientific evidence was important when approaching and dealing with elected officials. Robb maintains that many arguments were considered and put forth, however during the campaign, science-based arguments grounded in nature and the ecology of the watershed, were the most easily understood and accepted by both the media and the public. SRVS built its case on the ecological significance of the Rouge by imagining and promoting the landscape as a potential ‘ecological bridge’ or ‘link’ that would connect Lake Ontario to the south to the Oak Ridges Moraine in the north.

Producing Their Own Scientific Reports

The second manner in which civil society organizations also enforced the discourse of science in the issue was through self-publication and dissemination of scientific reports and other nature focused newsletters. SRVS also found support through partnering with other established civil society organizations that shared a common goal of nature preservation. Through such partnerships SRVS was able to broaden the distribution of their publications and in doing so it also increased SRVS’s audience, volunteer, and donor base. For example, when specific scientific expertise was required for a report or a media release SRVS looked for support internally through their volunteer base, and when it was not available they sought and solicited third party expertise. Moreover, aligning with other well-recognized and established environmental NGOs enabled SRVS to access a broader network of volunteers and scientific/technical expertise.⁶⁵ Jim Robb recalls the importance of science and its potential for legitimization and increasing the credibility of SRVS. Robb states that his own educational and professional background (BSc. Forestry) was both questioned and challenged when he was speaking to government bureaucrats and representatives of the media. He believes that his science background proved to be beneficial asset for SRVS in the group’s day-to-day operations especially when the organization decided to produce their own reports.

⁶⁵ In some issues SRVS was even able to find support with the experts working in an official capacity at the Toronto Zoo, as witnessed with the Centennial Swamp planning issue.

Another example that illustrates the significance of science and technical expertise required by SRVS to challenge development in the valley can be witnessed in their opposition to the proposed East Metro Transportation Corridor. During the early 1980s there was a proposal and study primarily backed by the province to construct a new north-south expressway linking Highway 401 to another future expressway in Markham (i.e., the 407 Express Toll Route). The plan for a new East Metro Transportation Corridor was in Scarborough's Official Plan since 1972 (Abbate 1985b). Early on different alignments were considered, but eventually the proposed route would have been where Conlins Road is currently, and would have necessitated the construction of several large overpasses spanning the valley. Interestingly, the proposal was well received by Scarborough elected officials including Controller Joyce Trimmer and Alderman Edith Montgomery during the early 1980s, but both of these individuals eventually provided key political support to stop and curtail development plans in the later 1980s.

SRVS opposed the plan and decided to solicit its own research and publish its own report countering the province's studies. However, seeking and obtaining expertise presented some challenges in that SRVS had never produced a report of this type before, and obtaining the required expertise was expensive. Regardless, SRVS convened several meetings and drew from the skill sets and capabilities of its own members and produced a counter response to the Ontario Ministry of Transportation (MTO) plans for a new expressway. Robb recalls that SRVS published the 'LAARLE Report' (Limits Access Arterial Road Lane Equivalent) and admits that the entire 25-page project was completed solely by volunteers, and copies were circulated throughout both the council and community. The report included detailed maps, and corresponding data from existing government publications primarily from the TRCA and the Ontario MNR. Robb states that the report was largely focused on several transportation growth scenarios and also included much material from Scarborough's own planning documents.

In the end, Robb maintains that producing the LAARLE Report served two key primary goals. Firstly, its publication served to raise key questions about how growth and infrastructure development could be envisioned by the City, Metro and the province. It also

shed light on both the short and long-term economic and ecological impacts that a large-scale infrastructure development could have on the valley. Secondly, the completion and distribution of the report served to set the tone and validate the position of SRVS to the bureaucrats and community at-large. More specifically, it served to concretize the role and significance of planners, ecologists, engineers or any other expert throughout the policy debate. Here experts came to the forefront of rule-making in that civil society utilized science to counter, and provide alternative options to the MTO planning study, in this manner I contend science was legitimized in the nature conservation narrative.

The Practical Application of Science

A third way in which civil society organizations further upheld and validated the significance of scientific narratives in this planning issue was through their specific actions and hands-on involvement in improving the ecological integrity of the Rouge watershed. These groups take part in a wide variety of activities that include both small and large-scale ecological restoration and rehabilitation initiatives. My research shows that civil society involvement that focused on improving the ecological integrity of the park, have in the long run played a significant role in establishing both the relevance and priority of ecologically-based arguments for conservation. Specifically, by not only utilizing third party expertise in order to publish scientific reports, civil society actors took their personal involvement a step further by also undertaking scientific research. Civil society participation in such activities has fundamentally reinforced the discourse of science throughout the park's history. A typology of several Rouge watershed environmental planning issues outlining how civil society groups' utilized science/expertise is presented in Table 6.

In this case study there is a distinct genealogy that binds the civil society actors that were established and followed the work of SRVS. After the provincial announcement of the Rouge Park, SRVS and its members continued their advocacy, and also some branched off to establish other Rouge-based environmental civil society organizations. Organizations such as Friends of the Rouge Watershed, Citizen Scientists, 10,000 Trees for the Rouge, Rouge Valley Naturalists, and Ontario Streams are all working in the park under a broad rubric and

mandate of improving the ecological integrity of the watershed. The majority of the activities done by these organizations is based within scientific and nature-based rationalizations and includes ecological monitoring, tree planting, wetland creation, and habitat restoration.

These groups have also continued SRVS's original focus on utilizing environmental science and positivistic rationalizations as primary arguments for conservation. Such is the case with Jim Robb who after working for SRVS for many years eventually branched away and along with the help of other Scarborough residents established Friends of the Rouge Watershed (FRW). The organization's main objective is advocacy through ecological restoration and outdoor/environmental education. Over the past decade FRW has been the most active, visible, and outspoken organization working in the park, and has been directly involved in numerous successful ecological restoration projects throughout the watershed and is also an annual recipient of RPA funding.

FRW's focus on ecological restoration has led to several achievements that include the creation and rehabilitation of several habitats throughout the watershed, and the planning of year-round community based planting events. One noteworthy achievement by FRW includes the reclamation and eventual rehabilitation of the Beare Road Landfill site, eventually leading to the creation of the Beare Wetland. (Figure 3) The creation of this wetland was the result of years of planning and coordination by FRW, working with a broad spectrum of both private and public partners including the RPA. Most recently, FRW has also played a major role in the creation of the newly named Reesor Wetland and over the past decade has been intimately involved in collecting data on stream levels and monitoring the impacts of groundwater resources throughout the watershed.

FIGURE 3: One of several ponds at the Beare Wetland created under the direction and involvement of Friends of the Rouge Watershed. The wetland is located at the former Beare Road Landfill site.



During several interviews Robb claimed that science and specifically scientific-based evidence are critically important in terms of bringing forth charges to those who break environmental laws and further challenging competing claims. He points to his organization's experience in challenging the construction associated with the York Durham Sewer System⁶⁶ (YDSS), which is a sewer system servicing the northern regions of the GTA (Jim Robb, personal interview, 24 July 2008). The sewer crosses the Rouge watershed and eventually terminates at a sewage treatment plant in the City of Pickering. To build the sewer, surrounding groundwater had to be pumped out to lower the water table so construction of the sewer could occur. This pumped water was initially simply released into watercourses and tributaries of the Rouge River. FRW immediately raised concern over the practice since the groundwater that was pumped up was much colder than the existing stream temperatures and was released at a high rate thus dramatically changing both the physical and biological parameters of the accepting streams.

FRW argued that by draining over 66 billion litres of water, would result in negative consequences for the Rouge watershed. Furthermore, the group argued that the entire project has a 100+ km² zone of influence, which is a significantly larger area than York Region believes is being affected by dewatering as required to safely construct the required tunnels and shafts. In order to dewater the area approximately 34,000 litres/minute of water is removed which represents a removal rate that would fill a large backyard swimming pool every minute (Friends of the Rouge Watershed 2011). FRW further observed that the pumped up water contained other pollutants that were negatively impacting aquatic habitats downstream from construction sites (Gorrie 2004). In response, FRW raised concern over the environmental impacts associated with the dewatering and immediately initiated a biological monitoring program to document changes in the environment. One of their early observations was that local source drinking water wells were experiencing extremely low levels and in some cases were actually drying up. The group further solicited their own hydrogeology expert to challenge York Region's and the TRCA's scientific studies/expertise who stated

⁶⁶ Construction of the YDSS began in the 1960s and other sections were eventually connected to meet the growing demand of the GTA. Over the past decade new extensions have helped carry an estimated 740 million litres of raw sewage daily to the treatment facilities on Lake Ontario.

that any impacts could be mitigated through appropriate technology and that the low water levels of the wells were the result of an unusually low amount of seasonal precipitation.

As a result of FRW's first hand observations and results collected through their monitoring, Jim Robb on behalf of several other locally based environmental groups, launched a private prosecution against York Region claiming it has specifically violated Sections 35 and 36 of the *Fisheries Act*. Section 35 (1) states;

No person shall carry on any work or undertaking that results in the harmful alteration, disruption or destruction of fish habitat. (Canada, Department of Justice 2010)

If convicted under the Fisheries Act, York Region could be fined up to \$300,000/day for damaging the habitat (Josey 2004). Realistically the prosecution could not stop the project but it could potentially force a very costly reconsideration of the mitigation plans. One of the groups supporting FRW was Environmental Defence, and their counsel David Donnelly stated that if the province approves the plan then the group would seek an injunction under the province's Environmental Bill of Rights (Gorrie 2004).⁶⁷ Robb explains that in the case of the Big Pipe, FRW's decision to utilize their own hydrogeology expert to challenge both York Region and the TRCA technical interpretation of the data collected by the developers was simply necessary given the potential for legal challenges contesting the impacts directly related to dewatering. He further suggested that in highly contested and politically charged environmental planning issues, obtaining scientific expertise and understanding its role will inevitably play a powerful role in both policy and legal deliberations. Robb points out that not all of FRW's and SRVS's efforts were successful and during these instances questions raised by civil society organizations were often dismissed by powerful and competing stakeholders. During our interview, Robb admits that his own personal views on the significance of scientific arguments have been shaped by his own professional experience

⁶⁷ The private prosecution against York Region was eventually stayed by the Attorney General of Canada in November 2005. The decision was based on the Attorney General's own investigation (in conjunction with Environment Canada and the Department of Fisheries and Oceans) that the charges brought forth had no reasonable prospect of conviction.

while serving as a Vice Chair with the Ontario's Environmental Assessment Board (1990-1996) and as a Hearings Officer for the Niagara Escarpment. He explains that science remains a significant tool especially for those individuals that are empowered to make policy decisions and that the environmental policy process heavily favours the views of scientific experts over those of lay individuals.

Other civil society groups that have been established since the opening of the Rouge Park have also focused their efforts on improving the ecological integrity of the greenspace. Another example of a group that was established as a result of the activism initiated in the watershed is 10,000 Trees for the Rouge, which is an organization that coordinates a massive annual one-day planting event, which draws over a thousand volunteers. The group was established in 1989 during a period when the future of the watershed was being debated, and the group's main objective is to restore natural habitats within the Rouge Valley through the establishment of links and wildlife corridors. The group organizes a one-day planting event involving close to a thousand volunteers ultimately resulting in the reforestation of large spaces throughout the watershed.⁶⁸ Current chairman of 10,000 Trees for the Rouge, Colin Creasey became involved in the 1980s, during a period where the Town of Markham was rapidly planning vast tracts of suburban housing along 14th Avenue. Creasy adds that his group was originally envisioned as an offshoot of both the SRVS and the Rouge Valley Foundation, but now is run as an entirely independent organization (Colin Creasey, 10,000 Trees for the Rouge, personal interview, 8 August 2008). With regards to the role of technical experts in achieving the conservation and natural heritage goals of the park, Creasey believes that scientific expertise plays a central and continuing role in the RPA's broader decision-making, and represents an important consideration in determining which programs, initiatives, and civil society organizations receive funding. As an example he adds, that before each planting event, the RPA requires that a third party certified forester approve

⁶⁸ In 2009, 10,000 Trees for the Rouge was the recipient of Canon Canada's Nurture Nature Award. The group was awarded \$20,000 to support their efforts in creating a swamp for the provincially threatened Blanding's Turtle (*Emydoidea blandingii*). It should be noted that the group has also been successful in securing annual funding from a variety of private and public sector agencies including the RPA, Evergreen, and TD Friends of the Environment.

every planting/site plan.⁶⁹ Afterwards, the group also takes part in yearly monitoring and maintenance of their planted sites and Creasey feels that these post-planting actions ultimately prove critical in securing yearly funding from both the RPA and other external funding agencies.

Another example of a group practicing science is Citizen Scientists, whose activities include stream and habitat monitoring in the Rouge watershed and even provides environmental training and education to its volunteers. Citizen Scientist member David Lawrie states that the group was established to document and monitor vertebrates and invertebrates in the Rouge watershed. He states that the group also wanted to champion and bring recognition to the biodiversity of the Rouge River. Lawrie further adds;

Water is the driver and indicator for stream health, it is the universal solvent. We want to advocate about the ecosystem function of the River, and learn about the vertebrates and invertebrates in the Rouge. We want to create awareness that there is life in the stream. We need meaningful data, it is key to make better plans. (David Lawrie, Citizen Scientists, personal interview, 10 July 2008)

Moreover, the group provides its volunteers with provincial certification through the Ontario Stream Assessment Protocol⁷⁰ (OSAP), which is offered by the Ontario Ministry of Natural Resources and other partner agencies and researchers. Through this provincially recognized certification, the information collected and subsequent results put forth by this group can provide much needed baseline data on the overall ecological integrity of the watershed, and on a broader level provides a glimpse into how shifts in environmental policy may play out on the ground. The creation and involvement of a group like Citizen Scientists, is unique in that its interests and activities (i.e., stream monitoring, biodiversity surveys) overlap with those of other government agencies/institutions who also do monitoring like the TRCA,

⁶⁹ The cost for the certification of planting sites is covered by 10,000 Trees for the Rouge.

⁷⁰ The Ontario Stream Assessment Protocol is a series of standardized stream assessment methodologies used to help with the identification of appropriate sites, fish communities, physical habitat, water temperature, and benthic macro invertebrates in streams. The chief goal of the OSAP is to provide standardized methods that ensure repeatability (Stanfield 2007).

Ontario Ministry of Natural Resources, or the federal Department of Fisheries and Oceans. This overlap and the increased reliance on the partnerships between the public sector and civil society groups to collect and produce scientific data may ultimately raise questions regarding state retrenchment and the re-organization of responsibilities of environmental governance.

Significant Rouge Park Planning Issues and the Utilization of Science.

Beare Road Landfill Expansion (1975-1990)

The Beare Road Landfill site (80.5 ha) was opened in 1968 and in the years prior to 1983 (the year the site was scheduled to close) Metro Toronto begins a search for potential landfill sites throughout Ontario. This issue served as the starting point for civil society involvement (i.e., SRVS) in the Rouge River Valley. The landfill was selected as a potential option for expansion. The operation of the site, coupled with additional proposed developments galvanized residents to form SRVS. The group views the potential expansion as a significant rallying point against upcoming developments throughout the watershed and begins to mount a vigorous campaign. The group bolstered support for its claims by utilizing Ontario Ministry of Natural Resources scientific publications. In the mid-1980s SRVS supported a growing public call for a Metro operated household recycling program in an effort to reduce the waste stream. The landfill closed in 1983 but continued to receive solid waste until 1988. Plans for expansion were steady and continues until the late 1980s, but were eventually abandoned because of the official announcement of the Rouge Park in 1990. SRVS interviewees argue that opposition to the landfill was a key factor in raising awareness with regards to the implementation of Scarborough's household recycling program (i.e., Blue Box Plan)

Table 6: Typology of Rouge watershed environmental planning case studies. The typology highlights three distinct ways in which civil society actors utilized science and expertise.

The utilization of existing science and experts.	The production of science.	The practice and deployment of science.
Civil society groups identified and used existing scientific studies and publications to support their position.	Civil society groups authored and published their own scientific reports and disseminated their results.	Civil society groups drew upon scientific expertise and best practices to validate their actions and goals.
Beare Road Landfill Expansion SRVS builds its case primarily on ecological arguments that the Rouge Valley is ecologically sensitive and thus merits protection. Members examine research and planning studies that highlight the biological diversity found in the watershed nothing that the area contains regionally rare Carolinian forests.	Metro East Transportation Corridor SRVS opposes the plans for the expressway claiming that major infrastructure development would result in both short and long-term negative impacts to the Valley. SRVS counters the infrastructure plans put forth in the MTO reports by publishing its own planning and growth management study titled the <i>LAARLE Report</i> (Limits Access Arterial Road Lane Equivalent) and made specific references to the potential for negative environmental impacts related to the construction of the expressway.	Reclamation of the Beare Road Landfill Site Decades after the closing of the Beare Road Landfill, FRW initiates a multi-year plan to reclaim and rehabilitate the adjacent site into a wetland. FRW facilitates input from a wide variety of expertise and employs best practices to recreate ecologically viable habitats consisting of permanent and seasonal ponds. Bio-monitoring plans are initiated with the cooperation of other civil society groups with an effort to document the changing biodiversity and ecological integrity of the site.
Centennial Swamp Development Civil society actors argued that the swamp contained regionally rare flora and fauna. Conservationists further utilized the commentary of experts and scientific reports, most notably from the Toronto Zoo and Ontario Nature to back their claims.	York Durham Sewer System Expansion FRW solicited and obtained a third party experts to produce their own hydrogeology reports and presented their results to elected officials to counter the claims of York Region and the TRCA. The group released several stream monitoring studies documenting the environmental impacts of the construction.	Creation of the Reesor Wetland Building on the success of the Beare Wetland, FRW submits proposals to the RPA to convert an unused agricultural field into additional wetland habitat. The project is ongoing, however monitoring initiatives have already begun and include wide citizen participation.
Duffins-Rouge Agricultural Preserve and its Addition to the Greenbelt. FRW and the Rouge-Duffins Greenspace Coalition argued that obtaining protection for the Agricultural Preserve presented an opportunity to establish the park as an ecological link bridging Lake Ontario, the Oak Ridges Moraine and the Greenbelt.	Development Impacts on the Morningside Tributary FRW argued that the stream contained a population of Redside Dace (<i>Clinostomus elongatus</i>) a cold water species protected by Ontario's Endangered Species Act (2007). The group initiated a bio-monitoring project, with a plan to publish all of their collected data and results.	Various Ecological Monitoring Programs Initiatives are on-going throughout the watershed and include, flora and fauna surveys/counts such as the yearly Christmas Day Bird Count, or a highly detailed site-specific stream survey by the group Citizen Scientists conducted by their volunteers who receive provincially recognized training.

Metro East Transportation Corridor (1980-1990)

The Ontario Ministry of Transportation (MTO) revealed plans to construct a future north-south expressway connecting Highway 401 to the proposed Highway 407 in the Town of Markham. The MTO releases several planning studies and reports revealing potential alignments many of which would cross the Rouge River Valley. SRVS opposes the plans for the expressway on ecological grounds, and counters the infrastructure plans by authoring and publishing its own planning and growth management study. The publication was titled the *LAARLE Report* (Limits Access Arterial Road Lane Equivalent) and built a case that FRW's own planning experts have deemed the expressway would cause both short and long-term negative effects to the valley. Interviewee Jim Robb states that the LAARLE Report was the first 'official' planning document produced by SRVS. The publication revealed that SRVS could summon and assemble expertise to further back its claims. The Report was promoted and disseminated throughout the community and to Scarborough's public officials. As was the case in the Beare Road Landfill, plans for the expressway were eventually abandoned because of the official announcement of the Rouge Park.

Centennial Swamp Development (1983-1986)

Development plans call for the draining and filling in of Centennial Swamp, located at the foot of Tallpines Boulevard (north of Port Union Road and Sheppard Avenue East). Several local and GTA level civil society groups become involved and include; SRVS, Ontario Nature, Toronto Zoo, Nature Conservancy of Canada, and WWF Canada. SRVS opposes the development and brings forth its case to the Scarborough Board of Control. SRVS further stated that the site represented an opportunity to preserve an ecosystem that would be considered unique for the City of Scarborough, and future uses could involve a scientific based outdoor education centre. A last minute proposition to buy the land outright by the Nature Conservancy of Canada never materialized. The Centennial Swamp was eventually drained, filled in, and developed. Plans for the collection and saving of any vulnerable fauna did not occur as the Toronto Zoo was never informed, and the development proceeded.

Duffins-Rouge Agricultural Preserve and its Addition to the Greenbelt (2000-2006)

The Duffins-Rouge Agricultural Preserve (DRAP) is located in North Pickering and contains approximately 3000 ha of land that was originally expropriated for development associated with the once planned and now cancelled Pickering Airport. Beginning in 2000, Friends of the Rouge Watershed and the Rouge-Duffins Greenspace Coalition (DRGC) lobbied elected officials to establish formal protection for the DRAP. This decade included the passing of noteworthy provincial level environmental policy with the passing of the *Oak Ridges Moraine Conservation Act* (2001), *Greenbelt Act* (2005) and the *Places to Grow Act* (2005). FRW interviewees state that during the early to the mid-2000s there was a heightened regional awareness of environmental issues because of a recent political shift and change in provincial governments, which culminated in the establishment of key legislation. FRW and the DRGC interviewees explain that ecologically based arguments that they used were most significant in that they mirrored those that were being espoused for the protection of the Oak Ridges Moraine and the Greenbelt. The campaign included the publication of several scientific reports and accompanying media releases. After intense lobbying to the RPA and other provincial ministries highlighting the environmental benefits of establishing an ecological bridge to the Greenbelt, the province enacts Bill 16 to restore the agricultural easements on the DRAP. The legislation provides a strong measure of protection over ongoing attempts to develop these lands in Pickering.

York Durham Sewer System Expansion (2000-present)

The York Durham Sewer System (YDSS) also known as the ‘Big Pipe’ is a sewer system located in the northern GTA that eventually ends up at a sewage treatment plant located in the City of Pickering. Several portions of the sewer cross the Rouge watershed and expansion of the sewer required the pumping up of groundwater to enable safe construction (Macaraig 2005). FRW raised concern over the vast amounts of groundwater that was being pumped up and released into adjacent streams near construction sites. FRW claimed that the dewatering were causing local wells to run dry, and that the groundwater released into tributaries of the Rouge were causing destructive impacts due to the water’s temperature and the concentration

of pollutants. In addition, the group found and used a 1977 Ontario Ministry of the Environment, Water Resources Technical Report, which contained historical water levels and flow rates of well water in the Rouge Valley. The report was put forth as evidence to support their claims that dewatering was the main cause of low well water levels. A private prosecution launched by SRVS member Jim Robb, alleging York Region officials violated the Federal Fisheries Act was eventually stayed. Despite several attempts, FRW was unsuccessful in securing permission from the RPA to let their hydrogeology expert present their findings during any public RPA meetings (Macaraig and Sandberg 2009).

Development Impacts on the Morningside Tributary (2001-2006)

The Morningside Tributary is a small stream located in the Rouge Park. Development plans by the Town of Markham called for the significant channeling and diversion of the watercourse. FRW opposed the streams re-alignment, and raised concern over the wildlife that was displaced due to the development. FRW raised awareness that the Morningside Tributary contained several viable populations of cold water fish species, most notably the Redside Dace (*Clinostomus elongates*) which was protected by the provinces *Endangered Species Act* (2007). Eventually, both the TRCA and Department of Fisheries officials confirmed FRW's observations. FRW immediately began a community led bio-monitoring program of the stream, with the goal of publishing their scientific conclusions in a future report. FRW was successful in rally support from the RPA and other Scarborough elected officials from all levels of government. Despite positive identification of Redside Dace in the Morningside Tributary, provincial authorities namely the TRCA allow widespread stream diversion over a period of 16 months. During this period FRW continued its bio-monitoring program and concludes that there were seven major negative impacts that were directly related to the housing development.

Reclamation of the Beare Road Landfill Site (2003-2010)

After the closure of the Beare Road Landfill, the adjacent lands remained severely degraded with an appreciable loss of ecological integrity. Decades after it's closing the FRW puts forth

various proposals to the RPA to create a wetland on the adjacent site to the landfill and to reforest the actual landfill. Seeing the significant ecological benefits of expanding habitat and improving the ecological integrity of the park, FRW envisions and enacts an ambitious multi-year plan to re-claim the land with the eventual goal of creating a wetland habitat complete with ponds and trails. In addition, FRW takes part in and facilitates several university-affiliated projects on the site to document changes to species diversity. Results from FRW led monitoring studies reveal that more than 100 native flora and fauna species have become established in the various habitats.

Creation of the Reesor Wetland (2007-present)

Following the success of the creation of the Beare Wetland, FRW submitted new proposals to rehabilitate a former agricultural field into additional wetland habitat further expanding its involvement in the ecological restoration of the park. The site is located on the northeast corner of Old Finch Avenue, and Reesor Road. The primary objectives of the project are to increase the biodiversity and number of wetland, pond, and marsh habitats in the Rouge Park. Work is currently ongoing and initial results mirror the results of the Beare Wetland with regards to the overall success of native tree/shrub/flower plantings throughout the site. Plans for high levels of citizen involvement include plantings, year-round species counts and other abiotic monitoring initiatives.

Various Ecological Monitoring Programs (1995-present)

Since the Rouge Park's official opening, a wide variety of civil society groups working in the park have enacted a number of independent ecological monitoring programs in conjunction with the RPA. Notable organizations that have established multi-year involvement with the RPA include; Friends of the Rouge Watershed, Citizen Scientists, Toronto Zoo, Rouge Valley Foundation, 10,000 Trees for the Rouge, Rouge Valley Naturalists, Ontario Streams, and Department of Environmental Studies, York University. Interviewees' state the data and observations collected by civil society organizations are used both internally to help inform their own individual efforts and on a broader level help substantiate the RPA's current and

future goals. It should be noted that this data is regularly shared with Rouge Park staff and in most cases also presented and made public during RPA meetings.

The Rouge Park Alliance and the Facilitation of Science

As it will be discussed in Chapter 7, the current governance structure of the Rouge Park has permitted and allowed for an increase in opportunities for civil society organizations to become involved in various aspects of the park. These groups are engaged in a wide range of activities associated with visitor engagement such as the leading of hikes/walks, basic trail maintenance and other outdoor educational activities. However, in the park, there are also groups that are working on larger-scale initiatives and projects such as wetland restoration, site rehabilitation/reclamation, and even conducting detailed yearly ecological monitoring of several waterways in the Rouge watershed.

This high level of civil society involvement in the park has been mostly facilitated and enabled through the governance scheme and structure of the Rouge Park Alliance, through the funding of various initiatives and programs. This funding of specific projects and organizations working to improve the ecological integrity of the park has played a pivotal role in establishing the broader discourse of science throughout the RPA and its associated civil society partners. In particular the RPA has funded both small/short term projects (i.e., flora and fauna watches) and also several multi-year initiatives like the establishment of Bob Hunter Memorial Park, the opening of both the Glen Eagles Vista and the Celebration Forest and the creation of several wetlands. The funding of civil society groups working on primarily science based ecological restoration projects represents a significant portion of the funding mix.⁷¹ (see Appendix G) Overall, the RPA provides different classifications (i.e., Natural Heritage Programs versus Projects) for the type of work it funds and there is overlap as both encompass improving the ecological integrity of habitats. Over the past decade the RPA provided approximately \$200,000/year of direct funding to civil society groups working

⁷¹ Appendix G contains the specific pages of the RPA's audited financial documents indicating the yearly expenditures on ecological restoration projects. Upon reviewing the financial statements, determining the precise amounts is challenging, as over the years the RPA re-named some of its ecological projects, while also redefining its community activities.

specifically on improving the ecological integrity of the park. The types of projects completed by these organizations that received funding were numerous but most often included native tree/shrub/flower plantings and site maintenance. It is worth noting that of all of the RPA's various expenditures, the funding of activities associated with restoration represents approximately one-third or more of the RPA's total expenses over the past decade.⁷²

This direct involvement in the funding of projects that address dimensions of ecological integrity and other nature focused projects in the park indicates the importance and persuasiveness and success of the nature conservation narrative. The significance of science and the broad public understanding and acceptance of certified experts as the arbiter in the determination of successful funding programs represents a powerful motivator in the actions of both the RPA and its civil society partners. A common assertion among my interviewees, in particular those representing 10,000 Trees for the Rouge, FRW, and Citizen Scientists, is that the data that they collect is often shared with the Rouge Park staff and disseminated to the general public in the form of scientific bulletins and reports. They further state that over the past decade and as their involvement has increased these scientific publications have gained the attention from both the media and university-based researchers. Regarding the role of the RPA in funding and enabling the actions of groups working in the watershed, RPA Board member, Glen De Baeremaeker who represents SRVS states;

The reason this (Rouge) park exists is because of the smaller groups like Citizen Scientists. The RPA must continually seek to fund and find the extra monies required to keep these small groups working in the Rouge. It is the job of Rouge Park staff to nurture those groups who are working to get the job done. These funds are intended for citizen infrastructure to do the work that the park needs to achieve its long-term goals. (Glen De Baeremaeker, RPA AGM, Scarborough ON, 11 February 2011)

⁷² The other three major RPA expenditures in 2010 are grouped as follows; Planning and Coordination, Natural Heritage Protection, and Heritage Appreciation Visitor Experience (HAVE).

Both staff from Citizen Scientists, and 10,000 Trees for the Rouge insist that science plays a critically important role for their organizations when it comes to applying for grants from various funding agencies. For example, due to the ecological restoration work that these groups partake in, funding agencies will often require continuous scientific monitoring of rehabilitation sites, or even the evaluation and approval of planting or reforestation plans by a qualified/accredited agency.

It should be noted that over the last decade, as new lands are added to the park's landmass on its public profile has also increased as a result of the tens of thousands of volunteers that participate in hundreds of different events each year. The park's profile has also been boosted by the branding efforts of the RPA, primarily through a signage campaign delineating park boundaries along all roadways that enter and lead into the park. This heightened public visibility has not only increased park visits, but has also led to an increased number of university/college level primarily science-based research projects in the park. This research is carried out as a result of establishing partnerships between the RPA, park staff, landowners, and in some cases also includes the involvement of a civil society organization already working in the park. Recent projects included the construction of bird boxes to aid in ornithology habitat research, and a park-wide apiary-monitoring project.

Interviewee Lewis Yeager (Rouge Park General Manager) believes that the park's ability to identify and work alongside a wide range of stakeholders groups that include both institutions from all levels of government and civil society actors has proven beneficial. During our interview Yeager made reference to and elaborated on some of the partnerships that have been formed between the park and other government partners. He explains that the very fact that the park's main office is actually located in an Ontario Ministry of Natural Resources Building in Aurora has played a significant role in the park's overall focus on and how it handles and initiates scientific inquiry. Yeager recalls several instances where MNR scientists/experts (working on the same floor as Rouge Park staff) have personally aided with scientific projects to help resolve various technical setbacks.

My research indicates that when the RPA and its civil society partners place a deliberate focus on the scientific aspects and parameters of the ecology of the park, it has the potential

to provide a rallying point for elected officials, the broader public, and any future civil society organizations to become involved in the park. The actions of civil society groups working in the park ultimately serve to enable the participation of others while facilitating other participatory processes. As a major funding body for groups working in the watershed, the RPA is more than just an enabler, but it also plays a significant role in how the public views and values the greenspace. Specifically, by funding civil society groups working on ecological projects in the park, the RPA ultimately builds credibility indirectly for its civil society partners, and in doing so greatly facilitates the role of experts. Through my research and interviews, I have come to realize that these individuals and groups have fully embodied a clear stewardship role, and have become experts through this process. Science was important in the battle to create the park and likewise it figures prominently in its current and future protection. In this respect, it becomes clear that science, its methods and methodologies, becomes more than just a mere component of the policy formation process, but it also serves to legitimize both authority and power of the RPA and its civil society partners. In the end, research on the ecological significance of the Rouge watershed has been repeatedly referred to and has ultimately become part of the overall conservation discourse espoused by civil society actors and the public alike throughout the history of the park. The overall conservation narrative is both a product of government agencies and civil society actors and it has helped shape how residents could imagine urban growth scenarios and their potential effects on the local environment.

A Discourse of Conservation

In this case study, the claims and position statements by civil society groups may reveal and substantiate the importance of scientific evidence in conservation narratives. In addition, claims made by widely recognized environmental organizations are often picked up and reported on by the media, and thus become a part of the popular discourse. It is well accepted that the media plays a role in influencing public opinion (Lippman 1922, Cohen 1963). Ongoing coverage of political events and controversies fundamentally influences how the public thinks about certain issues and in the end it plays a crucial role in helping individuals

to construct their opinions. Research by Edey et al. (2006) examining the overall success of the conservation agenda in Ontario's Oak Ridges Moraine planning issue supports some of my observations on the establishment of the Rouge Park, with regards to the significant role civil society actors can have in framing an issue with respect to policy deliberations. Although the movement to protect the Rouge precedes the Oak Ridges Moraine planning case study by several years, there are some notable similarities.⁷³ In both cases, a conservation narrative was centered and built on scientific studies examining particular biological and ecological features and aspects of the local environs. In the Oak Ridges Moraine planning controversy, civil society groups brought attention to the once obscure Jefferson Salamander (*Ambystoma jeffersonianum*), a locally rare species whose range was potentially threatened by several proposed developments. The plight of the salamander became a regular feature in news stories and it eventually aided in the overall protection of the large swaths of greenspaces in Ontario with the enactment of the *Oak Ridges Moraine Conservation Act/Plan* and the even more comprehensive *Greenbelt Act* (Macaraig and Sandberg 2009, McElhinny 2006).

Although a discourse/content analysis of media coverage was a part of this, the construction and facilitation of narratives in the broader discourse has clearly played a role in the case study of the Rouge. Information collected through my field notes, attending every public RPA meeting from 2008 to 2011, and other public symposia, combined with my data from both formal and informal interviewees points to a theme of conservation based on scientific/ecological arguments first and foremost. More specifically, the call for conservation began with recognition that 'nature' found in the watershed was distinctive for both its biological and intrinsic attributes. Each of my interviewees representing the civil society groups currently working in the park placed an importance on protecting the Rouge Valley for its unique Carolinian forest habitat and the several rare animal and plants species that can be found in it. For some of my interviewees and early SRVS members, preserving nature for 'nature sake' was a strong and keynote argument that they espoused and reiterated, an observation that I have witnessed and can account for over several years of fieldwork.

⁷³ For a summary of the Oak Ridges Moraine planning issue and its related land-use controversies see Bocking (2005) and Wekerle et al. (2007).

For example one interviewee, Colin Creasey of 10,000 Trees for the Rouge makes it clear that his organization is interested solely improving the ecological integrity of the park. He states that the group's focus on improving the ecological integrity of the watershed is primarily based on scientific rationales and biological research that reveal the negative consequences resulting from habitat fragmentation associated with development. He says that his group and their volunteers are motivated by the prospect of increasing the biodiversity of the Rouge Park. Creasey explains;

All this work that we are doing, reforestation and habitat creation, is for wildlife first, and not people. (Colin Creasey, 10,000 Trees for the Rouge, personal interview, 4 July 2007)

Creasey talked about his personal affinity for ornithology and how 10,000 Trees for the Rouge has focused their efforts on improving migration and habitat conditions for regionally rare species not normally found in the watershed.

During our interview, early SRVS member Glenn De Baeremaeker elaborated on the arguments and strategies that motivated his group, while talking about how they perceived the valley in an attempt to set a pro-conservation agenda throughout the policy process. He states;

A key strategy of SRVS was to keep the vision positive. In the 60s and 70s we had to fight against sprawl, highways, roads, and garbage dumps. They (development and developers) were like a cancer. We had to fight for alternatives to dumps, so we fought for the blue box program, we had to fight for everything. (Glenn De Baeremaeker, SRVS, personal interview, 17 September 2008).

De Baeremaeker's observations on SRVS's singular message of how Scarborough residents should think about development and increase the public's understanding of the ecological significance of the valley reveal some of the contributing factors in the group's success. SRVS imagined the watershed primarily in three fundamental ways. Firstly they viewed the

valley as an environmentally sensitive landform and they invoked a perception that the Rouge River was distinctive and the surrounding habitats were ecologically significant as it contained and represented one of Ontario's few, intact and remaining stands of Carolinian forest. This point was reiterated by interviewees who continuously referred to the high levels of biodiversity and the 'wildness' of the landscape. In particular, Lewis Yeager (Rouge Park), Glenn De Baeremaeker (SRVS), Jim Robb (FRW), Jennifer O'Connell (City of Pickering Councillor), and David Lawrie (Citizen Scientists) all made clear references to rare flora and fauna that could be found throughout the watershed. They added that this was not merely a lay observation but one that was supported by numerous scientific surveys completed over the past few decades by the province and other well-known environmental organizations from Canada and abroad. This civic awareness about the importance of improving the ecological integrity of the watershed and utilizing scientific expertise to verify and further substantiate its biodiversity has been carried forward by several civil society organizations working in the Rouge.

This emphasis on science and other ecologically based arguments has seemingly transcended the original work and focus of SRVS. In particular, the broader discourse of science and recognition of its importance has laid the groundwork for other civil society organizations focused on improving the ecological integrity of the park. Although the specific activities and duties may differ between organizations, their broader objectives and mandates are to improve the biodiversity and the ecological integrity of the park. These groups organize year round activities and planting events (sometimes with volunteers numbering in the thousands), conduct biological surveys, and document the effects of their own work employing scientific experts. This primary focus on the ecological aspects of the park has continued throughout its history and may ultimately aid in reifying the significance of scientific discourse with respect to the actions of the RPA. This type of scientific work completed by the large number of civil society groups working in Rouge serves as a 'discursive strategy' that validates the broader conservation narrative of the bioregion, and one that has become dominant throughout the watershed's history.

As discussed in Chapter 2, nature (validated through science) may be considered an actor itself. This observation is supported by the typology and chronology of environmental planning issues relevant to the protection and creation of the Rouge Park. I argue that not only did nature/environment play a role in determining the outcome, but also science itself proved crucial in establishing and sustaining the conservation narrative. Particularly, the observations collected and the knowledge created through the practical application of science by civil society organizations indicates the significance of science as a discursive strategy in this case study. By taking part in various monitoring studies, and ecological restoration projects spanning nearly two decades, civil society actors help legitimize both themselves and their cause. They themselves became the experts.

On a larger scale these civil society actions may serve as a ‘learned behaviour’ or functioning model for new organizations interested in participating in other local-level environmental movements. New groups see older ones in action, build on their previous work, and emulate their efforts and take on new challenges and activities. Although these observations may prove difficult to quantify in minute detail, there is a clear synergism between several of groups working in the park. These organizations draw from a similar set of volunteers, resources, and even scientific expertise and such cooperation undoubtedly elevates the level of lived and imagined stewardship on various levels. The partnerships formed between all of these organizations working in the Rouge, coupled with their longstanding history in working on practical conservation initiatives make these groups de facto experts in their own right. In particular SRVS and FRW are examples of two organizations that are well recognized by both the local residents and the Scarborough media and have built up a tremendous amount of public recognition in terms of both political and social capital and expertise.

A second manner in which SRVS viewed the Rouge Valley was that it considered the landform noteworthy in its potential to serve as a defacto natural barrier to the rapidly developing fringe of Metro Toronto. Specifically, the northern and eastern most areas and boundaries were portrayed in the media as the ‘last frontier’ for development in Metro Toronto (Allemang 1984, James 1987a, Page 1987a, 1987b, Stein 1987a). Interviewees such as Lois James who talked about both Metro and the province’s plans (i.e., Ontario Land

Corporation) for northeast Scarborough vividly recalled her community's concern over increased suburban development all within the context of new and affordable homes (Abbate 1985a). James remembers the frequency of the media coverage outlining plans for growth and development in north Scarborough, and recalls penning dozens of letters to the editors of local newspapers such as the *Toronto Star*. Other interviewees including Lewis Yeager (Rouge Park) and Harvey Kirsch (Rouge Valley Foundation), and Ron Moeser (City of Toronto Councillor) also reiterated that much of the area was not suitable for development as it was in a valley/floodplain and thus vulnerable to erosion and significant storm damage as witnessed during Hurricane Hazel in 1954. Furthermore, they argued that since the land was not suitable for development it would afford the opportunity to protect it for other non-urban purposes. They pointed to the importance of having pastoral landscapes and the potential for increased local agricultural activity within Metro.⁷⁴

Finally, a third way that SRVS envisioned the valley was by highlighting the advantages of protecting the valley for future generations. Glenn De Baeremaeker explains that their members were always interested in the biology, natural attributes and beauty of the valley, but they also had to broaden the appeal of their movement to engage a broader audience. De Baeremaeker states;

We had to market the environment like Coca-Cola. We had to advertise the benefits of nature, why we need fish, trees, and deer. We had to turn the tables on developers and the city, we needed a vision people could understand and we needed a single effort. (Glenn De Baeremaeker, SRVS, personal interview, 17 September 2008)

Specifically, SRVS advocated the intrinsic qualities and the lasting advantages of protecting the valley for future generations. During the late 1980s when the movement and the ensuing political battles to save the Rouge were in full swing, SRVS began to articulate and further

⁷⁴ This is noteworthy when considering that recently there is a heightened awareness and emphasis on the importance of having urban or near-urban agricultural activity and investigating its connections to urban sustainability. Avenues of investigation include food security, food deserts, human health, and carbon footprint reduction.

develop their original ‘ecology first’ arguments into positions that encompassed a more holistic view of the watershed, primarily in an effort to garner broader support for the group. The group expanded their purview, made connections with practicing archeologists and experts on the cultural history of the Rouge, and hosted free public lectures several times a year. SRVS also invited First Nations to partake in ceremonial activities and other interpretive events to bring attention to the watershed’s past Aboriginal and settlers history.

Interestingly, Jim Robb also recalls that during those final periods leading up to key votes at Scarborough council, SRVS came to a realization that for the broader public to support its efforts it would have to go beyond scientific arguments and further consider other potential options. He states;

Science mattered a lot at the beginning, we used (government) studies and plans, and we even made our own (reports). Science still mattered and it was important, but eventually it wasn’t all about science, we needed more to win. It came down to politics. We had to figure out how many votes we need to either win or loose. (Jim Robb, Friends of the Rouge Watershed, personal interview, Scarborough, 26 June 2008)

Robb states that science was indeed important as it helped those fighting for protection establish and give ordinary residents a reason to care for the valley, and to help bring understanding into how development plans such as sewers, landfills, and highways would result in negative environmental impacts. In the end, SRVS’s efforts were the result of a realization that garnering support from the public was crucial, and the group had to broaden its arguments and had to champion the generational advantages and prospective living legacy that could be realized through conservation.

Experts as Policymakers

This case study involved a broad range of public and private stakeholders, each of whom espoused often conflicting ideas of nature and how society should view and value it. Additionally, each of these stakeholders also held different views on the connections between

science and society, and how it may be utilized as a powerful tool for legitimization throughout policy deliberations. The idea that science is for the ‘public good’ has long been challenged and eroded through its politicization and co-option by special interests and ideological positions. For most, science is viewed to bring rationality to an irrational society, and that scientific inquiry will result in value-free objective results. The relationship between science and policy has been the subject of continuous interest in resource management and science and technology studies. The conceptualization that scientific knowledge can be socially constructed and subject to politics and other externalities presents two distinct challenges for policymakers, the first theoretical and the second practical.

Firstly, the idea that certain social factors such as state/institutional politics, or the personalities of individual scientists may influence the recommendations they espouse challenges the deeply rooted position that experts can provide policymakers with objective advice. The second and more difficult practical challenge is establishing a robust policy consultation process, which strives to be more equitable and inclusive for all stakeholders, either lay or expert. Policy scholars have long considered how to make the political consultation process more open, transparent, and participatory.⁷⁵ Work by authors Bessette (1980), Dryzek (1982, 1990, 2000), Barber (1984), and Fishkin (1991, 1995) have explored the shortcomings and pitfalls of deliberative law-making processes, which emphasizes continuous collaboration, and not mere voting as the primary source of determining legitimacy in the decision-making processes.⁷⁶

Despite these advancements in political and democratic theory, in practical terms they may present several on the ground challenges, with regards to the political parties/individuals in power. These conceptualizations may also discount and fail to consider the historical and economic context within which communities and the state must make decisions. Perhaps most importantly, trying to implement the ideals of a deliberative democracy may not fully come to terms with the shortcomings and intricacies of relying on scientific expertise, vis-à-

⁷⁵ See Besson and Marti’s *Introduction in Deliberative Democracy and its Discontents* (2006) for a collection of publications that have examined and critique the theoretical and practical applications of deliberative democracy.

⁷⁶ The term ‘deliberative democracy’ also called discursive democracy was first coined by Joseph Bessette (1980).

vis the body of scholarship that recognizes that facts and knowledge are socially constructed. Fuller (2006) states that alternatives such as the establishment and usage of ‘citizen juries’ and/or ‘consensus conferences’ can provide an opportunity for marginalized viewpoints to become involved. In this case, this new knowledge is the result of the coming together of both local and expert knowledge which aims to make neither more or less authoritative in political settings. Having this ability to self-reflect, and de-mystify the abstract results of scientific studies should be chief priority for resource managers. Focus should be placed on not just identifying short and long-term impacts, but to also re-imagine the role of greenspace and its connections to individuals, the local community, and to the city-region. Throughout the deliberations a potential outcome could be that citizen viewpoints may in fact change at the end of the process, which would represent a new form of understanding and the creation of new knowledge.

Through my fieldwork, I observed the environmental planning process and the governance structure of the Rouge Park put in place by the province, and although it fundamentally strives to allow for high levels of participation, it merely follows other policy consultations and processes commonly associated throughout Canada. Specifically, elected officials heavily rely on and seemingly give more credence to formal scientific expertise when crafting policy. The dilemma facing policymakers and park managers is how to consider the observations of scientific experts (i.e., commonly from state institutions) with those results and data collected by citizens? Particularly, how do we ensure that scientific expertise contributes to genuinely democratic decision-making processes?

This case study provides lessons in that the particular governance structure has permitted a high degree of civil society participation, and the level of engagement is broad in scope as illustrated in the number and types of groups involved in the park’s day-to-day management. I argue that through their long-standing collaboration and experience working in the park, while taking into consideration the scientific data that is collected and even published, these groups have become experts themselves. Through their particular actions and involvement they have gained legitimacy, and undoubtedly have also produced scientific knowledge. A few of these civil society organizations have become the *de facto* face of the Rouge Park, and

in the end have gained traction politically at all levels of government and have further legitimized their cause to the media, their local communities and the broader public.

The case study shows how science and ecologically normative arguments became central to the argument of conservation and how it was featured prominently in the overall discourse from the onset. Another interesting observation is that this particular discourse of conservation and science remains and continues today through the actions of the civil society groups still involved with the park and the RPA itself. In this planning issue, there were two dominant and competing narratives, productivist versus nature conservation, and of these the latter was much more successful in gaining traction in the public's imagination. In this chapter, I outlined how civil society groups were able to utilize science and expertise to both support their position and also challenge competing claims from developers that the natural features of the valley were ordinary, did not merit protection, and that any short and long-term consequences caused by developments could be mitigated through technology.

Overstating the capabilities of science and technology is a position that may be grounded within a pro-growth and development agenda of GTA municipalities. Hanna and Walton-Roberts (2004) add that municipalities in the GTA have consistently positioned growth as a central priority within the context of competing on the global stage. Pro-development interests operating within the watershed have also drawn from scientific expertise to inform narratives that the infrastructure required for urban growth, such as roads and sewerage could be built with minimal damage to the local environs. A recent examination of the politics surrounding the construction of the York Durham Sewer System (YDSS) reveals that competing actors in environmental planning disputes that heavily rely on science to ground their position, may actually serve to limit and mask their ability to imagine alternate visions of how and where to consider the effects of urban growth (Macaraig and Sandberg 2009).

The pervasiveness of the nature conservation narrative and the preference for the precautionary principle as demonstrated in this case study reveals important lessons for urban growth management. It indicates that the very characteristic of nature itself remains a powerful compulsion for the mobilization against urbanization. In particular, scientific and positivistic rationalizations of nature are a significant factor within the planning process, and

may be considered at par when compared to other cultural or material representations. The progression of environmentalism has resulted in numerous arguments and frameworks to rationalize mobilization. However, through the process of planning for growth, a focus on nature alone and environmental science still remains an authoritative argument that can provide legitimization for civil society. Although a post-modern perspective would presuppose that quantitative studies are inherently limited as it fails to recognize the political economy, utilizing science to back and prop up other ideological arguments and perceptions of nature has proved useful in this case. In the movement to establish a new protected area, residents were able to inscribe into the public discourse the idea that the landform was significant in terms of its flora and fauna. These views were not merely assembled, but science was utilized to validate and ground the claims of those fighting for conservation.

As the movement progressed through the 1980s, conservationists were also successful in promoting and highlighting the valley's significance with respect to the broader bioregion. This perception of the grandness of the watershed and its ability to provide a natural corridor between the Oak Ridges Moraine and Lake Ontario was a vision continually advocated and referred to by private citizens, elected officials, and RPA officials throughout my fieldwork. One may pose the argument that as long as nature and greenspace was protected then civil society had essentially achieved its goals. However, when the Rouge Park is perceived as being 'wild' and a 'last frontier' thus requiring unique protection from development, it will only serve to further contribute to the dialectic of the social construction of nature.

The primary focus on nature serves to mask other considerations worthy of debate. Issues such as the construction of different types of both owner and rental housing, or the planning for improved social services, or employment areas close to urban areas, will inevitably require attention from decision-makers of growing city-regions. A locally based pro-conservation narrative primarily grounded with environmental science-based arguments was successful in countering the wider pro-growth interests of the GTA. Overall, the broader societal discourse over the negative consequences related to un-checked/rapid development fed the fear of urban growth at the local scale. Concern over the potential of local negative

impacts associated with suburban sprawl resulted in residents taking a stand against the productivist aspirations of the city-region.

Clearly, when considering environmental planning/policy issues, Kuhnian normal science is a major contributing factor in the eventual outcomes. Positivistic narratives and rationalizations weigh heavily in deliberations over the management, calculation, and mitigation of risk, which seemingly have become a large aspect of contemporary environmental controversies. On the other hand, within the planning literature during the late 20th century there has been a shift from presenting planning as simply a rational and comprehensive process to one that is more holistic in its considerations of specific humanistic values and representations (Friedmann 1987, Healey 1997). Urban planning has incorporated a diverse and more comprehensive outlook in determining and investing in factors that may contribute to higher levels of livability or quality of life. However, this case study demonstrates that despite such research into how governments may achieve more equitable and progressive planning outcomes, science and expertise and their accompanying narratives still play a crucial factor in environmental policy. This observation is partly the product of our political process, but also is entrenched in the limited governance powers of Canadian municipalities and the planning regime in Ontario, which gives much power and authority to provincial level agencies. Further complicating matters is the broad reluctance of federal agencies to become involved with provincial planning directives and policies that support growth and development (Harrison 1996).

The jurisdiction of the province to direct urban growth into particular urban regions, coupled with its powers to approve/cancel the infrastructure projects (i.e., highways, sewers, and landfills) of a metropolitan area is a example of how provincial policy plays out on the ground in the Rouge Valley. This battle to protect the valley from development may be contextualized as a struggle over the ‘very’ local scale. The effects of sprawl, and the construction of new housing, whether they consist of a few executive homes or thousands of units, for the most part remain an abstract idea for most, and are further perceived at a large scale. However at the other end of the spectrum, the local scale is where individuals may feel

the most connected to their own neighbourhood and community, and for this reason it serves as the site for collective mobilization.

The struggle to establish a new protected area was in fact a battle for power. At its core, this case study was a battle of competing short and long-term visions, which were fundamentally divergent. From the outset, Scarborough residents viewed the valley as an ecological wonder that provided a refuge for flora and fauna from urbanizing pressures, a position that was discursively backed by science. This perception of nature eventually formed the basis of a dominant narrative and discourse that espoused the claims of science that stated that the landscape was unique. My interviewees also made reference to and envisioned the Rouge Valley as a ‘doorway’ to nature, instead of the dramatically different ‘last frontier’ rhetoric put forth by Metro Council.

The perception of nature’s significance was sustained and eventually shaped Scarborough’s local political arena, where after several votes council members were unanimous in pledging support for conserving nature and substantially limiting development. Scarborough Council support was galvanized by the efforts from a wide range of civil society organizations, and also found unexpected bipartisan support from the area’s federal politicians. Obtaining federal support was surprising because it is uncommon for federal agencies to become involved with municipal affairs, especially local environmental matters (Harrison 1996, Parson 2001). At this particular moment in Scarborough, civil society actors and their corresponding political representation were clearly dominated by a nature conservation agenda. This battle over nature eventually came into conflict with the growth plans of the province, and those of Metro Council, who wanted to expand the Beare Road Landfill. Provincial interests in the lands of north Scarborough were extensive, but mostly involved housing subdivisions, and the construction of a new north-south expressway into Markham. Given its extensive landholdings and development plans for the area, it is perhaps not surprising that the province, which had the most jurisdiction and power over the future of the Rouge watershed, was the last one to act and pledge their support and funding for establishing a protected area. Eventually, support from the province came in an announcement prior to the provincial election in late 1990, and despite the establishment of a

new protected area, Metro Council continued to lobby and push for its case that the Beare Road Landfill be considered for expansion.

This struggle over nature in this case study is distinguished in that civil society groups achieved support from elected officials and government bureaucrats at all levels. As discussed in this chapter and outlined in the chronology in Table 3, obtaining bi-partisan support from Scarborough's elected officials was a significant factor in the overall movement. It should be noted this pledge for support from all levels of government did not occur all at once but rather was the result of a continuous process spanning several years and numerous political terms. Local civil society groups made continuous strides in building relationships with other neighbourhood associations, each of whom provided expertise and support in tackling and contesting other development projects in the region. Overall, the continuous involvement of civil society in both short and long-term battles over how nature is both valued and perceived tends to support Tarrow's (1994) theoretical contribution regarding the intrinsic value of 'cycles of protest'. Seminal civil society groups like SRVS, through both their success and failures can serve to 'lower the bar' in terms of providing resources, leadership, and a practical strategy for other like-minded organizations seeking out new spaces for public engagement.

Conclusion

In this case study, science clearly played a role in the early efforts of both citizens and the civil society groups working towards protecting the watershed from numerous development proposals. These development proposals were never minor in scale and represented the desires and perceived infrastructure needs of a growing city-region. The plans for north Scarborough included thousands of suburban homes, new roads/sewers, the expansion of a large landfill, and finally the construction and extension of a major expressway. Moreover, the proponents of these projects, namely the province and the private sector, ultimately represent conventionally powerful political and economic interests. This fact is especially true in Canada's system of government where provincial governments exert strong influence over their municipal counterparts.

This chapter reveals that for urban environmental social movements, science represents a powerful tool for civil society. However, conducting scientific studies and authoring scientific reports may still present some challenges especially for smaller organizations. Clearly, governments and their related state agencies play a significant role in establishing and promoting science as a neutral arbiter through their ability to fund and initiate studies. Furthermore, the publication of government sponsored science beginning in the 1950s proved to be truly useful for citizens in that they were able to use these studies to back and support the nature conservation narrative. This case study also reveals that grassroots organizations may utilize science to compensate for their political and economic shortcomings when compared to the typically powerful interests of both the state and business. It also points to the importance as to why science should be more open and accessible. There is an underlying subtext to the overall legitimacy of government produced or endorsed scientific studies, and they proved useful when local residents began mobilizing during the 1970s and 1980s. This period represented a unique phase in the broader environmental movement when there was a growing awareness in North America of the negative consequences associated with suburban sprawl.

In the same manner that a lay public recognizes the importance of facts, civil society can build and facilitate the significance of science through their actions and political self-determination. Civil society actors working for change may employ several tactics and/or may focus their efforts on a particular narrative/strategy in order to gain political traction. My research shows that obtaining first-rate professional scientific expertise can be economically prohibitive for organizations, especially when compared to well-funded private interests. These observations on the relevance and benefits of having open and public science available in our society gives credence to the idea that government agencies have a distinct role to play in policy through their scientific agendas/research.

Despite formidable growth and development pressures, and further considering the expanding political economy of the GTA in the 1970s and 1980s, both the conservation movement and narrative ultimately prevailed and resulted in the establishment and protection of a significant amount of greenspace adjacent to Canada's most urbanized region. Currently,

the amount of land protected within the Rouge Park encompasses approximately 46 km² and ultimately represents a significant amount of greenspace when compared to other Canadian metropolitan areas. In conclusion, the case study of the Rouge Park can provide useful lessons for both local governments and civil society organizations wrestling with how to negotiate science, experts and competing narratives, all within a context of considering how a growing city-region should plan for greenspace conservation.

CHAPTER 7

THE NEOLIBERALISATION OF CONSERVATION

In this chapter I examine the roles and actions of the state and civil society actors working in the Rouge Park.⁷⁷ I also develop insights into the neoliberalisation of conservation by examining the relationships formed between park managers and civil society organizations working in the park. Fundamental questions this chapter will address are as follows; How can government support the actions of civil society organizations over both the short and long-term? How do we achieve an appropriate balance between the involvement of civil society and the responsibility of government? What are the outcomes of such governmental and institutional re-alignments in this case? Answering these questions helps address my chief focus of this research, which is to identify and highlight how metropolitan regions can conserve greenspaces.

I argue that certain aspects of the park's governance framework and structure put in place by the province and the particular manner in which the greenspace is both aestheticized and marketed amounts to the 'neoliberalisation of conservation'. My research shows that a disproportionate amount of the day-to-day management and operation of the park is carried out by civil society groups and their respective volunteers. This reliance on civil society actors was partially the result of a reconfiguration and further redefinition of the role of state agencies, during a period of widespread provincial policy retrenchment during the 1990s. Using neoliberalisation and its processes and outcomes as a theoretical framework permits a closer examination of how contemporary protected areas are managed in light of the continuously changing role of the state. This research also analyses the roles and actions of both government and civil society actors in the day-to-day management of a large urban protected area. The management structure has resulted in neoliberal conservation policy yet,

⁷⁷ An earlier version of this chapter is published in 2011 in *Local Environment* 16(4): 357-374.

despite its apparent shortcomings this governance scheme has also resulted in some positive developments. In particular, it has provided an increase in opportunities for civil society actors to become key agents in both park planning and conservation. It should be noted that this increase in participation might have been an unintended result of the governance structure of the park, as opposed to a willful predetermined consequence aimed to foster stakeholder involvement. On a broader level this research may also develop understanding into how retrenchment and neoliberalisation plays out on the ground, and how as a process it is challenging existing ideas of the role and efficacy of the state.

Neoliberalism and Civil Society Participation

This identification of the importance of civil society has been highlighted by social theorist Manuel Castells (1972, 1983) throughout his career, who has described individuals as the primary agent or unit for change. His call for ‘the people’ to enact change at the scales most familiar to them namely the households, neighbourhoods, and the city in which they live has served as a central thesis for much scholarship on civil society. The importance and recognition of increased local involvement has also been broadly acknowledged by various academic fields of study in both the social sciences and natural sciences. For example, the conservation/resource management literature has placed great importance on increased civil society participation when formulating environmental policy, and negotiating how protected areas are actually governed (Smiley et al. 2010, Wright and Rollins 2009, Broderick 2005, Parkins and Mitchell 2005, Beierle and Konisky 2001, Busenberg 2000).

In urban planning, public participation and citizen engagement is viewed as a key facet in addressing both expected or unexpected inequalities within the policy-formation process. Early planning theorists like Davidoff (1965), Arnstein (1969) and later Innes (1995) and Healey (1997) have developed advanced participatory schemes in an attempt to model and further democratize local level decision-making. Notwithstanding these theoretical advancements aimed to facilitate local level urban change, it raises some fundamental questions into the limits and overall appropriateness of public participation and volunteerism in urban governance. Planning advocates highlight the broader goals of enhancing public

stewardship and increasing social capital as immediate and tangible benefits. While others might object that dramatically increasing public involvement ultimately serves to absolve government from various responsibilities and core duties. Simply put, government measures that aim to increase public participation may also have the potential to mask a deliberate claw back of state involvement and responsibility.

Critics of neoliberalism have lamented the consequences of state decisions to allow increased privatisation of specific environmental sectors and/or phenomena, while pointing to the swift mobilization of public opposition to such action as an indicator of the severity of the wrongdoing. Castree (2008b) argues that neoliberalisation also facilitates the further creation and involvement of civil society groups providing services that were once done by the state. This uptake of responsibilities by civil society groups in conservation planning and the management of natural resources seems to be one key characteristic outcome of nature's neoliberalisation. Heynen and Robbins (2005, p. 6) further identify, "governance, the institutionalized political compromises through which capitalist societies are negotiated", as another dominant attribute within the neoliberal agenda. This is noteworthy in that such political and institutional reconfigurations may inevitably present challenges to the general public's understanding of jurisdiction, the specific role of state institutions and perhaps more importantly how governments actually govern. Policy reforms that call for less state intervention may eventually point to new opportunities for civil society actors to become engaged within the policy formation process. Therefore, implicit to this neoliberal conservation narrative are questions that revolve around the exact role of both the state and civil society in managing natural resources. Specifically, what are the outcomes (either perceived or real) of this reconfiguration of responsibilities? If the neoliberalisation of nature is to be considered an on-going process, it is important to shed light on how stakeholders may have adapted to such changes.

The Neoliberal Governance of the Rouge Park

One principal characteristic of the neoliberalisation of nature involves the roll-back of state responsibility with a corresponding 'roll-out' of privatised interests (Peck 2010). This

minimization of state responsibility in either management or governance may result in the involvement of other actors. Over the past two decades, successive Ontario provincial governments have implemented several policy measures that are consistent with a process of environmental neoliberalisation, examples include the testing of and the de- and re-regulation of drinking water, or the enabling of voluntary conservation measures such as seen on the Oak Ridges Moraine or in the Greenbelt. Despite such observations from scholars the effects of these neoliberal policy manifestations in some cases were not immediately apparent, but only surfaced years after, long after any public investigation/inquiry (Young and Keil 2007, Sandberg and Wekerle 2010). For example, researchers have only recently begun to unpack the nuanced ways in which nature can be aestheticized and/or commodified through the establishment of provincial scale environmental/conservation policy, such as the *Oak Ridges Moraine Act/Plan*.⁷⁸ (Edey et al. 2006, Hanna and Webber 2010). However, when they were announced both pieces of legislation represented marked achievements for those civil society actors that fought for the protection of greenspace and agricultural land in the province

Previous conservation policies such as the establishment of the *Niagara Escarpment Planning and Development Act* (1973), the *Oak Ridges Moraine Act* (2001), and the *Greenbelt Act* (2005), have also significantly increased the amount of protected greenspace throughout southern Ontario. However, in the case of the moraine and the greenbelt it has been shown that these spaces may in fact be a lubricant for growth, and play a role in promoting privatized conservation measures and voluntary management schemes, both of which are key factors that further support class privilege and rural gentrification (Wekerle et al. 2007, Logan and Wekerle 2008).

In the case of the Rouge Park, when the *Rouge Park Management Plan* (1994) was introduced proponents and stakeholders recognized that the governance structure would face many questions in terms of management. Several of my interviewees, in particular Jim Robb, Glenn De Baeremaeker, Lois James and Pauline Browes all recall raising questions

⁷⁸ The *Oak Ridges Moraine Conservation Act* was passed in 2001, and its main purpose was to protect both the ecological and hydrological integrity of the moraine. The *Greenbelt Act* was passed in 2005, and protects a much larger area (approximately 700,000 hectares) from further development, and sprawl (Ministry of Municipal Affairs and Housing 2011).

pertaining to which state agency would be given jurisdiction over the park. With its announcement, provincial officials and bureaucrats were facing some key challenges with regards to its day-to-day operation. It should be noted that SRVS's early position was that the park be managed by a provincial level agency.

When the park was opened in 1995, the province's finances and broader economy were in poor condition and thus allocating additional monies beyond the initial \$10 million from the federal government would have been difficult (Mittelstaedt 1995). This is especially true for the provincial NDP, a party that faced a looming election during a period of widespread budgetary cutbacks at numerous state agencies, a rapidly expanding provincial deficit, rising taxes, increasing unemployment, and a growing accusations of fiscal mismanagement, all of which was coinciding with a global recession.⁷⁹ The beginning of such reforms can be traced back to the original *Rouge Park Management Plan* (1994) it states;

With respect to park development and operations, *it is not intended* that the park management entity would necessarily employ sufficient staff to conduct all such operations by itself. Substantial emphasis in doing such work should be placed on involving other agencies, partner groups and volunteers. Some specific functions could be contracted out to private or public sector entities.

(Rouge Park 1994, p. 50, emphasis added)

As noted above, the plan suggests that a substantial focus of the conservation work would be placed on civil society actors and volunteers and thus indicates the neoliberal manifestations within the policy framework, and the overall discourse of how the park was to be managed, governed, and ultimately conserved.

From 1994 to 1995 persistent questions were raised by elected officials and civil society organizations regarding the overall management, staffing, by-law enforcement, and the provision of technical/scientific/planning expertise for the park. Moreover, when the park

⁷⁹ The NDP were defeated in June 1995, and replaced by the Progressive Conservatives who ran on a platform called the 'Common Sense Revolution' promising immediate deficit reduction, lower taxes and cuts to social spending.

was announced many of these fundamental issues were yet to be determined, and negotiated. Perhaps most notable were the questions raised regarding which municipal or provincial agency would be best suited to manage and govern the park. A key excerpt from the *Rouge Park Management Plan* (1994) is as follows;

The Rouge Park is a large and complex area, consisting of many parcels of land under different ownership having varied sensitivities to human use, a wide range of requirements for ecological restoration and management or cultural management, and differing needs for protection. Its management structure must be able to deal effectively with the whole area and its complexities, while remaining sensitive and responsive to the values for which the park was created in the first place. The park management entity must be able to encourage a high degree of communication and involvement with landowners, agencies, groups and the general public. (Rouge Park 1994, p. 49)

It should be noted that the park consisted of a sizeable area of land, much larger than any other Metro greenspace at the time. The park also represented overlapping political, legal and institutional jurisdictions, thus the coordination and management of conservation efforts would present logistic and financial challenges. Stairs (2000) describes the Rouge Park governance structure as a,

Experimental attempt at managing and planning for a park in a multi-jurisdictional context, and represents a significant departure from conventional protected area management models. (Stairs 2000, p. 1)

In the end, the defining factor in determining the exact management and governance structure of the park was the economics of managing such a large greenspace, particularly during a period when there was mounting public concern over the NDP's ability to handle the fiscal challenges facing the province (personal interview, anonymous).

Following the announcement of political support to create a new protected area, while taking into the consideration the recommendations put forth in the initial park plan, the provincial NDP appointed former Toronto Mayor David Crombie as interim park manager, where one of his priorities was to research and present recommendations to the province on the long-term management of the park (Taylor 1995b). In 1995, Crombie recommended that the park be chiefly managed by the TRCA with input from a council of special interest groups. Day-to-day business was to be handled through only a staff of four and a general manager.

However Crombie's recommendations were ultimately opposed by many citizens and civil society actors who had fought for the park from the onset (Jim Robb, FRW, personal interview, 26 June 2008). During my interview with former Scarborough MP Pauline Browes she said, "we wanted the park to be something special. Something more than just a recreational area." (personal interview, 11 June 2010) This concern was also echoed by several SRVS members, who were worried that the TRCA would eventually convert portions of the park into sports fields, and develop numerous concession stands. Finally and perhaps the most salient point raised by my interviewees was that for some reason they could not fully elaborate, they all had a level of skepticism in the TRCA's overall suitability to manage the park. They explicitly expressed concern that if the TRCA were to be given control, it would inevitably lead to a severe reduction in public participation in all aspects of park planning.

In response to such speculation, both the SRVS and local citizens immediately proposed and intensely lobbied public officials that the province establish a separate management team that would serve as the lead for all park relevant activities (Taylor 1995b). After much deliberation, while taking into account the province's fiscal challenges and the call from SRVS for provincial level jurisdiction over the park, the NDP provided a compromise with the creation of a new agency named the Rouge Park Alliance (RPA) as a voluntary partnership organization to oversee the implementation of the *Rouge Park Management Plan*.

The NDP led provincial government believed that the creation of a new agency with a minimum number of staff, in conjunction with the call for an increased role for civil society actors, would provide for the best balance in achieving the goals set out in the plan. It was

also the intention of the province that by creating the RPA it also demonstrated that they had the political knowledge, capacity, and wherewithal to both provide and fund the services required by this new large protected area that they had created. The RPA consists of board members each representing a provincially determined stakeholder group that is involved with the park. Board members are appointed by their own respective organizations and represent all three levels of government, state agencies, and a not-for-profit group. Despite such cooperation between members, to this day the RPA has never been incorporated and is not a legal entity, thus it cannot receive monies. Hence, the original \$10 million granted by the federal government was actually deposited with the Waterfront Regeneration Trust, which is an arms length agency of the province, which was created to coordinate waterfront (re)-development along Lake Ontario and the St. Lawrence River.

This decision to create the RPA specifically to manage and govern the park is notable on a few fronts and raises questions as to what factors were considered by the NDP in deciding that a new agency was necessary. Firstly, the establishment of the RPA is distinctive in that there was already a very well established state agency in place (i.e., the TRCA) that was sufficiently capable in managing the park on both a long-term and day-to-day basis. In fact, the TRCA was created and empowered by the province explicitly to direct, organize and oversee floodplain and valley lands such as those included within the Rouge Park. The TRCA also has the funding resources, and the required staff, with watershed planning, scientific, and technical expertise that is needed to manage the greenspace. Secondly, the creation of a special management body by the province to both govern and manage a specific greenspace is simply an uncommon occurrence in Ontario. Provincially created commissions and arms-length management agencies have been formed and utilized in the past to serve a wide variety of functions and duties often dealing with issues on a regional scale, however, the creation of such agencies by the province is usually contingent on whether or not there is a capable and existing state agency that can fulfill the duties, and in this case the Rouge Park would have fit well with the TRCA's own existing mandate and jurisdiction.

Neoliberal Policy in Ontario

In 1995, after the opening of the park, the Progressive Conservative's led by Mike Harris was elected with a majority.⁸⁰ Upon their victory, the Conservatives immediately began to act on their 'Common Sense Revolution' campaign platform, which proposed completely restructuring Ontario's welfare state and downloading numerous provincial social and environmental functions onto the municipalities. The win also signified a noteworthy ideological swing in the government in power from the former Bob Rae led social democratic NDP. When in power, the Tory government took steps to amalgamate various metropolitan regions including the six boroughs of Metropolitan Toronto, all within the rhetoric of reducing the sizes and overall bureaucracy of local governments.⁸¹ For Harris, Metropolitan Toronto represented wasteful spending with its multiple and overlapping layers of jurisdiction. Inevitably, opposition formed throughout the city but despite many politically charged protests and debates, the new single tier City of Toronto came into existence on January 1, 1998.⁸² The Tories also implemented broad and deep cuts to Ontario's welfare, environmental protection/monitoring, health, and public education systems, the most notable being the elimination of the final year of high school. Many of these widespread government-spending cuts were in response to the broader political economy operating in the region. Most notable was that during the early first half of the 1990s, Ontario was undergoing a severe recession, and dramatically increasing levels of debt at all three levels of government in Canada. It is in light of this particular economic climate that we must consider the governance structure that was put into place for the newly established Rouge Park.

⁸⁰ Mike Harris represented the riding of Nipissing. Harris was Premier from June 26, 1995 to April 15, 2002. His successor Ernie Eves was Premier until October 23, 2003 and succeeded by Dalton McGuinty (Liberal, Ottawa South)

⁸¹ See Sanction (1999, 2005), Keil (2002), and Keil and Boudreau (2005) for a synopsis of the effects and outcomes of amalgamation in Toronto.

⁸² The City of Toronto came into existence via Bill 103 (*City of Toronto Act*) passed on April 21, 1997.

An Uncommon Greenspace

The governance structure lays parallel to some characteristic elements of neoliberal policies of the provincial Conservative government, primarily related to the installation of the RPA to govern and manage the park, as opposed to a recognized state agency it has effectively rolled back its own responsibilities over administration of the protected area. This current arrangement severely limits the overall powers of the RPA to manage a large protected area and presents some unique challenges to both it and the civil society organizations it relies on. The primary constraints to this governance structure are directly linked to the framework of governance and will be outlined below.

Firstly, there is an issue of the undefined responsibility and jurisdictional gaps of the RPA. One example can be witnessed in the recent campaign by park officials to eliminate and reduce numerous unlawful activities occurring within the park such as poaching, illegal dumping, and other activities such as snowmobiling on the river itself. To address such issues, the RPA has recognized the need to establish a conservation officer or ranger program that would help prevent such activities within park boundaries. Yet, the RPA does not have the legal authority to create such a program, and thus must rely on the existing jurisdictional powers of a city (i.e., the police) to curtail such activities which can prove difficult considering these activities most often occur well within park boundaries. Over the past five years, park users have witnessed and have documented illegal activities that include; dumping of different types of household or construction waste; snowmobiling or the operation of ATVs throughout the park; and the year-round poaching of wildlife most notably the bow hunting of large game such as deer (Rouge Park Alliance 2009). Such activities are not permitted in urban areas but due to a lack of institutional coordination, funds and legal powers, the RPA has faced numerous constraints in implementing a park-wide policing/law-enforcement strategy. Despite many efforts in investigating potential solutions, one of which would have seen the implementation of a ranger program, no official park policing initiative has materialized.

In the Canadian experience, protected areas are operated by their corresponding government ministries, which provide a managerial oversight and a direct path for accountability. These ministries are further supported by the work and cooperation of other provincial/federal agencies and institutions. In the case of a voluntary board such as the RPA, where members are appointed by their respective individual organizations, obtaining a broad range of the necessary expertise required to effectively manage park presents several challenges. For example, a similarly sized provincial or federal protected area comparable in size to the Rouge Park, would be able to draw from various ministerial resources and would require expertise in the following fields: ecology/biology, foresters, environmental planners, environmental outreach/education, communications, business and operations, capital maintenance, and human resources. Inevitably there will be variations in the amount of resources that can be drawn upon by either provincial or federal protected areas, however in the case of the governance of the Rouge Park, I argue that when considering the number of visitors, and its current size, the RPA and the current staffing levels is simply not sufficient considering its ambitious goals for restoration and improving ecological integrity. This governance structure has resulted in some noteworthy jurisdictional policy overlaps and gaps and has ultimately raised the RPA's collective concern over the park's long-term financial and ecological viability. Since the RPA consists of a board representing multiple state agencies and all three levels of government, the organization is often in a position of trying to convince, negotiate, and justify its various conservation and policy goals to all of its members. It should be noted its governance scheme is different from the management models of other protected areas, such as provincial or national parks where specific state institutions have a clear jurisdiction and decision-making power. (i.e., Ontario Provincial Parks fall under the direct command and control of the Ontario Ministry of Natural Resources)

The fundamental difference in the case of the governance of the Rouge Park is that since the RPA is not a legal entity it is unable to own or have jurisdictional powers over the land that it is set out to protect (Rouge Park Alliance 2010). For example, the RPA could never purchase a property it was interested in acquiring, but rather it would have to do so through the appropriate processes of the agency that had jurisdiction over the land (i.e., the TRCA, or another municipality). The RPA relies on the powers, abilities, and jurisdiction of its

volunteer board members and their related agencies to both manage and govern the park. This management structure where conservation tasks are doled out to the various member agencies has led to both overlaps and gaps in terms park responsibilities.

Due to its legal limitations the RPA merely exists as an advisory committee and is not a true decision-making board. Within the conservation literature these types of protected areas are pejoratively referred to as ‘paper parks’, which can be described as areas that have been formally declared for the protection of nature, but are ineffectual at providing adequate protection (Brandon et al. 1998, Bruner et al. 2001). Paper parks have been the focus of much research and interest especially in less developed regions, however the term is also applicable to developed western countries as well.⁸³ Although existing municipal by-laws and provincial laws are in place and encompass the Rouge Park, the decisions made/passed by the RPA are not binding and effectively serve as advice to be carried out by individual RPA members. Since its establishment the RPA has been able to get around these legal shortcomings by simply relying on the legal powers/accountability of its member organizations. Not having legal status has presented challenges especially when negotiating and acquiring land to be added to the park, and perhaps most importantly it has led to fragmented decision-making with regards to overall management.

Despite such constraints, groups working within the park have achieved some significant conservation goals while working within the broader mandate of the RPA. Notable examples include: the reclamation of the Beare Landfill and the creation of the Beare Wetland by Friends of the Rouge Watershed; the planting of 145,000 trees and the reclamation of 60 ha of land by 10,000 Trees for the Rouge; the restoration of an 19th century farmhouse within the park by the Rouge Valley Foundation, which was established as the Rouge Valley Conservation Centre; and the training of volunteers by Citizen Scientists, in the implementation of a certified government protocol in order to accurately monitor stream parameters aiding in the creation of a specialized database.

⁸³ In a study commissioned by the IUCN, Dudley and Stolton (1999) report that less than 25% of protected areas in 10 developing countries were adequately/effectively managed, and that more than 10% of these parks were thoroughly degraded.

As shown in Table 7, the majority of the work and activities done by civil society actors is not directly replicated in any extensive manner by the RPA or any one of its stakeholder members, and thus reveals some key elements of neoliberalism as identified and described by Peck (2010), Peck and Tickell (2002), and Castree (2008b). Castree argues that one characteristic of the roll-back of state involvement will result in the increased involvement of civil society, which was clearly evident in this case study. Likewise, Peck (2010) states that regulatory restructuring ultimately culminates in a roll-out phase of neoliberalism, which results in the identification, and empowerment of local-level community organizations to provide flexible and low-cost service. Simply put, this is precisely what has happened in the Rouge Park, that civil society groups and their respective volunteers are responsible for a majority of ecological restoration and monitoring activities within the park, and this is a characteristic element of the roll-out phase of neoliberalism.

Finally, this particular governance scheme presents distinct financial challenges to the civil society groups working in the park. The RPA's primary source of funding comes from modest grants from various state agencies, and the interest gained from the initial \$10 million provided by the federal government, and although it has continually managed to balance its budget, civil society groups must apply for RPA funding on a year-by-year basis. This current arrangement was identified as a principal constraint and stumbling block by interviewees from all civil society groups working in the park, who state that the establishment of an ongoing funding commitment from the RPA would help with their overall long-term planning, staffing and resource allocation goals. Furthermore, over the last decade as the park has become more visible to the general public there has been an increase in the number of groups interested in and applying for RPA funding, and as a result some organization have turned to other public, corporate, and private sources to ensure that they can continue their work in the park.

Table 7: Current civil society groups involved and working within the Rouge Park. Despite the stated funding constraints the overall number of groups working in the park remains steady.

Group Information	Primary Activities in the Rouge Watershed	Activity Replicated by Rouge Park or any other agency
Rouge Park Alliance Established 1995 7-9 staff	Serves as chief liaison of the Rouge Park. Primary goals include the protection and enhancement of the natural, cultural, and scenic values of the park. Objectives include; protection of natural heritage, identification of cultural heritage, land use planning, provide recreational opportunities, promote interpretation, and general park management. (Rouge Park 2011c)	n/a
10,000 Trees for the Rouge Established 1989 Not-for-profit 2-5 staff	Organized one-day tree planting during Earth Week that attracts 1500-2000 volunteers each year. Other activities include, watershed restoration and hands-on education and stewardship. The group is an offshoot of Save the Rouge Valley. Key achievements include the planting of 145,000 trees covering an area of 60 ha (Colin Creasey, 10,000 Trees for the Rouge, personal interview, 8 August 2008)	No
Citizen Scientists Established 2001 Not-for-profit 2-5 staff	Provides long term ecological/habitat monitoring and stream surveys, environmental training and education. Established a provincially certified government protocol to monitor various stream parameters at numerous sites along the Rouge River. Volunteers are trained in the Ontario Stream Assessment Protocol (OSAP), a program created by the Ontario Ministry of Natural Resources. Key achievements include the establishment of long term data trends that help provide a more detailed understanding of stream ecology and overall health of its associated ecosystem (Citizen Scientists 2010).	No
Friends of the Rouge Watershed Established 1991 Not-for-profit 3-5 staff	Contributes to cultural heritage conservation, habitat enhancement and restoration, and watershed and park planning. Organizes a wide variety of planting events with community groups, schools, and other private sector organizations. Key achievements include the creation of the Beare Wetland, and the Reesor Wetland (Friends of the Rouge Watershed 2010).	No
Rouge-Duffins-Greenspace Coalition Established 2003 Not-for-profit 1-2 staff	Activities include advocating for the protection of greenspace/farmland resources and sensible urban planning.	Yes

Rouge Valley Foundation Established in 1984 Not-for-profit 2-4 staff	Primary activities include, environmental education and trail rehabilitation. The group also helped in establishing The Upper Rouge Network, which provides conservation and local history tours. Key achievements include the maintenance and restoration of the Rouge Valley Conservation Centre located as the James Pearse Jr. House, which serves as an information center, and provides office space for other groups. (Rouge Valley Foundation 2010)	No
Rouge Valley Naturalists Established 1994 Not-for-profit 2-4 staff	Preservation and restoring the natural heritage of the Rouge watershed. Provides environmental education and interpretive nature trail walks. Works with community/school groups. (Rouge Valley Naturalists 2010)	No
Save the Rouge Valley System Established in 1975 Not-for-profit 3-5 staff	Initial civil society group formed advocating for the protection of land in the Rouge Valley watershed from development. Rehabilitation and restoration of wildlife habitat. SRVS also aided in establishment of the Friends of the Rouge Watershed. Key achievements include, the official recognition and establishment of the Rouge Park (Glenn De Baeremaeker, SRVS, personal interview, 18 September 2008)	No
Ontario Streams Established 1995 Not-for-profit 5 staff	Conservation and rehabilitation of streams and wetlands. Aquatic ecosystem rehabilitation throughout a variety of waterways throughout the GTA. Projects include tree planting, stream clean-up, bioengineering, biological monitoring, mitigating fish barriers, and wetland restoration/creation. (Ontario Streams 2010)	No

In addition, the financial constraints have also severely limited the RPA from expanding its staff to a level that reflects the park's growth through recent land acquisitions. Currently, the staff consists of various managerial, outreach and education positions. The plans that govern the overall direction of the park are certainly both broad and comprehensive, especially considering the amount of land included within the park. Thus, to achieve these conservation goals, specialized technical and scientific expertise are required, including foresters, ecologists, biologists, hydrologists, planners, archeologists etc. Such expertise is not fully met by the current staff, and as a result civil society organizations working within the park are left to find, fund and source such expertise on their own. Dealing with and negotiating this lack of expertise has been identified by interviewees as another hurdle, primarily due to the limited finances of such groups. Colin Creasey of 10,000 Trees for the Rouge states that

in order to secure funding from the RPA and outside sources, the site plans for all plantings require the approval of a certified forester. Such a requirement, is another significant cost and potential liability that civil society organizations must deal with (Colin Creasey, 10,000 Trees for the Rouge, personal interview, 8 August 2008)

The Call for a National Urban Park

In the years that followed the official opening, the number of civil society groups who became involved with the park increased. These groups provided a wide range of tasks and services related to its day-to-day operation such as tree and wildflower planting and yearly flora and fauna surveys. Due to the increase in the number of groups interested in working in the park, it predictably resulted in increased competition over the number of grants available for the public. The yearly application process for funding proved to be a tremendous constraint for some of the smaller organizations. This observation was re-iterated by several interviewees, who stated that a lack of stable long-term funding greatly affected their ability to achieve their goals.

In an effort to address some of the limitations inherent in the park governance structure, several of the RPA's civil society partners began to investigate other management and models that could be implemented. In particular, they examined the potential for turning the park into either a provincial or national park. The impetus to find a new governance structure for the park was by no means an overnight phenomenon rather, it was the result of an ongoing dialogue primarily between civil society groups and local citizens already spending time and volunteering in the park. These concerns and statements are becoming more relevant and acute considering that the number of visitors is increasing as a result of the intensification of development that surrounding the park.

I asked several of my interviewees if they could identify who was primarily responsible for initiating a dialogue regarding the park's governance model, and each stated that there was a collective and continuous discussion over the last five to six years between their individual organizations and the members of the RPA. Although I could not specifically confirm a

particular individual or groups responsible, my own personal observations and field notes obtained from attending RPA meetings, reveal that the most vocal and outspoken organizations and local citizens where either affiliated with or volunteers of FRW and/or SRVS. It should be mentioned, that both of these organizations over the past decade have also been the most publicly visible, and most political, and have called for a re-examination of the RPA and its role within the context of achieving its long-term goals. Such proposals to upload the overall responsibility of the park to either provincial or federal jurisdiction would also represent a reversal of SRVS's early position that called for more local level control and involvement when the park's governance plans were being negotiated. The proposal is also telling in that the civil society groups who initially fought for more involvement and participation in planning/management from the onset, have come to the realization that the park would be in a more favourable future position within the purview of a higher-level state agency. Moreover, three anonymous interviewees who have worked in the park have explicitly stated that they believe that the current RPA model of governance presents significant challenges with regards to the organization's overall suitability to carry on the day-to-day management of such a large greenspace. In addition, these individuals have also raised concern over the current application process and the overall limited financial resources of the RPA represents a significant constraint in achieving its ecological integrity and rehabilitation goals.

The interest by civil society organizations to address the shortcomings of the RPA eventually prompted them to form a 'National Park Now Committee', which was a completely independent entity from the RPA. The committee's mandate and goal was to lobby, make connections and foster community dialogue, to build support for the idea that the Rouge Park be transitioned into a national park. The committee launched a website⁸⁴ highlighting noteworthy signatories such as city bureaucrats and other elected officials/parties who supported their cause, and further made a call for volunteers to initiate a community outreach campaign that included the distribution of printed material to individual households (Rouge

⁸⁴ The www.rougenationalpark.ca website was accessible from 2008 to 2010. As of this writing the website domain is no longer accessible.

Valley National Park Proposal 2009). Eventually, the committee put forth its case through an extensive presentation to the RPA.

From the onset the committee was able to secure commitments and signatures from nearly all of the elected officials (from all three levels of government) who were on the RPA. This level support from RPA members eventually prompted its board to undertake a review of their overall governance and financial situation.⁸⁵ The RPA solicited consultants in August 2009 to examine the issue and the completed report titled, *Governance, Organization and Finance Review of the Rouge Park Alliance* (2010), was submitted to the RPA in February 2010. The report brought to light several shortcomings of the governance and finance structure and further recommended that the park seek a new governance model. Specifically, the report called for a ‘new founding deal’ that would allow the park to achieve its core goal of improving the park. One of the key recommendations put forth was for the park to be transitioned into Canada’s first national urban park (Rouge Park 2010b).

The report states that if it was to become a provincial or national park, the governance scheme would be decided by the appropriate ministry or government agency that has the appropriate jurisdiction in protected area management (i.e., Ontario Ministry of Natural Resources or Parks Canada at the federal level). Upon the release of the report, nearly all of the civil society groups working in the park supported and endorsed the recommendation to seek federal approval to create a new national park in the Rouge watershed. The call for a national park even caught the attention of other noteworthy national environmental NGOs, such as the David Suzuki Foundation and has provided organizational support and resources to the RPA in an effort to engage and galvanize support at the federal level.

In the spring of 2011 a federal election was called and the push to create a national park came to the forefront of the political agenda. Nearly all of the candidates representing the major federal parties in the ridings located in or near the valley, pledged that if elected they would support the creation of a new national urban park. After winning a majority, the

⁸⁵ The RPA board unanimously carried a motion that the Organization and Finance Review Steering Committee examine possible governance and financing models for the creation of a National Park (RPA Minutes - Meeting #2/09 2009)

Conservatives indicated their support for protecting the Rouge watershed in the Speech from the Throne;

In this, the 100th anniversary year of our national parks system, our Government will create significant new protected areas. It will work with provincial, regional, municipal, Aboriginal and community stakeholders toward establishing an urban national park in the Rouge Valley of eastern Toronto. Looking to the future, our Government will engage a broad range of stakeholders on the development of a National Conservation Plan, to move our conservation objectives forward and better connect all Canadians with nature.” (Government of Canada 2011)

On June 17, 2011 the RPA Annual General Meeting featured Federal Environment Minister Peter Kent (Conservative) said;

This will be a National Park like no other...we are going to move ahead on this very quickly. Parks Canada is keen on making this happen and the park can be used as a stepping-stone for other parks in Canada. (Peter Kent, Rouge Park AGM, Scarborough ON, 17 June 2011)

Despite the broad support at the federal level of government for a new national park, achieving that goal is still several years away and will require extensive negotiations and widespread public consultation. Creating a new national urban park would require new federal legislation and broad cooperation from a number of federal and provincial ministries. I expect that transitioning the Rouge Park may present unforeseen challenges as the situation calls for the conversion of an existing protected area, one that may be considered unconventional in its own right, into a new class of national park. A key constraint would be negotiating the purchase of land from a wide variety of private landowners. Current landowners include all three levels of government and other public agencies such as the TRCA. Negotiations would also need to be made between the province and the large areas it owns. As witnessed in the Rouge Park’s own political and social history, deciding what land to include/exclude and where to precisely delineate the boundaries will inevitably result in

disagreements and disputes between both productivist and nature conservation interests. I further speculate that post-productivist interests manifested as rural gentrification and the future development of luxury estate housing in the northern reaches of the watershed may also feature prominently throughout policy deliberations. Moreover, I contemplate that the policy process of deciding the park's boundaries, and the ensuing environmental contestations that follow may resemble the highly charged and fiercely contested political process seen during community consultations for Ontario's Greenbelt (Gilbert et al. 2009).

Furthermore, there are disparate land uses and designations in the park, and questions would have to be raised regarding the overall suitability of including these areas. The park contains residential areas and other buildings such as churches and community centers. It also contains numerous kinds of businesses including an auto wrecker, farms/agribusinesses, a cemetery, the Toronto Zoo, and the closed Beare Road Landfill. Questions regarding the overall suitability of including these types of contradictory land uses in a national park will inevitably have to be debated and fleshed out by politicians, bureaucrats, civil society actors and the public. On the other hand, since establishing a national park would likely mark the creation of a new class/type of near urban protected area for Canada, accommodating these somewhat non-traditional activities and land uses may actually represent a significant benefit and go a long way in promoting its uniqueness and elevating its status on a national and international scale. Other practical constraints of transitioning the Rouge Park may include making decisions on where to locate physical infrastructure such as parking lots, washroom facilities and interpretive/visitors centers. Currently, the park's office is located in Aurora and eventually a move to a space near or inside the park would seem logical. Other pressing issues facing the transition, are the same salient ones that are facing the current park including the funding and financing of the entire enterprise during a time of widespread federal austerity measures.

During numerous informal interviews with locals regarding the national park, citizens expressed concern over the possibility that the park would become less accessible and that bringing the governance structure into the fold of federal level jurisdiction would in turn result in a dramatic increase in bureaucracy. During one RPA meeting, several citizens stated

that they wanted assurance from the RPA that future access to the park would remain free of charge as it is currently. The prospect of introducing user fees (even nominal ones) either directly or through any other means such as pay parking was considered a non-starter by all those that spoke to me. Citizens not affiliated with any civil society organization working in the Rouge further raised questions and were apprehensive at the prospect that the new protected area would be handled by a federal agency with no real/tangible ties to the current park and that managers and key decision-makers would be located in Ottawa.

Despite these reservations, members of the National Park Now Committee have fully welcomed and endorsed the most recent federal government interests to convert the park into a national park. FRW member Jim Robb states;

From the beginning, I believe that it was always perceived that the (Rouge) Park would get National Park status. We need an open planning process as we have 15 years of work that has to be considered. (Jim Robb, Rouge Park AGM, Scarborough ON, 17 June 2011)

Robb's comments regarding the past involvement of civil society actors highlights perhaps the most important challenge facing future park managers, that being how to find ways to incorporate and further enhance spaces for participation by local citizens. My research in this case study shows that the involvement of civil society has resulted in positive measures and collectively these actors represent a strong community motivator with regards to enhance its ecological integrity and further developing plans and initiatives to improve visitors' experience.

Inevitably, the establishment of a new class of national park (i.e., a near urban park) would also set a precedent for other Canadian cities seeking a similar protected greenspace. This proposal to create a new classification of protected areas adjacent to Canada's most urbanized region, would represent a dramatic achievement for conservation efforts and perhaps more broadly the environmental movement in Canada. Symbolically, achieving national park status would undoubtedly elevate Canadians' perception of the Rouge River Valley. Likewise, on an international scale a national park would gain the attention of other

national-level governments and their respective municipal counterparts interested in examining the potential intrinsic and human health benefits associated with having close and easily accessible greenspaces. Such a large greenspace would also be framed as a public good, with the potential to significantly contribute to improving the quality of life of local residents, through various outdoor recreational activities. Taking these factors and benefits into consideration, I also foresee the park being marketed as a tool by different stakeholders, to lure investment, jobs, and skilled workers within the context of maintaining the broader region's position within a highly competitive global economy.

A new national park would also present a significant opportunity to secure a large amount of 'natural capital' for both the GTA and for southern Ontario. The theoretical underpinnings of examining landscapes using a natural capital approach were founded in the transdisciplinary field of ecological economics and other theories based on the calculations of ecological footprints and determining Earth overshoot dates. Over the past decade, there has been much research and interest in calculating and monetizing the benefits and services that are derived from natural ecosystems (Aronson et al. 2007). Currently the Rouge Park encompasses a landmass of approximately 46 km² and is surrounded by mostly urbanized areas. The ecosystem services provided by that much land have yet to be fully quantified, but preliminary work by the David Suzuki Foundation states that the park represents a 'Fort Knox' of ecological services which may represent up to \$2.6 billion worth of natural capital in Ontario's Greenbelt alone. (Faisal Moosla, Program Director David Suzuki Foundation, Rouge Park AGM, Scarborough ON, 17 June 2011).

In addition to all of the above-mentioned social, economic, and even political benefits, a federally protected park would possibly provide far more resources that could be deployed in terms of scientific research, monitoring and policing/law enforcement. It is conceivable that an increase in the operating and capital budget of the park would likewise translate into an increase in staffing levels and thus aid in ensuring the protection of critical aspects of its ecological integrity. For example, a park ranger program has been long planned by the RPA, however due to jurisdictional questions, liabilities and concern over excessive costs, such a program was never launched. Unlike the RPA, as a federal agency Parks Canada has

particular expertise and can draw from past experiences to implement law enforcement initiatives to help manage an increase of visitors. Furthermore, increased enforcement and the presence of park staff will serve to limit illegal activities while increasing public safety for all.

In the end, the long-term success of establishing a national park will inevitably come down to the overall implementation. The results of my research shows that civil society organizations have been effective and have played a significant role in helping the RPA achieve its various goals. Clearly there is a synergy and tangible benefit in the level of cooperation with the RPA and both its member representatives and civil society partners. The proposal to convert the Rouge Park into a national park is still in its infancy⁸⁶, but considering the long and active history civil society actors have played in shaping the greenspace we see today, looking forward I strongly believe that carefully incorporating their input during public consultations will prove critical. As discussed in Chapter 6, civil society actors themselves have become experts regarding the park, and are fully knowledgeable of its current strengths and challenges. Early SRVS member Lois James states;

The plans for a Rouge National Park are certainly ambitious, and I hope that it does happen. What I would really like for it to have is a clear role for the public to become involved again in it's planning. (Lois James, SRVS, personal interview, 10 August 2010)

Although the process is not rigid, extending the criteria to fit greenspace within or adjacent to densely populated areas presents some novel possibilities for protected areas, and will represent an achievement for Canada's national parks history. In 2012, Parks Canada began hosting a series of public forums that featured a visioning workshop, meetings with First Nations, and a youth forum (Parks Canada 2012b). The primary goal of these meetings was to solicit comments and to consider how this new protected area would achieve Parks Canada's mandate of education, protection and visitor experience.

⁸⁶ On 25 May 2012, the federal government announced \$145 million in funding to support the creation of the Rouge National Urban Park (Parks Canada 2012a).

Neoliberalism and its Lessons

In this chapter, I examined how the governance structure of the Rouge Park has resulted in what amounts to neoliberal conservation policy yet, despite its apparent shortcomings this case study can provide some important lessons. Firstly, it is evident that the participatory nature of the park's governance structure has provided numerous opportunities for different levels of governments and civil society actors to play a critical role in the all facets of park management. Ultimately this governance model has opened up key spaces for participation for many types of environmentally oriented civil society groups in the GTA. These spaces of engagement and those public participation processes that allow for civil society actors to participate are becoming increasingly relevant in understanding how change occurs on the neighbourhood scale (Sorensen et al. 2008). Research by Sorensen and Sagaris (2010), on neighbourhood civil society participation report that those organizations that exhibit institutional memory, self-governance capacity and visible signs of expertise have the potential to generate a strong claim to the 'right to the city'. The authors add that the conceptualization of the right to the city has served as an elusive concept, and that it is fundamentally different from human rights or any other types that are protected by laws or treaties. Therefore, the right to the city, at its core represents a fundamental collective right to democratic engagement in the governance of public spaces.

I argue that the right to the city is centered and can be precisely defined through the actions and activities of civil society organizations, who represent the stakeholders that have the most invested in creating and shaping local places, with an eye on the future long-term sustainability and livability of their respective communities. The results from this case study support some of their observations, in particular when considering the multitude of activities and duties done by civil society actors. The overall success of those groups working in the park serves as an example of the broad potential of community scale bottom-up processes of citizen engagement. These civil society organizations working in the Rouge also exhibit the characteristics identified by Sorensen and Sagaris (2010) in that several of the groups exhibit tenacious self-governance capacity and robust levels of expertise. I further argued in Chapter 6 that the overall competence and facility to examine science and 'do' science, has served as

a significant factor in their overall success of these groups. The arrangement of the RPA has also provided higher levels of stewardship over their respective projects.

In this case study, several civil society actors are actively involved in a wide range of activities related to park management and work alongside park staff in working towards the achievement of conservation goals. The participation of civil society actors working in the park may be traced back to when concerned citizens formed SRVS in the 1970s and the level of civil society involvement was further facilitated by the character of the initial *Rouge Park Management Plan*, which specifically called for the participation of volunteers and other third party agencies. The degree of involvement of civil society organizations is made possible primarily through various RPA funding initiatives, which encourage organizations to submit proposals for project funding on a year-by-year basis. It is through such funding the RPA has both helped foster the development of and attract some exceptional organizations into the park.

It should be noted, that not all community level engagement processes exhibit the relative success and civil society participation exhibited in this case study. Further research is required to examine the particular institutional history and state initiatives that enable the establishment and empowerment of neighbourhood-scale citizen groups. In order to achieve higher levels of meaningful participation, we need to better understand the needs and requirements of civic organizations with respect to how they engage with both formal and informal decision-making processes. Clearly, the state will play a significant role in facilitating public participation, however the challenge is to make certain that civil society groups will have access to necessary institutional tools and expertise frameworks that they will inevitably require in order to participate at a significant level. For example, the group Citizen Scientists relies on its volunteers to receive training through the Ontario Ministry of Natural Resources Stream Assessment Protocol. Thus, having continued access to such institutional/state initiatives and accreditation is important for this group, and the province should consider and examine how this particular program could be further publicized or tailored to the needs of other organizations working towards similar goals. Furthermore, having access to such programs and other institutional tools serve to reinforce the activities

and actions of citizens and may ultimately reinforce their legitimacy to the public/media and provide them with more sway in their communities.

Secondly, this case underlines how park governance models are grounded locally and should be thought of as being historically contingent, and are continually evolving with respect to the given political/economic climate and the given political parties in power. The park's governance structure was finalized during a period in the mid-90s when a newly elected provincial conservative government immediately began reducing ministry budgets. Such developments must be considered when evaluating how this particular greenspace was managed. The chosen governance structure amounts to low-cost conservation, where the primary activities related to achieving both the short and long-term management goals of the park are dutifully completed by civil society organizations and their volunteers.

The shortcomings in the overall governance structure is further highlighted when compared to two other more recent environmental protection initiatives announced in Ontario, beginning with the establishment of the *Oak Ridges Moraine Conservation Act* in 2001, followed by the *Greenbelt Act* in 2005. Lands covered by the *Greenbelt Act* actually encompass much of the Rouge Park, but in practice the legislation is specific only to land use planning, as opposed to how individual protected, wilderness, or conservation areas are to be managed at the local scale. In granting protection for both the Oak Ridges Moraine and the larger Greenbelt the province has chosen a more powerful governance structure compared to the Rouge Park. The primary difference is that the moraine and the greenbelt are backed by specific legislation and empower a ministry to roll-out and administer the legislation while making use of ministerial experts, such as lawyers, planners, conservation managers, foresters, technicians, and scientists.⁸⁷

Taken together, both pieces of legislation provide powerful tools in directing and ultimately shaping greenspace planning in the province. Sandberg and Wekerle (2010, p. 7) have commented that the state has implemented uniquely "neoliberal policy actions and discourses

⁸⁷ In the case of the Ontario Greenbelt and the Oak Ridges Moraine, both acts and their related plans and policies are administered by the Ministry of Municipal Affairs and Housing, which is the lead institution chiefly involved in land-use planning in the province of Ontario.

that permeate and surround the Moraine legislation.” Other studies have highlighted the neoliberal policy arrangements that have been actualized through implementation of the greenbelt and moraine legislation, and how the policies have facilitated growth/rural gentrification through landform anesthetization and privatized/voluntary forms of conservation (Sandberg and Wekerle 2010, Wekerle et al. 2007, Logan and Wekerle 2008).

Conclusion

Generally, neoliberalism is associated with privatisation and commodification and is connected with the politically motivated hollowing out of government, and the eventual involvement of private industry to provide and maintain services. However, another characteristic of its implementation involves a shifting of responsibilities and jurisdiction of the state to civil society and other non-state actors. Scholars of critical geography have explored and linked the process of neoliberalisation with the concept of a ‘shadow state’, where NGOs and their volunteers with government funding are increasingly responsible for doing the work that was once exclusive to the state (Perkins 2009, Wolch 1990). Examples may include the delivery and execution of social programs or the management of greenspaces by civil society actors or other quasi-state partnership bodies. In Ontario, the province has a history of creating and relying on such partnerships to help manage its greenspaces. The formation of the Oak Ridges Moraine Foundation, and the Friends of the Greenbelt Foundation are examples of not-for-profit quasi-state institutions responsible for dispensing millions in government funds to a wide variety of organizations. These groups then rely on the active citizenship of their volunteers, to fulfill the mandates and goals of their granting institutions. This scenario is further complicated with the established need of conservation managers to increase both local level decision-making and participation. However, simply deferring to such a position may serve to mask a neoliberal hegemony of relying on volunteer labour to achieve the goals of the state.

The marketisation of the greenspace as a near urban national park serves to further aestheticize both its real and perceived value(s), further branding the landform as a ‘good’ that can ultimately pay dividends to the urban population. The park is further imagined and

promoted by the RPA as providing a north-south biological corridor bridging both the Oak Ridges Moraine and Greenbelt from the north, to Lake Ontario to the south. This branding of the park as a significant bioregional landform and a potential future national park is pervasive throughout the organization and evident through its motto ‘Wild in the City!’, which is promoted on its website, extensive roadside signage, publications, and media releases. Taken as a whole, this marketisation of the park echoes the observations of Laidley (2007) regarding the on-going redevelopment and planning of Toronto’s waterfront. Specifically, the usage of nature as a distinct tool that may ultimately serve and mobilize development and investment, and raise a city’s regional and global competitiveness. Furthermore, branding the greenspace as a near urban national park further typifies how neoliberal forces play out locally, and how such aestheticization helps facilitate a discourse of a metropolitan region in need of re-representing, reinvesting and revitalization (Brenner and Theodore 2002).

Studying the effects of neoliberal policy measures on the local scale presents several different avenues of inquiry. Researchers using this theoretical framework may be interested in the underlying causes or the localized effects of neoliberal policy. Castree (2008a, 2008b) reports that scholars examining neoliberalism and nature have revealed widely varying outcomes, which are relevant at different temporal and spatial scales. This key observation supports some of the findings of this research especially with regards to the temporal analysis. In particular, I showed that the effects and outcomes of neoliberal conservation measures (i.e., roll-out) might only reveal their shortcomings years after they have been established. Moreover, the neoliberal approach of the RPA governance scheme has either failed or faced such serious limitations that changing it to national park became necessary. As in any natural or social system, the processes and effects of neoliberalism are inherently complex, and merit further investigation.

This case study indicates that the governance structure chosen for the Rouge Park was successful for its broad inclusion of civil society actors and these groups provided tangible benefits at the onset, all at a relatively low cost. However, when converted to national park it will grow in both size and status, and a careful re-evaluation of its relative dependence on its civil-society partners will be required. It is evident that civil society groups can provide

distinct benefits to the management and improvement of greenspaces, however their overall efficacy may be limited by the financial, jurisdictional, and perhaps most importantly the legal decision-making powers of the institution selected to coordinate their efforts. Furthermore, as the park transitions to a national urban park, new questions will arise regarding the roles and actions of civil society involvement in the greenspace. In this case study, the lack of formal legal powers of the RPA presents a notable constraint. Furthermore, both the province and their municipal counterparts should look for new opportunities to support and sustain the work of its partners. Changes such as, streamlining the funding application process and establishing a stable multi-year funding strategy to groups who are involved in the day-to-day operation of the park, would surely help plan for and achieve the long-term goals of key groups.

Ultimately, the plan to establish a national park would represent a complete shift of the governance and management structure of the Rouge Park, namely that a distinct federal agency would assume direct responsibility and jurisdiction over the greenspace. This is notable since the public successfully uploaded the responsibility of the park from the primarily volunteer-based RPA, to Parks Canada. Moreover, it reveals a process of how certain aspects and elements of neoliberalism (i.e., the roll-out phase and the reliance on civil society) have been somewhat scaled back primarily through the direct involvement of civil society. However, it should be noted that Parks Canada is also subject to neoliberal pressures and therefore can also be potentially affected by varying levels of future privatisation with respect to its day-to-day and long-term operations. Such a scenario is especially conceivable considering a recent \$29.2 million budget cut at Parks Canada, resulting in hundreds of layoffs at the agency (Canada Newswire 2012). Establishing a national park has the potential to undermine the positive outcomes related to the increased opportunities for local civil society participation that was inherent with the former RPA governance structure, because the new framework will make the park a part of a much larger state agency. As a part of Canada's national park system, the greenspace will be subject to larger bureaucracies and federal level political pressures, and this has the potential to significantly undermine civil society engagement in the park. In this case, the direct action of civil society ultimately led to the creation of the park, and this level of public interest has served as a significant motivator

for these groups to remain committed to the greenspace. Even though many of the civil society groups support the national park concept, potentially these groups may be faced with new challenges with respect to maintaining their previous level of involvement.

In this chapter, I reveal a neoliberalisation of conservation with the creation of the RPA, a unique state created institution with no legal powers, to serve as the lead agency for civil society groups who do a disproportionate amount of the restoration, monitoring, and visitor engagement. In this case, neoliberalism permitted new spaces for civic engagement for over a decade for environmental planners and resource managers seeking to incorporate the ideas and energy of the local community. This kind of neoliberalism is not without risk, especially when considering how the park could be affected if civil society reduced or ceased its involvement. It should be noted that the case of the Rouge Park is uncommon in that it began with a small number of highly dedicated citizens who remained involved for decades. Without this ongoing level of commitment (both in domain and scope) it is conceivable that the greenspace would not exhibit the level of ecological integrity or restoration it does in its current form. In addition, with the creation of the RPA, an agency without formal legal powers, it presented distinct challenges for officials to effectively and efficiently manage this large protected area. In the end, this case study presents an important opportunity to learn about the changing ideas of how urban greenspaces can be managed through a particular public-state partnership, and is one occasion where neoliberalism can be considered to have a positive outcome

CHAPTER 8

CONCLUSION

The chief focus of my research was to investigate how metropolitan regions can conserve greenspaces. Specifically, I showed how civil society actors could play a major role in the creation and management of greenspaces. My primary research question focused on identifying the strategies, methods, and arguments that enabled civil society actors to strengthen their case as to why the Rouge Valley needed protection. The fundamental contribution of this dissertation is that I demonstrated the importance of science and scientific experts in the policy formation process, and in particular highlight how civil society actors utilized scientific expertise to build their case for conservation. Placing a focus on science presented a powerful tool for those actors involved in the battle for a new protected area. Science shaped the activities of Save the Rouge Valley System and many of the other civil society groups that followed. Most importantly it has helped ground the broader cause and movement to protect the entire watershed, while helping to establish a discursive strategy that has been carried forward by virtually all of the organizations involved with the park today.

In Chapter 6, utilizing a typology of Rouge watershed planning case studies (Table 6), I provided three distinct ways in which civil society actors specifically made use of scientific expertise and science to support their efforts. When civil society actors participate and take part in scientific activities, they not only produce data and knowledge but more importantly it legitimizes their cause, authority, and position to the public. Fundamentally, this high degree of involvement serves to make civil society into scientific experts themselves. These findings are significant as they support the body of social movement and political mobilization literature that highlight the actions of civil society actors in local level neighbourhood change. Do we learn anything new? Does scientific expertise help in shaping the debates and struggles that civil society lobbies for and understands? The impacts of the science and

ecologically-based approach utilized by civil society organizations, in particular, which groups lasted over the long-term, will be explored in the next section of this chapter.

In Chapter 7, I investigated how the Rouge Park is governed and observed the actions, roles, and responsibilities of government institutions and other non-state actors. Drawing from critical geography perspectives, with a special emphasis on the roll-back of state responsibility in both environmental governance and management, I reveal that the governance model of the park was heavily influenced by the social and political factors of the day. In particular, I presented evidence that the management model of the park exhibits characteristics consistent with those of neoliberalisation, and in particular state retrenchment. I showed that the provincial government's fiscal situation and broader political economy were significant factors in selecting a primarily volunteer based governance model, that surprisingly had no legal powers. Despite the apparent shortcomings of the governance, it has provided new spaces of engagement and novel opportunities for civil society actors to shape their neighbourhoods and communities. This case study also reveals the alternative prospects and methods in which urban greenspaces could be managed through the involvement of other non-state actors. This is an important finding, because state retrenchment had a positive outcome, in that it provided openings for civil society actors to contribute to the creation of new ideas and priorities in terms of park management. However, we must be mindful of conservation schemes that rely heavily on the work and activities of civil society groups as not all may display the intuition durability, tenacity, and perseverance of those examined in this case study.

Another goal was to highlight how the public can work alongside government agencies, while evaluating the efficacy, involvement, and overall suitability of civil society groups as key actors in local level environmental management. My results support Tarrow's (1994) concept of cycles of protests, in that successful civil society organizations will need to endure several political terms and will eventually be required to capitalize on specific windows of opportunity. My observations also reinforce Castells' (1983) identification of three key themes of modern urban social movements. Particularly, that demands and protests over collective consumption can serve as a powerful motivating force for civil society, and that

the actions of these stakeholders have the potential to shift/alter their relationship with the state. This dissertation also showed that civil society groups are capable of undertaking a wide variety of conservation activities and exhibit a high degree of institutional memory and capacity for self-governance. I also showed how protected areas could be managed through un-conventional governance models that incorporate distinct partnerships between civil society and other private and public stakeholders. I revealed the substantial role of locally-based civil society organizations that are engaged and have heavily invested their individual resources to improve the greenspace, ultimately working alongside the Rouge Park Alliance in an effort to achieve its ambitious goals. It is important to consider that the park might not exist without the initial and continuous efforts of civil society actors.

Science as a Strategy for Civil Society

It is recognized that civil society actors represent an important stakeholder in managing local level urban change (Hall 1995, Douglas and Friedman 1998, Sorensen et al. 2008, Innes and Booher 2005) Likewise, in disciplines such as urban planning, policy studies, and protected area management there is a long and extensive history that recognizes civil society participation as a key facet of achieving robust and balanced policy. However, civil society actors may typically hold much less power and draw from a limited set of resources as compared to the state or other private special interests. For such reasons, it is important to understand the processes, specific circumstances and factors that facilitate the success of local level social movements to achieve their goal(s) of shaping their communities. This case study highlights the significance of one of these factors, specifically the role of science and expertise in a local level conservation movement. In environmental controversies, the manner in which an issue is framed can play a significant role in the end result. Competing interests attempt to select, develop and facilitate the most suitable and favourable narrative to support their cause. Stakeholders will utilize various strategies and invoke different arguments in order to explain their position and bring understanding to the issue. Often, the lay public will rely on science to provide facts in order to rationalize their understanding of an issue since science represents an objective voice that is to be considered by officials. However, in

practice, science is not without politics and operates within a social system, which contains competing visions, interests and value systems as outlined in a post-positivist approach.

In rapidly populating and urbanizing regions it can be anticipated that distinct narratives of production/expansion versus conservation will come to the forefront of the broader public discourse. I have shown that locally-based movements can play a pivotal factor in these policy deliberations. However, the manner in which these organizations choose to frame both their position and the issue at-large is critical. In this case study, I show that by employing and invoking ecologically-based arguments from the onset, SRVS was able to both set the overall policy agenda, which was that the valley was unique, contained rare flora and fauna, and thus merited special consideration and protection.

Science and scientific expertise played a fundamental role in legitimizing and accrediting civil society's claims to a lay public. The early position of SRVS and the claims that it made subsequently grounded the conservation narrative. Furthermore, this focus on ecology put the onus on competing stakeholders to advance and advocate their own science-based criteria for why growth and development should be permitted. The examination of how scientific experts and expertise may be politicized and co-opted by special interests in an attempt to re-frame the policy agenda has been widely investigated by several academic disciplines and my research supports this literature (Fuller 2006, Dryzek 2000, Flyvbjerg 1998, Bocking 2004, Fischer 2003). In this struggle to protect greenspace, the manner in which civil society chose to frame the issue represented a key decision and reveals two important lessons.

Firstly, civil society organizations utilizing ecologically-based arguments may be called upon to produce their own expertise, not only to validate their own position but also to counter, refute and provide alternatives to competing positions. My research shows that SRVS and the organizations that followed it were mostly successful on all these fronts. These groups made use of, and referenced publications from provincial agencies and were able to solicit and produce alternate plans and visions countering those of both the City of Scarborough and Metro. However, this competition between opposing scientific experts can also present tangible hurdles for civil society actors who must rely heavily on the work of their volunteers. In such instances obtaining and soliciting professional expertise can be cost

prohibitive especially when it is required repeatedly for several instances throughout a policy campaign. Moreover, this strategy presents no immediate guarantees and may prove futile as competing private interests can simply counter/ignore civil society's claims with their own expert(s) and studies. This expense can serve as a major obstacle for civil society organizations working to gain the attention of both the public and the government.

Secondly, I demonstrate that when civil society organizations make use of scientific arguments to ground their case for conservation, science may serve as a powerful yet, 'low barrier' for inclusion in policy deliberations. I have shown that despite the sometimes high monetary costs of soliciting scientific expertise, in relative terms, the actions, scientific data and broader results produced by these groups are completed at a low cost. Groups working on improving the ecological integrity of the park have been successful in promoting their initiatives all within a broader framework of 'doing science' for its betterment. I further argue that science can also serve as a robust long-term mobilization strategy for civil society, especially when the public/volunteers are involved in practical science-based stewardship activities such as ecological restoration or monitoring.⁸⁸ For example, monitoring either biotic/abiotic, or qualitative/quantitative ecological parameters is an activity that can be done at relatively low cost for the organizing group, requires minimal training for the volunteers, and can be conducted year round. Considering the low cost to collect such data, the results produced from it may serve to bring attention to and document changes that are occurring in the environment and most importantly justify a policy response.

Furthermore, doing this type of citizen science presents additional possibilities for leveraging the locally-based knowledge of an entire community. When citizens take part in these local projects, it has the potential to increase levels of community stewardship over the resource. This observation is supported through this case study when examining the successes of the many civil society groups in the park who are able to leverage the work hours of thousands of volunteers into tangible stewardship successes. Some noteworthy examples include the

⁸⁸ Interviewees with Rouge Park staff and members of SRVS, FRW and 10.000 Trees for the Rouge each discussed how the simple act of taking part of a tree planting event provides community groups and individuals a powerful sense of stewardship and accomplishment. They explain that engaging in these actions and events can provide a lasting environmental education opportunity for volunteers.

creation of the Beare Wetland, and the reforestation of numerous woodlots, and the planting of thousands of native wildflowers and shrubs. Interviewees representing civil society organizations working in the park support this observation, and have clearly stated that their projects also go beyond just the science that they are interested in, but further maintain that their activities serve to strengthen and empower the communities they serve. In terms of a strategic action plan for civil society organizations, my research shows that science presents a ‘high value tactic’ or a ‘high value narrative’. I have shown that science is a powerful ‘legitimizing agent’, and thus civil society groups can capitalize on this attribute in a relatively low-cost manner, compared to the tremendous amount of social and political capital that is required to rally large-scale support throughout the community, and then mobilize it for a perceived window of opportunity. Simply put, science affords a powerful privileged position in the land management regime in Ontario.

On the other hand, taking part in science-based community initiatives does not simply require a specific opportunity, but rather it allows a group to carefully shape its credibility by continually releasing its data to the media, publishing reports, and thus building a nature conservation narrative over the long term. More importantly these particular tactics also aid these groups to informally direct the broader discourse of the issue at-large. However despite the noted benefits, when stakeholders focus on science and scientific rationalizations, first and foremost it may ultimately mask other equally important existential, human, and socio-cultural dimensions of environmental controversies. In these situations, qualitative ideas on how much or when should development occur, may be put aside and eventually dismissed when purely ecologically-based arguments become the dominant frame of rulemaking. Through this narrow discourse, policymakers may become entangled with politicking, calculating various risk scenarios, and debating whether or not appropriate technology can mitigate negative environmental consequences.

Science represents merely one part of the broader mobilization strategy employed by civil society organizations, however it may ultimately serve to be the most crucial. Having scientific evidence, either self-published or published by a government agency, proved to be critical factor for citizens and the conservation narrative during the lead up to the opening of

the Rouge Park. After the park's opening, the conservation narrative was sustained and further advanced by newly formed civil society groups who also became involved mainly in improving the ecological integrity of the watershed. Overall, when civil society organizations participate in ecologically-based activities and make science part of their broader goals and mandates, these actions play a role in legitimizing the issue and such activities provide a 'self-reinforcing strategy' for both the group and the movement's current and future trajectory. In the end, civil society groups were successful in promoting and publicizing their particular vision of how and why the valley and its accompanying flora and fauna were significant and warranted protection. Their position was successful in permeating both the public's imagination and the popular media and thus enforcing their conservation narrative, while countering some powerful and significant productivist narratives promoted by Metro and the province.

Final Thoughts

As the proportion of humans living in urban regions continues to increase globally, the significance and priority of protecting urban greenspaces will inevitably become more acute. This increase of urban populations in both more and less developed regions will only further intensify pressures to convert natural areas into other land uses. The benefits of having accessible greenspaces within the urban landscape have garnered much attention and research from a broad range of academic disciplines. The interest and willingness to examine the merits of conservation has ultimately grown to encompass other avenues of inquiry such as environmental education, sociology, psychology and human health/well-being.

In terms of human health, greenspaces provide opportunities for social interaction and a place to alleviate mental fatigue through reflection and meditation. Research on the effects of greenspace on an individual's physical and psychological health has shown that benefits increase with the level of species richness in urban greenspaces (Fuller et al. 2007). Although conserving any type of natural area for the public is desirable, protecting those greenspaces with higher levels of biodiversity and ecological integrity is even more preferable as they provide the most benefits for both humans and non-human beings. Simply put, visitors of

larger greenspaces that exhibit functioning ecosystems accrue higher human health benefits, as individuals can distinguish between high levels of ecological integrity, when compared to smaller more fragmented and degraded natural areas.⁸⁹

These insights help build a case that goes beyond straightforward natural science-based rationalizations for the conservation of the Rouge Park, but develops and highlights other benefits for urban populations. These benefits are perhaps even more relevant for the park for two distinct reasons. Firstly, the Rouge Park consists of a large amount of land encompassing numerous types of habitats, and represents the biggest natural area in the GTA. The location and proximity is also an advantage, as it is situated between Lake Ontario and the Oak Ridges Moraine and therefore helps create an ecological corridor to the Greenbelt. Secondly, the park's location puts it within a one-hour drive of most of the GTA, which has a census metropolitan area population of over five million (Statistics Canada 2010). This is especially noteworthy considering the GTA's prominence as an immigrant settlement area, and thus the park's location makes it easily accessible for a large proportion of the populace who may not be afforded the opportunity of regular outdoor recreational activities.⁹⁰

As the GTA's population continues to increase as a result of provincial growth directives like the *Places to Grow Act* (2005), environmental conflicts and contestations will also inevitably escalate as a direct result of land use change. Urban greenspaces are subject to immense development pressures, and in the case of a large expansive greenspace like the Rouge Park, it will undoubtedly attract more visitors as it becomes further entrenched into the landscape and collective imagination of Canadians when it becomes a national park. For such reasons, it is imperative for all levels of government to continue establishing protection for other urban greenspaces and resist the short-term gains to develop natural areas.

⁸⁹ As a frequent visitor to the Rouge Park (in particular to some of the areas in the central valley), I can also confirm that when taking part in recreational activities such as hiking, one does encounter a distinct feeling of solitude and seclusion. In certain areas, the common sounds of urbanity are nearly silent. A surprising fact considering these areas are no more than a five minute drive from major roadways, housing developments and other large retail areas.

⁹⁰ Portions of the park are currently accessible by public transit. The park also provides and operates the only campground within the City of Toronto.

The story of the Rouge Park is noteworthy, as it was defined by several small struggles that were punctuated by change at key moments. The establishment of the park began in the mid-1970s when a few local residents raised concern over proposed infrastructure and development plans in the watershed. This concern eventually led to the creation of a small, yet focused community based environmental movement, and after numerous battles their efforts culminated in the establishment of a protected area many years afterward.

My dissertation showed that civil society actors can be powerful agents of change, and their actions can have profound effects in shaping local communities. Locally-based civil society actors may have limited financial resources to draw from, however this characteristic is negated by the very definition and structure of these groups, who capitalize on the strength and perseverance of their individual members. The broader success of civil society organizations are only magnified when the movements they initiated, are sustained and continued, and in this case study it has lasted nearly four decades. This story continues today, with plans to create a new class of Canadian national protected area, and establish the Rouge Park as the first of its kind. All things considered, like the intricate and evolving habitats it aims to protect, the story of the Rouge Park is just as complex as it continues to unfold.

APPENDIX A: INTERVIEW QUESTIONS

Part I. Introduction/Questions pertaining to narratives (in general) used in the issue.

How has your group been involved in the issue?

How long has your group been involved with the issue?

What has been your personal involvement in the issue?

What types or kinds of arguments did you use to bring attention to the issue?

Did such arguments change throughout your involvement with the issue?

Did you use different arguments at different stages of the issue?

If so, what other different types of arguments did you use?

Which arguments do you feel were the most (and least) effective?

Part II. Questions pertaining to science and scientific arguments (specifically).

Did you emphasize scientific arguments in the issue?

Whose idea was it to use scientific arguments?

When (at what stage) did you decide to use scientific arguments?

Why did you decide to use scientific arguments?

Who or where does your group go to when scientific expertise is required? (i.e., volunteers, private sector)

What or which specific scientific arguments have your group used to frame the issue?

Part III. Questions pertaining to the benefits and constraints to using scientific arguments.

At what stage of the issue, are scientific arguments or scientific expertise most required? (i.e., the onset, the end, or throughout the entire process)

What are the costs for obtaining such expertise?

Are such costs prohibitive?

Do you feel that some or certain types of science are more effective when trying to raise awareness to your issue? (i.e., biology, ecology, human health etc.)

What are some of the benefits to using scientific arguments?

What are some of the challenges to using scientific arguments?

How important would you consider ‘science’ overall in the issue?

How important would you consider ‘science’ overall in achieving your specific group’s goals?

APPENDIX B: INTERVIEWEES

Colin Creasey

Chairman, 10,0000 Trees for the Rouge

4 July 2007

8 August 2008

Glenn De Baeremaeker

Rouge Park Alliance Board Member

Councillor Ward 38 Scarborough Centre, City of Toronto

17 September 2008

Pauline Browes

Rouge Park Alliance Board Member

Waterfront Regeneration Trust

11 June 2010

Lois James

Local Citizen

Member, Order of Canada

10 August 2010

Harvey Kirsch
Rouge Valley Foundation
15 July 2008

David Lawrie
Citizen Scientists
10 July 2008

Ron Moeser
Rouge Park Alliance Board Member
Councillor Ward 44 Scarborough East, City of Toronto
4 March 2009, 29 May 2009

Jennifer O'Connell
Rouge Park Alliance Board Member
Councillor Ward 1, City of Pickering
24 March 2009

Colin O'Neill
Restoration Technician, Friends of the Rouge Watershed
06 June 2008

Jim Robb

Rouge Park Alliance Board Member

General Manager, Friends of the Rouge Watershed

06 June 2008, 24 July 2008

Lewis Yeager

General Manager, Rouge Park

15 October 2008, 6 February 2009, 21 April 2009

APPENDIX C: INTERVIEWS REQUESTED BUT NOT GRANTED

Lora Clausen

Project Coordinator

Rouge Valley Naturalists

Doug Forder

Ontario Streams

Murray Johnston

Rouge Valley Foundation

Bonnie Littley

Rouge Park Alliance Board Member

Regional Councillor Ward 2, City of Pickering

Edith Montgomery

Former Scarborough Councillor

Clyde Smith

Rouge Park Alliance Board Member

Councillor Ward 3, Town of Whitchurch-Stouffville

Ontario Ministry of Natural Resources

Ontario Ministry of the Environment

Department of Fisheries and Oceans Canada

Toronto Zoo - Critical Habitat Use by Turtles in Rouge Park

MacViro Consultants Inc.

Marshall Macklin Monaghan

Altech Environmental Consulting Ltd.

Gartner Lee Ltd.

APPENDIX D: ETHICAL CONSIDERATIONS

For this research, my ethics review was submitted to the University of Toronto's Social Science and Humanities Ethics Board where it qualified and met the criteria for an Expedited Review. For this research, interviewees were the officially designated leaders/spokespersons of civil society organizations. The interviewees were acting in their official capacity representing their particular civil society group and not as individuals of the general public. There are no expected risks to individuals who participated in this research. All civil society groups who took part in the research are operating publicly in attempt to achieve their goals.

Civil society groups may benefit from this research if it is successful in identifying certain processes or conditions in which particular organizations may have achieved their goals. Either an electronic or hard copy of the research reports will be offered to all organizations upon completion of the project. Apart from the time that is spent during an interview, there are no other benefits or costs either material or financial expected to accrue to the participating organizations.

All participants that took part in the project were informed that all information provided would be considered public. Participants were asked to sign a written consent form prior to participating in an interview. When possible I forwarded a copy of the consent form prior to the scheduled interview to give the interviewee an opportunity to raise any questions regarding their participation.

Individuals taking part with the research were given the option of anonymity and if desired any records of identification remained confidential. This option was provided to the interviewee as he/she may wish to remain anonymous upon the disclosure of particular information. In addition, the option of providing anonymity allowed an interviewee to reveal information that he/she would not otherwise disclose if anonymity were not to be provided. In the event a participant chose to remain anonymous a gender-neutral pseudonym will be utilized when referring to that individual or organization in any reports/publications resulting

from this research. Data collected (i.e., audio recordings, manuscripts) for this project will be destroyed upon the completion of the research. No remuneration or compensation shall be provided for participating in the research. A copy of the Interview Informed Consent form can be found in the Appendix E.

APPENDIX E: INTERVIEW INFORMED CONSENT FORM

Dear Participant,

My name is Marvin Macaraig and I am a Ph.D. candidate in the Department of Geography at the University of Toronto conducting research on the role of civil society groups in shaping the urban environment in the Greater Toronto Area (GTA). This interview forms a part of my dissertation on how civil society actors (i.e., non-government and non-business organizations) have utilized specific strategies to affect the environmental policy formation process. Specifically, I am interested in the involvement such groups have had in the creation and maintenance of urban greenspaces, with a special emphasis on the Rouge Park. The types of questions I hope to ask are: How has your group been involved in the issue? What types or kinds of arguments did you use to bring attention to the issue?

For the purpose of this project I (the investigator) will ask you (the participant) questions pertaining to the subject outlined above. I expect to interview about 10 to 12 individuals for this project. This research is self-funded entirely by the investigator. The research methodology for this project involves a qualitative approach that will utilize semi-structured face-to-face interviews, literature reviews, and the analysis of different case studies. It should be noted that this research has been approved by my Ph.D. thesis committee (Supervisor: Dr. André Sorensen tel: 416.287.5607 e-mail: sorensen@utsc.utoronto.ca) and has passed an ethics review conducted by the University of Toronto Ethics Review Office. If you have questions about your rights as a research subject, please contact the Ethics Review Office at tel: 416.946.3273 or e-mail: ethics.review@utoronto.ca.

Participation in this research is voluntary and normally the interview will be completed within 60 minutes or less. If you have any questions regarding this project please feel free to ask at any time during the interview. There are no risks to you to partake in this project. There is no direct benefit or monetary compensation for you to partake in this project. You have the right not to answer questions. You may also withdraw and discontinue participation

in the interview at any time without prejudice to you and all data generated as a consequence shall be destroyed immediately. With your permission the audio from this interview will be recorded (Please see checkboxes below). If desired any records identifying yourself or your organization collected during this interview (i.e., audio recordings, field notes) will remain confidential through the use of pseudonyms. You may choose to be referred to in any public release of my research by a pseudonym for yourself and your organization if you wish to have your individual identity and that of your organization kept confidential in the final report. You may also choose that you would like to avoid having your identity or that of your organization known or knowable through the context of your interview comments. (Please see checkboxes below).

Collected data and written notes will be retained for the length of time required to complete my dissertation and any public presentations, and publications directly associated with this research. This collected data will be stored in a secure/locked location where only I will have access to it. Upon completion of my academic programme all collected data will be completely destroyed. At your request, you will be provided with an electronic copy of the summary report of findings and/or an electronic copy of the final doctoral thesis. (Please see checkboxes below)

You will be provided with a copy of this consent form for your records. If you have any questions before, during or after the interview please feel free to contact me anytime.

Sincerely,

Marvin Macaraig

I prefer not to have the audio from this interview recorded

OR

I grant permission for the audio from this interview to be recorded

I prefer a pseudonym

OR

I grant permission for my own name to be used

I prefer a pseudonym for the organization that I represent

OR

I grant permission for the name of my organization that I represent to be disclosed

I prefer not to be identifiable through the context of my interview comments

OR

I grant permission to have my identity and that of my organization known through the context of my comments

I would like to be provided with an electronic copy of the summary report of findings

I would like to be provided with an electronic copy of the final doctoral thesis

I am fully aware of the nature and extent of my participation in this project as stated above. I understand that this project has been reviewed by, and received ethics clearance from the University of Toronto Ethics Review Office, and that I may contact this office if I have any concerns or comments resulting from my involvement in the project. I also understand that I may withdraw from the project at any time, without penalty, by telling the researcher. I hereby agree to participate in this project and I acknowledge that I have read and understand this informed consent statement.

Printed Name of Participant	Signature of Participant	Date
Printed Name of Investigator	Signature of Investigator	Date

APPENDIX F: NATURE'S KEEPERs: CIVIL SOCIETY

ACTORS AND THE NEOLIBERALISATION OF

CONSERVATION IN THE ROUGE PARK. LOCAL

ENVIRONMENT 16(4): 357-374.

This paper examines the roles and actions of civil society actors and state agencies in the establishment and management of the Rouge Park (Ontario, Canada), a large greenspace approximately 46 km². This paper takes the stance that neoliberalism is more than just a simple derivative of capitalism, but also a continually evolving process that has explicit links to nature and its management. I use qualitative data to investigate how the governance framework put in place by the province of Ontario amounts to the neoliberalisation of conservation, where a disproportionate amount of the day-to-day management and operation of the park is completed by civil society actors and their respective volunteers. I examine how the management structure of the Rouge Park has resulted in what amounts to neoliberal conservation policy yet, despite its apparent and upfront shortcomings, this governance scheme has also resulted in some notable developments. In particular, it has provided an increase in opportunities for civil society actors to become key agents in both park planning and conservation.

Keywords: civil society; conservation; neoliberalisation; urban greenspaces; political ecology; Rouge Park; Ontario

Introduction

This identification of the importance of civil society has been highlighted by social theorist Manuel Castells (1972, 1983) throughout his career, and has called for individuals as the primary agent or unit for change. His call for “the people” to enact change at the scales most familiar to them namely the households, neighbourhoods, and the city in which they live has served as a central thesis for much scholarship on civil society. Interestingly, the conservation/resource management literature has also placed great importance on increased civil society participation when formulating environmental policy, and negotiating how protected areas are actually governed (Busenberg 2000, Beierle and Konisky 2001, Broderick 2005, Parkins and Mitchell 2005, Wright and Rollins 2009, Smiley et al. 2010).

Research examining the various relationships between human and non-human actors within a context of neoliberalism has garnered much recent attention from scholars of critical geography. Moreover, the specific examination of how the effects of neoliberalism are manifested “on the ground” has also been heavily investigated by these same scholars, often in the form of either conservation or resource extraction-based case studies. Work by Castree (2008a) has provided a synopsis of some of the case study-based research that has examined the neoliberalisation of nature and its various outcomes. As a point of entry, I define neoliberalism not just as a singular homogenous derivative of capitalism, but rather a heterogeneous ongoing process that encompasses the environment, cultural shifts, economic development, and public-private realignments. Further, I accept the position that neoliberalism has direct and explicit links to nature (i.e. non-human actors), an observation further highlighted by Heynen and Robbins (2005) in their commentary on Marx and Engels' materialist method.¹ Issues and debates such as the efforts to privatise water/sanitation, the creation and consumption of genetically modified foods, the patenting of life forms, and access to natural resources are other well-studied examples of how nature can be neoliberalised.

Despite such interest, the direct effects of the neoliberalisation of nature have produced various outcomes, as noted by Castree (2008b) where he identified some key characteristics of neoliberalism by those working to parse out the logics, effects, outcomes, and procedures associated with neoliberal policies. The author explains that two characteristics of neoliberalisation involve deregulation; the rollback of state interference in both environmental and social phenomena, where stakeholders become self-governing, and re-regulation; the deployment and facilitation of state policies which enable further privatisation of environmental and social phenomena. Another characteristic of the neoliberalisation of nature involves valuation (Castree 2008b) or valuation (Heynen and Robbins 2005), which are both described as allocating tangible prices to historically unpriced or complex ecological phenomena, thus indicating how nature may be commodified. In the developed world, such commodification can have consequences in the manner in which protected areas are created, managed, and ultimately envisioned by the public at large. Even more challenging is the conservation of greenspaces located within urban boundaries or those that are found adjacent/along ex-urban boundaries. Such landscapes can be highly contested, heavily politicised and the commodification of nature becomes evident through the economic analysis and overall valuation of undeveloped or under-developed land. This valuation of particular greenspaces can lay the foundation to further market reforms, an increase and acceptance of private conservation measures, and the aestheticisation of landscapes. Research on the Oak Ridges Moraine² in Ontario, has also detailed how specific political/neoliberal processes have become a key role in how ex-urban areas are envisaged by private homeowners, marketed by the state, and ultimately gentrified (Bunce 1985, Bocking 2005, Sandberg and Wekerle 2010)

Critics of neoliberalism have long trumpeted the consequences of state decisions to allow increased privatisation of specific environmental sectors and/or phenomena, while pointing to the swift mobilisation of public opposition to such action as an indicator of the severity of the wrongdoing. Castree (2008b) suggests that neoliberalisation also facilitates the further creation and involvement of civil society groups providing services that were once done by the state. This uptake of responsibilities by civil society groups in conservation planning and the day-to-day management of natural resources seems to be one characteristic outcome of nature's neoliberalisation. Heynen and Robbins (2005, p. 6) further identify, "governance, the institutionalised political compromises through which capitalist societies are negotiated" is another dominant attribute within the neoliberal agenda. This is noteworthy in that such political and institutional reconfigurations may inevitably present challenges to the general public's understanding of jurisdiction, the specific role of state institutions, and perhaps more importantly how governments actually govern. Policy reforms that call for less state intervention may eventually point to new opportunities for civil society actors to become engaged within the policy formation process.

Therefore, implicit to this neoliberal conservation narrative are questions that revolve around the exact role of both the state and civil society in managing natural resources. Specifically, what are the outcomes - either perceived or real - of this reconfiguration of responsibilities? If the neoliberalisation of nature is to be considered an ongoing process, it is important to know how stakeholders adapted to such changes? What are some of the nuanced alternatives of neoliberalism and what are the outcomes (on a local scale) of such governmental and institutional realignments.

This paper aims to develop insights into the neoliberalisation of nature utilising the Rouge Park (Ontario, Canada), as a case study. Specifically, I examine the neoliberalisation of conservation, while parsing out the roles and actions of civil society actors in the management of a protected area and in light of the changing role of the state. I argue that neoliberalism as a process, has fostered a unique form of conservation that heavily relies on civil society involvement in the overall day-to-day management of the Rouge Park. On a broader level, this case study may also further develop understanding as to how neoliberalisation plays out "on the ground", and how as a process it is challenging existing ideas of the role and efficacy of the state.

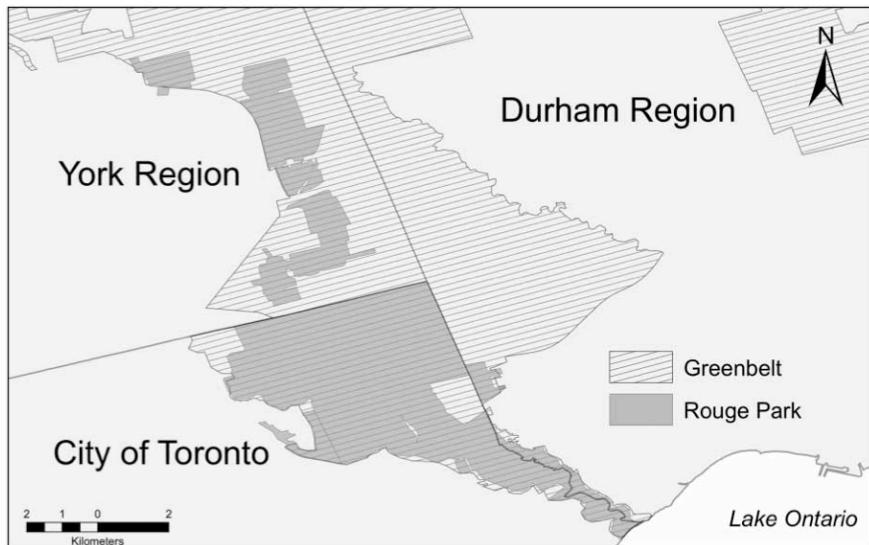
This reliance on civil society actors was primarily the result of a reconfiguration and further redefinition of the role of state agencies in conservation management. One result from this realignment of responsibilities is that it has allowed for an increase in public participation in some key aspects of park management. It should be noted that this increase in participation might have been an unintended result of the neoliberal governance structure of the park as opposed to a willful preplanned consequence aimed to foster stakeholder involvement.

The material and data gathered for this report were collected over a 5-year period spanning 2005-2010. I utilise a historical approach, making use of primarily semi-structured face-to-face interviews ($n = 18$) with self-identified actors. These included staff from civil society groups/NGOs, elected officials, provincial bureaucrats, and policymakers. It should be noted that some interviewees requested and were granted anonymity. This interview data were also supplemented with a diverse set of field notes collected as a participant observer during public meetings and forums. At such public symposia, material was also collected from informal interviews with casually involved citizens and their reactions also highlighted, and paralleled the reactions of my interviews with other recognised stakeholders. In addition to the aforementioned primary data, I utilise a historical/archival approach to interrogate and identify how neoliberalism has changed the role and efficacy of both civil society groups and state institutions working in protected area management. Archival research came in the form of sourcing and obtaining numerous scientific/technical studies and planning policy documents produced by both the state officials and civil society groups. Finally, written documents such as newspaper/magazine articles and media releases were collected and analysed as was the information provided on the official websites of both government and civil society actors.

The Rouge River Valley

The Rouge River forms the eastern boundary of the City of Toronto, and is one of six watersheds flowing south through the city and emptying into Lake Ontario (Figure 1).³ The waterway is situated in one of Canada's most urbanised regions with the Region of Durham to the east, and the Regional Municipality of York to the north. Developmental pressures in the watershed include the construction of tract housing, roads, and sewerage (Macaraig and Sandberg 2009). The area was settled first by First Nation people who utilised the land for centuries, followed by European settlers who logged the forests and constructed mills along different sites along the river. Today, the biodiversity associated with the Rouge River watershed is considered to be outstanding as it contains provincially significant wetlands, environmental sensitive areas, and encompasses one of 36 critical Carolinian forest sites remaining in Canada (Varga et al. 1991). The greenspaces within the watershed provide various recreational opportunities that include angling, canoeing, bird watching, and hiking.

Figure 1. Location map of the Rouge Park.



Civil Society Involvement

During the 1970s, development pressures along the north-eastern border of the City of Toronto (where the Rouge River watershed is located) were increasing, spurred along by the demand for housing by a rapidly growing population throughout the GTA.5 Plans to develop land within the watershed into suburban tract housing was being discussed by all three municipal governments that had lands associated with the Rouge River watershed within their respective political jurisdictions (i.e. Toronto, Regional Municipality of Durham, and the Regional Municipality of York). In the early 1970s, other development plans in the area called for a new international airport in the City of Pickering, where the federal government had expropriated approximately 7800 ha of countryside (Transport Canada 1974). Local resident groups, who mounted a vigorous campaign against its construction, challenged plans for the airport. In the following years, federal support for the airport fell through, which ultimately led to a re-evaluation of urban expansion plans throughout the area, including those associated with the Rouge River Valley.

In the meantime, local citizens recognising a need to protect the habitats within the Rouge River Valley from development began to mobilise and began calling for a protected area that would encompass the Rouge River and its associated watershed. Through such activism, local citizens formed the group Save the Rouge Valley System (SRVS) in the early 1980s and was the first of many groups created to work on issues relevant to the watershed. Bolstered by both state publications and some of their own self-authored reports and studies, citizens carefully lobbied elected officials and worked towards their goal of creating a formal protected area. They began to paint a picture of an ecologically significant greenspace that warranted protection primarily from increasing development pressures. Members of SRVS viewed the Rouge River watershed as a natural corridor that provided a unique opportunity to link Lake Ontario from the south with the Oak Ridges Moraine to the north. (Jim Robb, Friends of the Rouge Watershed, personal interview, 26 June 2008).

Throughout the 1980s, SRVS members fought numerous battles at all levels of government, calling for formal protection of lands associated with the Rouge River watershed. Their calls for conservation legislation became fully galvanised when the province revealed plans to both widen existing and further construct new roadways crossing the watershed. Members of SRVS saw these specific infrastructure plans as the critical first step that would eventually make way for further development into the watershed. The group countered the city's development plans with their own planning expertise, and published numerous reports and plans outlining their own findings and conclusions which called for the creation of a park, with an immediate moratorium on development (Glenn De Baeremaeker, SRVS, personal interview, 17 September 2008). By challenging and contesting these infrastructure plans, SRVS along with other local civil society groups played a key role in shaping the eventual conservation measures enacted to create the Rouge Park.

Formal political support for the Rouge Park came in March 1990, when the Premier of Ontario, David Peterson (Liberal) announced that the province would establish a 4050 ha protected area encompassing the Rouge River and its associated watershed (Ferguson 1993). Along with the announcement came a promise of \$10 million from the federal government, which would form the initial seed money needed to get the park off the ground. Later that year, Peterson's Liberal government was defeated by Bob Rae's New Democratic Party (NDP), and for the next 3 years, the plans to create the park floundered. In 1993, the NDP government took up the cause and convened a multi-stakeholder Rouge Park advisory committee to create a park plan. In May 1994, the Rouge Park Management Plan was approved by the provincial cabinet and released by the Ministry of Natural Resources, with the official ceremonies opening the park in April 1995, with a claim that it was the largest urban park in all of North America (Leahy 1996). The formal announcement of the Rouge Park was viewed as a key policy achievement for Rae and the NDP (Taylor 1995a), at a period when the party was severely lagging in the polls and facing a looming election, which eventually happened in June 1995, where the party experienced a major loss of seats and was thus relegated to third party status. Interestingly, during the 1990s, Stewart (1999) explains that the neoliberalisation of nature began under the social democratic NDP government, who while in power implemented some key measures towards ecological modernisation. Upon the defeat of the NDP government in June 1995, the selected management and governance structure of the Rouge Park, was decidedly kept in place by the incoming Progressive Conservative Party, who won a majority and ran a platform based on strict fiscal conservatism and explicit neoliberalism (Keil 2002, Prudham 2004, Young and Keil 2007).

Neoliberal Governance and Conservation

The neoliberalisation of nature is a widely studied concept and there are several different avenues of inquiry. Scholars have examined the outcomes that neoliberal measures/policies have had on actual environmental phenomena and the results are as varied as the regions and case studies in which they were examining. A principal commonality of the neoliberalisation of nature most often involves the roll back of state responsibility, with a corresponding “roll forward” of privatised interests, resulting in a wide variety of uncommon outcomes which are dispersed and/or relevant at different temporal and spatial scales (as argued by Castree 2008a, 2008b). In Ontario, over the past two decades, successive provincial governments have implemented several policy measures that are consistent with a process of environmental neoliberalisation, examples include the de- and re-regulation of drinking water, or the enabling of voluntary conservation measures (Prudham 2004, Young and Keil 2007, Sandberg and Wekerle 2010).

However, despite such charges from scholars, the effects of these neoliberal policy manifestations in some cases were not immediately apparent, but only surfaced years after, long after any public investigation/inquiry. For example, researchers have recently begun to unpack the nuanced methods of how nature can be aestheticised and/or commodified through the establishment of provincial scale environmental/conservation policy, such as the Oak Ridges Moraine and Greenbelt Acts/Plans.⁶ Both pieces of legislation are marked achievements for those who fought for the protection of greenspace and agricultural land in the province (Edey et al. 2006, Hanna and Webber 2010). Previous conservation policy measures such as the establishment of the Rouge Park and the Niagara Escarpment Planning and Development Act (1973) have also collectively increased the amount of greenspace within the GTA and throughout southern Ontario. However, in the case of the moraine and the greenbelt, it has been shown that they may in fact be a lubricant for growth, and play a role in promoting privatised conservation measures, and voluntary management schemes, both of which are key factors that further support class privilege and rural gentrification (Wekerle et al. 2007, Logan and Wekerle 2008).

In the case of the Rouge Park, when the first park plan was introduced proponents and stakeholders recognised that the governance structure would face many challenges in terms of management and noted;

The Rouge Park is a large and complex area, consisting of many parcels of land under different ownership having varied sensitivities to human use, a wide range of requirements for ecological restoration and management or cultural management, and differing needs for protection. Its management structure must be able to deal effectively with the whole area and its complexities, while remaining sensitive and responsive to the values for which the park was created in the first place. The park management entity must be able to encourage a high degree of communication and involvement with landowners, agencies, groups and the general public. (Rouge Park Management Plan 1994, p. 49)

With their newly announced park, provincial officials and bureaucrats were facing some key challenges. Issues pertaining to the day-to-day operation of the park, staffing, bylaw enforcement, and the provision of technical/scientific/planning expertise were yet to be determined, and negotiated. Questions were also raised regarding which municipal or provincial agency would be best suited to manage and govern the park.

Simply put, the park as initially announced consists of a sizeable portion of land, with overlapping political, legal and institutional jurisdictions, thus the coordination and management of conservation efforts would present some daunting logistic and perhaps most importantly financial challenges. In the end, the most defining factor in determining the exact management and governance structure of the park were based on the economics. When political support for the park came in 1994, the province's finances and broader economy were in poor condition (Mittelstaedt 1995), and thus allocating additional monies beyond the initial \$10 million from the federal government would have been immediately viewed as poor optics. This is especially poignant for a party that faced a looming election during a period of widespread budgetary cutbacks at numerous state agencies, a rapidly expanding provincial deficit, rising taxes, increasing unemployment, and a growing accusations of fiscal mismanagement, all of which was coinciding with a global recession.⁷ The beginning of such neoliberal reforms can be traced back to the first park plan where it states;

With respect to park development and operations, it is not intended that the park management entity would necessarily employ sufficient staff to conduct all such operations by itself. Substantial emphasis in doing such work should be placed on involving other agencies, partner groups and volunteers. Some specific functions could be contracted out to private or public sector entities. (Rouge Park Management Plan 1994, p. 50, emphasis by author)

As noted above, the plan suggests that a substantial focus of the conservation work would be placed on civil society actors and volunteers and thus indicates the neoliberal manifestations within the policy framework, and the overall discourse of how the park was to be managed, governed, and ultimately conserved.

Following the official announcement of political support to create a new protected area, while taking into the consideration the recommendations put forth in the initial park plan, the province appointed David Crombie (a former Toronto mayor) as interim park manager, where one of his priorities was to research and present recommendations to the province on the long-term management of the park (Taylor 1995b). In 1995, Crombie recommended that the park be chiefly managed by the TRCA with input from a council of special interest groups. Day-to-day business was to be handled through only a staff of four and a general manager. In the end, Crombie's recommendations were adamantly opposed by those citizens and civil society actors who had fought for the park from the onset (Jim Robb, Friends of the Rouge Watershed, personal interview, 26 June 2008). SRVS also expressed concern that if the conservation authority was to be given control it would inevitably lead to a severe reduction in public participation in all aspects of park planning. Furthermore, they worried that the TRCA would convert portions of the park into recreational areas such as sports fields, and develop concession stands. In response to such speculation, both the SRVS and local citizens immediately proposed and intensely lobbied public officials that the province establishes a separate management team that would serve as the lead for all park-relevant activities (Taylor 1995b).

After much deliberation, while taking into account both the concerns and the proposal for a separate management body put forth by SRVS, the province decided to back the requests of citizens and create a new agency named the Rouge Park Alliance (RPA), as a voluntary partnership organisation to oversee the implementation of the Rouge Park Management Plan. The NDP led government at the time believed that the creation of a new agency with a minimum number of staff, in conjunction with the call for an increased role for civil society actors, would provide for the best balance in achieving the goals set out in the plan. It was also the intention of the province that by creating the RPA, it also demonstrated that they had the political knowledge, capacity, and wherewithal to both provide and fund the services required by this new protected area that they had created.

The RPA consists of board members each representing a provincially determined stakeholder group that is involved with the park. Board members are appointed by their own respective organisations and represent all three levels of government, state agencies, and a not-for-profit group. Currently, the RPA consists of a representative from the following; the federal government, the province of Ontario, Regional Municipality of Durham, Regional Municipality of York, Town of Markham, City of Pickering, Town of Richmond Hill, City of Toronto, Town of Whitchurch-Stouffville, TRCA, Toronto Zoo, Waterfront Regeneration Trust Corporation, and SRVS. Despite such cooperation between members, to this day, the RPA has never been incorporated and is not a legal entity, thus it cannot receive monies. Hence, the original \$10 million granted by the federal government was actually deposited with the Waterfront Regeneration Trust, which is an "arms-length" agency of the province that was created to coordinate waterfront (re)-development along Lake Ontario and the St. Lawrence River.

This decision to create the RPA specifically to manage and govern the park is notable on a few fronts and raises questions as to what factors were considered by NDP in deciding that a new agency was deemed necessary. Firstly, the establishment of the RPA is unique in that there was already a very well-established state agency in place (i.e. the TRCA) that for the most part was sufficiently capable in completely managing the park on both a long-term and day-to-day basis. In fact, the TRCA was created and empowered by the province explicitly to direct, organise, and oversee floodplain and valley lands such as those included within the Rouge Park. Perhaps more importantly, the TRCA has the funding resources, and the required staff, with watershed planning, scientific, and technical expertise that is needed to manage such a greenspace. Secondly, the creation of a special management body by the province to both govern and manage a specific greenspace is simply an uncommon occurrence in Ontario. Provincially created commissions and “arms-length” management agencies have been formed and utilised in the past to serve a wide variety of functions and duties often dealing with issues on a regional scale, however, the creation of such agencies by the province is usually contingent on whether or not there is a capable and existing state agency that can fulfill the duties, and in this case the Rouge Park would have fit well with the TRCA's own existing mandate and jurisdiction.

Lessons Learned for Civil Society Actors

Mayer (2000) has argued that the shift from “government” to “governance” as a notable trend in local urban politics, and more specifically the expansion of the urban political system. Savitch and Vogel (2000, p. 161) explain that there is an appreciable difference between both government and governance, where government is “formal institutions and elections and established decision-making processes, and administrative structures” and a “fairly encompassing form of organisation; a legitimate monopoly that takes responsibility for both providing and producing public services”. Governance on the other hand, calls for the utilisation of existing institutions in new ways, where services are delivered ultimately through the cooperation between other governments, civil society groups, and even the private sector. This observation on the role of civil society in governance is further complicated when one considers how neoliberal reforms and policy manifestations can be advanced by the state.

This observation brings to light the underpinnings of the explicitly neoliberal policies/politics put forth by Ontario's Progressive Conservative (Tory) government led by Mike Harris who was elected in 1995, immediately after the Rouge Park was established.⁸ The governance structure, lays parallel to some fundamental characteristics of neoliberal policies of the Tory government, primarily related to the installation of the provincially appointed member-based RPA to govern and manage the park, as opposed to a recognised state agency it has effectively rolled back its own responsibilities over administration of a protected area. This current arrangement severely limits the overall efficacy of the RPA as an agency to manage a large protected area and presents some unique challenges to both itself and the civil society organisations it relies on. The primary constraints to this governance structure are directly linked to the neoliberal framework of governance and include the following:

Firstly, this particular governance scheme presents both distinct and obvious financial challenges to the civil society groups working in the park. The RPA's primary source of funding comes from grants from various state agencies, and the interest gained from the initial \$10 million provided by the federal government, and although it has continually managed to balance its budget, civil society groups must apply for RPA funding on a year-by-year basis. This current arrangement was identified as a principal constraint and stumbling block by interviewees from civil society groups working in the park, who state that the establishment of an ongoing funding commitment from the RPA would help with their overall long-term planning, staffing, and resource allocation goals. Furthermore, over the last decade as the park has become more visible to the general public, there has been a dramatic increase in the number of groups interested and applying for RPA funding, and as a result some organisations have turned to other public, corporate, and private sources to ensure that they can continue their work in the Rouge Park.

In addition, such financial constraints have also limited the RPA to expand its staffing levels and thus its in-house expertise to a level that reflects the park's growth through recent land acquisitions. Currently, the staff consists of various managerial positions and outreach/education positions. Inevitably, the plans that govern the overall direction of the park are certainly both broad and comprehensive, especially considering the amount of land included within the park. Thus, to achieve these conservation goals/mandates, often specialised technical and scientific expertise are required, including foresters, ecologists, biologists, hydrologists, planners, archeologists, etc., such expertise is not fully met by the current Rouge Park staff, and as a result civil society organisations working within the park are left to find, fund and source such expertise on their own. Dealing with and negotiating this lack of expertise has been identified by interviewees as another hurdle, primarily due to the limited finances of such groups. Colin Creasey of 10,000 Trees for the Rouge states that in order to secure funding from the RPA and outside sources, the site plans for all plantings require the approval of a certified forester. Such a requirement is another significant cost and potential liability for civil society organisations to deal with (Colin Creasey, 10,000 Trees for the Rouge, personal interview, 8 August 2008)

Secondly, there is an issue of undefined responsibility and jurisdictional gaps of the RPA. One such example can be witnessed in the recent campaign by park officials to eliminate and reduce numerous unlawful activities occurring within the park such as poaching, illegal dumping, and other activities such as snowmobiling on the river itself. To address such issues, the RPA has recognised the need to establish a conservation officer or ranger programme that would help prevent such activities within park boundaries. Yet, the RPA does not have the legal authority to create such a programme, and thus must rely on the existing jurisdictional powers of its member groups (i.e. the police) to curtail such activities which can prove difficult considering these activities most often occur well within park boundaries and thus far from any police officer.

Finally, since the RPA consists of a board representing multiple state agencies and all three levels of government, the organisation is often in a position of trying to convince, negotiate, and justify its various conservation and policy goals to all of its members. This position is further exacerbated by the fact that the RPA as an agency has no real legal decision-making power. Despite the establishment of the RPA, the management and governance structure that was installed by state officials was inherently different as compared with the management models of other protected areas, such as provincial or national parks where specific state institutions have a clear jurisdiction and decision-making power. (i.e. Ontario Provincial Parks fall under the direct command and control of the Ontario Ministry of Natural Resources) The fundamental difference in the case of the governance of the Rouge Park is that since the RPA is not a legal entity it is unable to own or have jurisdictional powers over the land that it is set out to protect (Rouge Park 2010a). For example, the RPA could never purchase a property it was interested in, but rather it would have to do so through the appropriate agency such as the TRCA. In the end, the RPA relies on the powers, abilities, and jurisdiction of its volunteer board members and their related agencies to both manage and govern the park. This management structure, where conservation tasks are doled out to the various member agencies, has inevitably led to both overlaps and gaps in terms of park responsibilities.

Despite such constraints, groups working within the park have achieved some significant conservation goals while working within the broader mandate of the RPA. Notable examples include: the reclamation of the Beare Landfill and the creation of the Beare Wetland by Friends of the Rouge Watershed; the planting of 145,000 trees and the reclamation of 60 ha of land by 10,000 Trees for the Rouge; the restoration of a 19th century farmhouse within the park by the Rouge Valley Foundation, which was established as the Rouge Valley Conservation Centre; and the training of volunteers by Citizen Scientists, in the implementation of a certified government protocol in order to accurately monitor stream parameters aiding in the creation of a specialised database (Table 1). It should be noted that the majority of the work and activities done by civil society actors is not directly replicated in any extensive manner by the RPA or any one of its stakeholder members. Thus, if a given civil society group falls out of favour with the RPA or decides to no longer support the mandate, objectives, or goals of the RPA, it seems likely that the park would be affected.

Table 1. Civil society actors working within the Rouge Park.

Group information	No. of Staff	Primary activities	Activity replicated by Rouge Park or any other state agency
Rouge Park Established in 1995	7-9	Serves as chief liaison of the Rouge Park. Primary goals include the protection and enhancement of the natural, cultural, and scenic values of the Rouge Park. Objectives include protection of natural heritage, identification of cultural heritage, land use planning, provide recreation opportunities, promote interpretation, and general park management (Rouge Park 2010c).	n/a
10,000 Trees for the Rouge Established in 1989 Not-for-profit	2-5	Organised one-day tree planting during Earth Week, which attracts 1500-2000 volunteers. Other activities include watershed restoration and hands-on education and stewardship. The group is an offshoot of Save the Rouge Valley. Key achievements include the planting of 145,000 trees covering an area of 60 ha (Colin Creasey, 10,000 Trees for the Rouge, personal interview, 8 August 2008)	No
Citizen scientists Established in 2001 Not-for-profit	2-5	Provides long-term ecological/habitat monitoring and stream surveys, environmental training and education. Established a provincially certified government protocol to monitor various stream parameters at numerous sites along the Rouge River. Volunteers are trained in the Ontario Stream Assessment Protocol (OSAP), a program created by the Ontario Ministry of Natural Resources. Key achievements include the establishment of long-term data trends that help provide a more detailed understanding of stream ecology and overall health of its associated ecosystem (Citizen Scientists 2010)	No
Friends of the Rouge Watershed Established in 1991 Not-for-profit	3-5	Contributes to cultural heritage conservation, habitat enhancement and restoration, and watershed and park planning. Organises a wide variety of planting events with community groups, schools, and other private sector organisations. Key achievements include the creation of the Beare Wetland and the Ressor Wetland (Friends of the Rouge Watershed 2010)	No
Rouge-Duffins-Greenspace Coalition Established in 2003 Not-for-profit	1-2	Activities include advocating for the protection of greenspace/farmland resources and sensible urban planning	Yes

Rouge Valley Foundation Established in 1984 Not-for-profit	2-4	Primary activities include environmental education and trail rehabilitation. The group also helped in establishing The Upper Rouge Network, which provides conservation and local history tours. Key achievements include the maintenance and restoration of the Rouge Valley Conservation Centre located as the James Pearse Jr. House, which serves as an information center, and provides office space for other groups (Rouge Valley Foundation 2010)	No
Rouge Valley Naturalists Established in 1994 Not-for-profit	2-4	Preservation and restoring the natural heritage of the Rouge River watershed. Provides environmental education and interpretive nature trail walks. Works with community/school groups (Rouge Valley Naturalists 2010)	No
Save the Rouge Valley System Established in 1975 Not-for-profit	3-5	Initial civil society group formed advocating for the protection of land in the Rouge Valley watershed from development. Rehabilitation and restoration of wildlife habitat. SRVS also aided in establishment of the Friends of the Rouge Watershed. Key achievements include the official recognition and establishment of the Rouge Park (Glenn De Baeremaeker, Save the Rouge Valley System, personal interview, 18 September 2008)	No
Ontario Streams Established in 1995 Not-for-profit	5	Conservation and rehabilitation of streams and wetlands. Aquatic ecosystem rehabilitation throughout a variety of waterways throughout the GTA. Projects include tree planting, stream clean-up, bioengineering, biological monitoring, mitigating fish barriers, and wetland restoration/creation (Ontario Streams 2010)	No

Conclusion

In this paper, I examined how the governance structure of the Rouge Park has resulted in what amounts to neoliberal conservation policy yet, despite its apparent and upfront shortcomings, this case study can provide some important lessons. Firstly, it is evident that the participatory nature of the park's governance structure has provided numerous opportunities for civil society to play a critical role in the all facets of park management. In addition, this greenspace governance model has opened up spaces for participation for many types of environmentally oriented civil society groups. This arrangement also provides these groups and their volunteers' higher levels of stewardship over their respective projects. In this case study, numerous civil society actors are actively involved in a wide range of activities related to park management and work alongside the limited number of Rouge Park staff in working towards the achievement of conservation goals.

The participation of civil society actors within the park may be traced back to when concerned citizens formed SRVS in the 1970s and the level of civil society involvement was further facilitated by the character of the initial Rouge Park Management Plan, which specifically called for the participation of volunteers and other third party agencies. The degree of involvement of civil society organisations is made possible primarily through various RPA funding initiatives, which encourage organisations to submit proposals for project funding on a year-by-year basis. It is through such funding the RPA has both helped foster the development of and attract some exceptional organisations into the park. The activities undertaken by civil society actors are key factors in achieving the broader conservation goals of the park and include; tree and wildflower plantings; rehabilitation and reclamation of park land; stream monitoring; biodiversity surveys; visitor engagement; and heritage education.

Secondly, this case study highlights how park governance models are grounded locally and should be thought of as being historically contingent, and are continually evolving with respect to the given political/economic climate and the given political parties in power. The Rouge Park's governance structure was finalised during a period in the mid-1990s, where a newly elected provincial conservative government immediately began reducing ministry budgets, in response to the worsening recession in Ontario. Such developments must be fully considered when evaluating how this particular greenspace was managed. The chosen governance structure amounts to low-cost conservation, where the primary activities related to achieving both the short and long-term management goals of the park are dutifully completed by civil society organisations and their volunteers.

In this case study, the shortcomings in the overall governance structure is further highlighted when compared with two other more recent environmental protection initiatives announced in Ontario, beginning with the establishment of the Oak Ridges Moraine Conservation Act in 2001, followed by the Greenbelt Act in 2005. Lands covered by the Greenbelt Act actually encompass much of the Rouge Park, but in practice, the legislation is specific only to land use planning, as opposed to how individual protected, wilderness, or conservation areas are to be managed at the local scale. In granting protection for both the Oak Ridges Moraine and the larger Greenbelt, the province has chosen a more powerful governance structure compared with the Rouge Park. The primary difference is that the Moraine and the Greenbelt are backed by specific legislation and empower a ministry to roll-out and administer the legislation while making use of ministerial experts, such as lawyers, planners, conservation managers, foresters, technicians, and scientists.⁹

Taken together, both pieces of legislation provide powerful tools in directing and ultimately shaping greenspace planning in the province. Sandberg and Wekerle (2010) and Fung and Conway (2007) have commented that both pieces of legislation, along with the passing of the Places to Grow Act in 2005, as noteworthy and "constitutes a strong roll out of provincial command and control approach that provides municipal governments with strict measures on the type, extent, and location of development". Sandberg and Wekerle (2010) also highlight that the state has implemented uniquely "neoliberal policy actions and discourses that permeate and surround the Moraine legislation". Other studies have highlighted the neoliberal policy arrangements that have been actualised through implementation of the Greenbelt and Moraine legislation, and how the policies have facilitated growth/rural gentrification through landform anesthetisation and privatised/voluntary forms of conservation (Wekerle et al. 2007, Logan and Wekerle 2008, Sandberg and Wekerle 2010).

In recognition of the growing need to address its lack of legal powers and the constraints related to the overall finances and funding of the activities of its civil society partners, the RPA commissioned a private report in 2010 to specifically examine its governance structure.¹⁰ One of the key recommendations put forth was for the park to be transitioned into Canada's first "near urban" national park (Rouge Park 2010b). This recommendation, although accepted by the RPA and supported by SRVS and several other civil society groups, has not gained the required federal support and thus the proposal remains in its infancy. The proposal is also telling in that the civil society groups who initially fought for more involvement and participation in park planning/management from the onset, have come to the realisation that the park would be in a more favourable future position within the purview of higher-level state agency. Many of these groups have expressed their support for a national park along with the backing of individual RPA board members, and other current/former bureaucrats (National Park Now Committee 2010). It should be noted that this proposition would represent a complete reversal to civil society's original position, of calling for less state control, at the onset of when the park was created.

If granted, such a change would most likely reduce the amount of local level government control over the park, since national parks/reserves are administered at the federal level, solely by Parks Canada within the Department of Canadian Heritage. The desire and call from within the RPA and key civil society groups to transition the park into federal control also reveals that despite some notable achievements and a heightened level of public participation, their activities still require appropriate government support primarily in the form of funding and technical expertise. More importantly, such a change would distinctly alter the overall governance structure and perhaps provide for more accountability in the state's actions. The creation of a new national park presents some formidable challenges and would require substantial monetary support at the federal level during a period of increased fiscal scrutiny. It would mainly, require negotiating with numerous public and private landowners and substantial financial backing to purchase the land. Perhaps most importantly, a new "near urban" park would require corresponding federal legislation and thus create a precedent with regard to other Canadian cities to pursue the establishment of other near urban parks within their respective jurisdictions.

Scholars of critical geography have recently explored and linked the process of neoliberalisation with the concept of a "shadow state", where NGOs and their volunteers with government funding are increasingly responsible for doing the work that was once exclusive to the state (Wolch 1990, Perkins 2009). Examples may include the delivery and execution of social programmes or the management of greenspaces by civil society actors or other quasi-state "partnership" bodies. In Ontario, the province has a history of creating and relying on such partnerships to help manage its greenspaces. The formation of the Niagara Escarpment Commission, the Oak Ridges Moraine Foundation, and the Friends of the Greenbelt Foundation are examples of not-for-profit quasi-state institutions responsible for dispensing millions in government funds to a wide variety of organisations. These groups then rely on the active citizenship of their volunteers, to fulfill the mandates and goals of their granting institutions. This scenario is further complicated with the established need of conservation managers to increase both local level decision-making and participation. However, simply deferring to such a position may serve to mask a neoliberal hegemony of relying on volunteer labour to achieve the long-term conservation goals of the state.

If the RPA were to be successful in establishing a national park and further "upload" some of its responsibility of its management, such a scenario would perhaps represent a process where neoliberalisation has been scaled back. If successful, such action of the greenspace as a new national park serves to further aestheticise both its real and perceived value(s), further branding the landform as a "good" that can ultimately pay dividends to the adjacent communities. The park is further imagined and promoted by the RPA as providing a north-south biological corridor bridging both the Oak Ridges Moraine and Greenbelt from the north, to Lake Ontario to the south. This branding of the Rouge Park as a significant bio-regional landform and a potential future national park is pervasive throughout the organisation and evident through its motto "Wild in the City!", which is heavily promoted on its website, extensive roadside signage, publications, and media releases. Taken as a whole, this action of the park echoes the observations of Laidley (2007) regarding the ongoing re-development and planning of Toronto's waterfront. Specifically, the usage of nature as a distinct tool, which may ultimately serve and mobilise development and investment, and raise the city's regional and global competitiveness.

Despite present and future challenges, the original management structure of the park is still in operation. This case study reveals that the governance structure chosen for the Rouge Park was successful for its broad inclusion of civil society actors and these groups provided tangible benefits at the onset, all at a relatively low cost. However, as the park continues to grow both in size and in the number of visitors, a careful re-evaluation of its relative dependence on its civil society partners will be required. It is evident that civil society groups can provide distinct benefits to the management and improvement of greenspaces, however, like any institution, their overall efficacy may be limited by the financial, jurisdictional, and perhaps most importantly the legal decision-making powers of the lead institution chosen/created to coordinate their efforts. In this case study, the lack of formal legal powers of the RPA presents a notable constraint. Furthermore, both the province and their municipal counterparts should look for new opportunities to support and sustain the work of its partners. Changes such as, streamlining the funding application process and establishing a stable multi-year funding strategy to groups who are involved in the day-to-day operation of the park, would surely help plan for and achieve the long-term goals of key groups. This case study reveals a neoliberalisation of conservation - a unique state created institution with no legal powers - to serve as the lead agency for civil society groups who do a disproportionate amount of the restoration, monitoring, and visitor engagement. In the end, this case study presents an opportunity to learn about the changing ideas of how urban greenspaces can be managed through unique public-state partnerships.

Notes

1. For a discussion into why neoliberalism is inherently an environmental project see Bakker (2005), Castree (2008a), Heynen and Robbins (2005), and a *Geoforum* 35 (3) special issue dedicated to the nature of neoliberalisation.
2. The Oak Ridges Moraine is hilly geological formation consisting of mostly sand and gravel deposited during the last Ice Age. It extends from Rice Lake in the east, to the Niagara Escarpment in the west, and a length of over 160 km (Paterson and Cheel 1997).
3. The other watershed includes Etobicoke Creek, Mimico Creek, the Humber River, Highland Creek, and the Don River.
4. After amalgamation of the City of Toronto in 1998, the former Metropolitan Toronto and Region Conservation Authority was renamed the Toronto and Region Conservation Authority (TRCA). The TRCA is the lead agency in coordinating watershed management in the GTA.
5. The eastern border of the City of Toronto consisted of the former City of Scarborough. The City of Toronto was amalgamated on 1 January 1998. The six municipalities of the former Municipality of Metropolitan Toronto included Toronto, York, East York, North York, Etobicoke, and Scarborough. For an explanation of Toronto's amalgamation history and its past two-tier model of municipal governance see Keil (2000) and Sancton (2005).
6. The Oak Ridges Moraine Conservation Act was passed in 2001, and its main purpose was to protect both the ecological and hydrological integrity of the moraine. The Greenbelt Act was passed in 2005, and protects a much larger area (approximately 700,000 ha) from further development, and sprawl (Ministry of Municipal Affairs and Housing 2011).
7. The NDP were defeated in June 1995, and replaced by the Conservative's who ran on a platform called the "Common Sense Revolution" promising immediate deficit reduction in the form of lower taxes and cuts to social spending.
8. See Keil (2002) and Keil and Boudreau (2005) for a synopsis of the effects and outcomes of amalgamation in Toronto.
9. In the case of the Greenbelt and the Moraine, both acts and their related plans and policies are administered by the Ministry of Municipal Affairs and Housing, which is the lead institution chiefly involved in land-use planning in the province of Ontario.
10. The RPA board unanimously carried a motion that the Organization and Finance Review Steering Committee examine possible governance and financing models for the creation of a National Park (RPA Minutes - Meeting #2/09 2009).

References

- Bakker, K., 2005. Neoliberalizing nature? Market environmentalism in water supply in England and Wales. *Annals of the Association of American Geographers*, 95 (3), 542-565.
- Beierle, T.C. and Konisky, D.M., 2001. What are we gaining from stakeholder involvement? Observations from environmental planning in the great lakes. *Environment and Planning C*, 19 (4), 515-527.
- Bocking, S., 2005. Protecting the rain barrel: discourses and the roles of science in a suburban environmental controversy. *Environmental Politics*, 14 (5), 611-628.

- Broderick, K., 2005. Communities in catchments: implications for natural resources management. *Geographical Research*, 43 (3), 286-296.
- Bunce, M.F., 1985. Agricultural land as a real estate commodity: implications for farmland preservation in the North American urban fringe. *Landscape Planning*, 12 (2), 177-192.
- Busenberg, G.J., 2000. Resources, political support, and citizen participation in environmental policy: a reexamination of conventional wisdom. *Society and Natural Resources*, 13 (6), 579-587.
- Castells, M., 1972. *The urban question*. London: Edward Arnold.
- Castells, M., 1983. The city and the grassroots: a cross-cultural theory of urban social movements. London: Edward Arnold.
- Castree, N., 2008a. Neoliberalising nature: processes, effects, and evaluations. *Environment and Planning A*, 40 (1), 153-173.
- Castree, N., 2008b. Neoliberalising nature: the logics of deregulation and reregulation. *Environment and Planning A*, 40 (1), 131-152.
- Citizen Scientists, 2010. *About us* [online]. Available from: http://www.citizenscientists.ca/About_Us.html [Accessed 8 December 2010].
- Edey, R.C., Seasons, M., and Whitelaw, G., 2006. The media, planning and the Oak Ridges Moraine. *Planning, Practice and Research*, 21 (2), 147-161.
- Ferguson, D., 1993. Ontario's New Democrat government is poised to create Canada's largest urban park in Scarborough's Rouge Valley. *Toronto Star*, 12 January, p. A1.
- Friends of the Rouge Watershed, 2010. *FRW visions and objectives* [online]. Available from: <http://www.frw.ca/rouge.php?ID=3> [Accessed 5 December 2011].
- Fung, F. and Conway, T., 2007. Greenbelts as an environmental planning tool: a case study of Southern Ontario, Canada. *Journal of Environmental Policy and Planning*, 9 (2), 101-117.
- Hanna, K. and Webber, S., 2010. Incremental planning and land-use conflict in the Toronto region's Oak Ridges Moraine. *Local Environment*, 15 (2), 169-183.
- Heynen, N. and Robbins, P., 2005. The neoliberalization of nature: governance, privatization, enclosure and valuation. *Capitalism Nature Socialism*, 16 (1), 5-8.
- Keil, R., 2000. Governance restructuring in Los Angeles and Toronto: amalgamation or secession? *International Journal of Urban and Regional Research*, 24 (4), 758-781.
- Keil, R., 2002. "Common-sense" neoliberalism: progressive conservative urbanism in Toronto, Canada. *Antipode*, 34 (3), 578-601.
- Keil, R. and Boudreau, J.-A., 2005. Is there regionalism after municipal amalgamation in Toronto? *City*, 9 (1), 9-22.
- Laidley, J.L., 2007. The ecosystem approach and the global imperative on Toronto's Central Waterfront. *Cities*, 24 (4), 259-272.
- Leahy, S., 1996. Rumblings in the Rouge. The battle to save the Rouge Valley has been won but the war over the kind of park it will be rages on. *Toronto Star*, 15 June, p. SA2.

- Logan, S. and Wekerle, G., 2008. Neoliberalizing environmental governance? Land trusts, private conservation and nature on the Oak Ridges Moraine. *Geoforum*, 39 (6), 2097-2108.
- Macaraig, J.M.R. and Sandberg, L.A., 2009. The politics of sewerage: contested narratives on growth, science, and nature. *Society and Natural Resources*, 22 (5), 448-463.
- Mayer, M., 2000. Urban social movements in an era of globalisation. In: P. Hamel, H. Lustiger-Thaler and M. Mayer, eds. *Urban movements in a globalizing world*. London: Routledge, 141-157.
- Ministry of Municipal Affairs and Housing, 2011. *More facts about the Oak Ridges Moraine* [online]. Available from: <http://www.mah.gov.on.ca/Page1705.aspx> [Accessed 15 March 2011].
- Mittelstaedt, M., 1995. NDP set to unveil financial statement. Document expected to predict Ontario deficit of \$6.5-billion in current fiscal year. *Globe and Mail*, 22 April, p. A5.
- National Park Now Committee, 2010. Rouge National Park Proposal, Toronto, ON.
- Ontario Streams, 2010. *The organization* [online]. Available from: <http://www.ontariostreams.on.ca/organization.html> [Accessed 5 December 2010].
- Parkins, J.R. and Mitchell, R.E., 2005. Public participation as public debate: a deliberative turn in natural management. *Society and Natural Resources*, 18 (6), 529-540.
- Paterson, J.T. and Cheel, R.J., 1997. The depositional history of the Bloomington Complex, an ice-contact deposit in the Oak Ridges Moraine, southern Ontario, Canada. *Quaternary Science Reviews*, 16 (7), 705-719.
- Perkins, H.A., 2009. Out from the (green) shadow? Neoliberal hegemony through the market logic of shared urban environmental governance. *Political Geography*, 28 (7), 395-405.
- Rouge Park, 2010a. *Governance, Organization and Finance Review of the Rouge Park Alliance* [online]. Available from: http://www.rougepark.com/media/pdfs/RP_Governance_Report_by_Consultant.pdf [Accessed 8 April 2011].
- Rouge Park, 2010b. *Rouge Park Alliance considers consultant's report* [online]. Available from: http://www.rougepark.com/media/pdfs/RP_Govenance_Media_Release.pdf [Accessed 8 April 2010].
- Rouge Park, 2010c. *About us* [online]. Available from: http://www.rougepark.com/about/about_us.php [Accessed 10 May 2010].
- Rouge Valley Foundation, 2010. *Our partners* [online]. Available from: http://www.rvcc.ca/Our_Partners.html [Accessed 10 May 2010].
- Rouge Valley Naturalists, 2010. *About* [online]. Available from: <http://www.rougevalleynaturalists.com/about.html> [Accessed 5 December 2010].
- RPA Minutes - Meeting #2/09, 2009. *Rouge Park Alliance* [online]. Available from: http://www.rougepark.com/about/alliance/2009/rpa_minutes_apr3_2009.pdf [Accessed 15 March 2011].
- Sancton, A., 2005. The governance of metropolitan areas in Canada. *Public Administration and Development*, 25 (4), 317-327.
- Sandberg, L.A. and Wekerle, G.R., 2010. Reaping nature's dividends: the neoliberalization and gentrification of nature on the Oak Ridges Moraine. *Journal of Environmental Policy & Planning*, 12(1), 41-57.

- Savitch, H.V. and Vogel, R. K., 2000. Introduction: paths to new regionalism. *State and Local Government Review*, 32 (3), 158-168.
- Smiley, S., de Loe", R., and Kreutzwiser, R., 2010. Appropriate public involvement in local environmental governance: a framework and case study. *Society and Natural Resources*, 23 (11), 1043-1059.
- Stewart, K., 1999. *Greening social democracy? Ecological modernization and the Ontario NDP*, Dissertation (PhD), Department of Political Science, York University, Toronto, ON.
- Taylor, S., 1995a. New Rouge Park hailed as 'symbol for future'. When complete, the park will cover 4,660 hectares. *Toronto Star*, 6 April, p. A6.
- Taylor, S., 1995b. Rouge Park threatened, ex-MP warns fears development for recreation. *Toronto Star*, 9 February, p. SC3.
- Toronto and Region Conservation Authority, 2011a. *Hurricane Hazel* [online]. Available from: <http://www.hurricanehazel.ca/index.html> [Accessed 8 April 2011].
- Toronto and Region Conservation Authority, 2011b. *Flood Protection* [online]. Available from: <http://www.trca.on.ca/protect/water-management/flood-protection.dot> [Accessed 8 April 2011].
- Toronto and Region Conservation Authority, 2011c. *The evolution of flood control* [online]. Available from: http://www.hurricanehazel.ca/ssi/evolution_flood_control.shtml [Accessed 8 April 2011].
- Transport Canada, 1974. *Airport inquiry commission report*. Ottawa: Government of Canada.
- Varga, S., Jalava, J., and Riley, J.L., 1991. *Ecological survey of the Rouge Valley Park*. Aurora, ON: Ministry of Natural Resources, Central Region.
- Weberle, G., Sandberg, L.A., Gilbert, L., and Binstock, M. 2007. Nature as a cornerstone of growth? Regional and ecosystems planning in the Greater Golden Horseshoe. *Canadian Journal of Urban Research*, 16 (1), 20-38.
- Wolch, J., 1990. *The shadow state: government and the voluntary sector in transition*. New York: The Foundation Center.
- Wright, P. and Rollins, R., 2009. Managing the national parks. In: P. Dearden and R. Rollins, eds. *Parks and protected areas in Canada: planning and management*. New York: Oxford, 237-271.
- Young, D. and Keil, R., 2007. Re-regulating the urban water regime in neoliberal Toronto. In: N. Heynen, et al., eds. *Neoliberal environments: false promises and unnatural consequences*. New York: Routledge, 139-159.

APPENDIX G: ROUGE PARK ALLIANCE EXPENDITURES

ON RESTORATION PROJECTS

Rouge Park Progress Report January 1997

ROUGE PARK, Progress Report, January 1997
A PARTNERSHIP IN NATURAL & CULTURAL HERITAGE PROTECTION

6

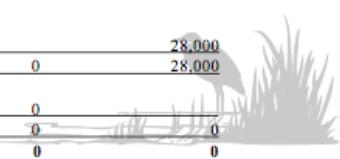
Financial Report

The attached report from the Metro Toronto and Region Conservation Authority provides the financial statement for the Rouge Park Alliance for the period April 1, 1995 to December 31, 1996. The accompanying chart indicates the percentage breakdown of expenditures incurred by the Rouge Park Alliance for the same period.

The Waterfront Regeneration Trust has also provided a financial statement for the same period dealing with the Federal Funds being administered by the Waterfront Regeneration Trust on behalf of the Rouge Park Alliance. We wish to thank both the Metro Toronto and Region Conservation Authority and the Waterfront Regeneration Trust for providing their in-kind financial administration assistance.

ROUGE PARK ALLIANCE SCHEDULE OF EXPENDITURES
For the Year ended December 31, 1996

	1996	1995 (From Apr. 1/95)	Total
ADMINISTRATION:			
Revenue -			
Donation	250		250
Provincial - MNR		121,500	121,500
Provincial - In kind	85,500	67,500	153,000
Provincial - Additional MNR	8,000		8,000
Provincial - MMA	46,492		46,492
Interest	44,700		
	<u>184,942</u>	<u>189,000</u>	<u>329,492</u>
Expenditures -			
Wages and benefits	140,751	69,256	210,007
Other	61,817	102,118	163,935
	<u>202,568</u>	<u>717,374</u>	<u>373,942</u>
Surplus (Deficit)	<u>(17,626)</u>	<u>17,626</u>	<u>0</u>
PLANNING:			
Revenue -			
Provincial - MNR	317,200	317,233	634,433
Federal	40,000		40,000
	<u>357,200</u>	<u>317,233</u>	<u>674,433</u>
Expenditures -			
Other	152,068	0	
Carry Forward Amount	<u>205,132</u>	<u>317,233</u>	<u>522,365</u>
CAPITAL:			
Revenue -			
Interest	28,000		28,000
	<u>28,000</u>	<u>0</u>	<u>28,000</u>
Expenditures -			
Morningside Tributary Study	28,000	0	0
	<u>28,000</u>	<u>0</u>	<u>0</u>
Carry Forward Amount	<u>0</u>	<u>0</u>	<u>0</u>



Rouge Park Progress Report January 1998

Rouge Park Progress Report, January 1998
A PARTNERSHIP IN NATURAL & CULTURAL HERITAGE PROTECTION

7

ROUGE PARK ALLIANCE
SCHEDULE OF REVENUES AND EXPENDITURES
For the Year ended December 31, 1997
(Prepared by the Metro Toronto & Region Conservation Authority)

CAPITAL:

Revenue -	
Principle from Investments	532,867
Region of York	<u>23,657</u>
	<u><u>556,524</u></u>
Expenditures -	
Capital Projects (see Schedule below)	<u>318,631</u>
	<u><u>318,631</u></u>
Carry Forward Amount	<u><u>237,893</u></u>

ROUGE PARK ALLIANCE
SCHEDULE OF CAPITAL PROJECTS
For the Year ended December 1997
(Prepared by the Metro Toronto & Region Conservation Authority)

1997

CAPITAL:

Revenue -	
Principle from Investments	532,867
Region of York	<u>23,657</u>
	<u><u>556,524</u></u>

Expenditures -		1997 Funding
Capital Projects		
Heritage Program Manager	39,843	40,000
Vegetation Management Pilot Sites	0	80,000
Morningside Tributary Aquatic Rehabil.	15,000	15,000
Herpetofauna/Avifauna Habitat Restor.	7,825	7,825
Yellow Fish Road	9,846	9,500
Stewardship Program	0	23,657
Parkview Dam	5,000	5,000
Rouge Marshes	15,000	15,000
Valley Halla Rent	10,000	10,000
Toogood Pond	150,000	212,542
10,000 Trees for the Rouge Valley	12,000	12,000
Cultural Heritage	33,477	90,000
Morningside Tributary Tree Planting	6,000	6,000
Hydro Corridor	<u>15,000</u>	<u>30,000</u>
Total	<u><u>318,631</u></u>	<u><u>584,524</u></u>



Progress Report: January 1998 to December 1999

ROUGE PARK PROGRESS REPORT: January 1998 to December 1999

ROUGE PARK ALLIANCE
SCHEDULE OF REVENUES AND EXPENDITURES
For the Year ended December 31, 1999
(Prepared by the Toronto and Region Conservation Authority)

CAPITAL:	1998	1999
Receipts -		
Waterfront Regeneration Trust	\$307,417	248,728
Provincial - MNR	<u>25,000</u>	<u>25,188</u>
	<u>332,417</u>	<u>273,916</u>
 Expenditures -		
Capital Projects	<u>375,782</u>	<u>384,597</u>
	<u>375,782</u>	<u>384,597</u>
 Excess of expenditures over receipts	(43,365)	(110,681)
Balance, beginning of year	<u>237,893</u>	<u>194,528</u>
Balance, end of year	\$194,528	\$ 83,847*
	=====	=====

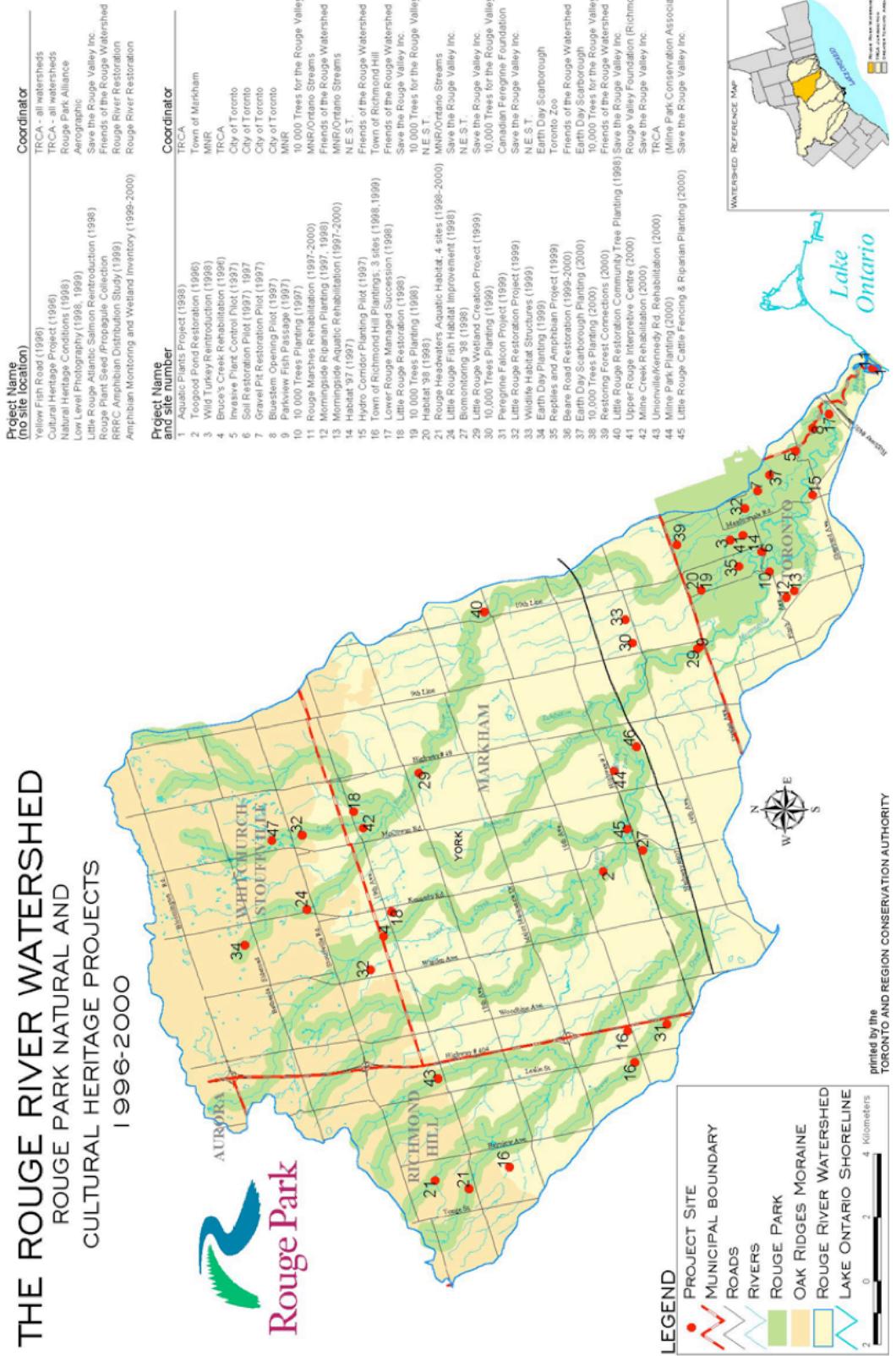
* Multi-year Projects

FUNDRAISING:

Revenue -	2,743	\$ 436
Donations and sundry		
 Expenditures	2	5
	2,741	431
Balance, beginning of year	<u>14,941</u>	<u>17,682</u>
Balance, end of year	<u>17,682</u>	<u>18,113</u>

THE ROUGE RIVER WATERSHED

ROUGE PARK NATURAL AND CULTURAL HERITAGE PROJECTS 1996-2000





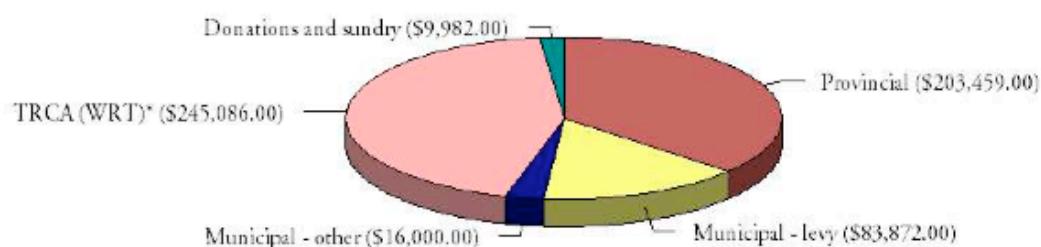
Financial Statement

Statement of Financial Position: December 31, 2000

Assets	
Cash - held in trust by the Toronto and Region Conservation Authority	\$606,995
Liabilities	
Deferred revenue	\$587,374
Fund Balance	
Surplus	<u>\$ 19,621</u>
	\$606,995

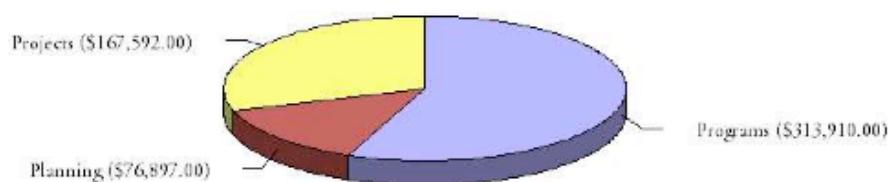
Statement of Financial Activities and Surplus: Year Ended December 31, 2000

2000 Revenues



*Toronto and Region Conservation Authority (Waterfront Regeneration Trust)

2000 Expenditures



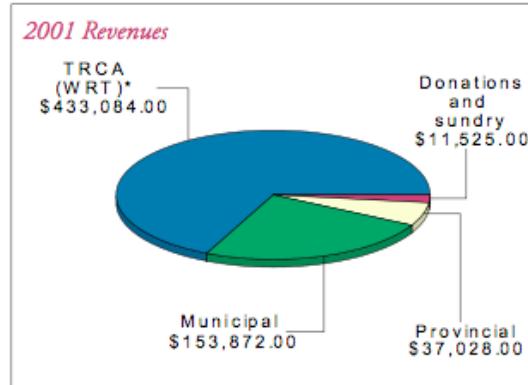
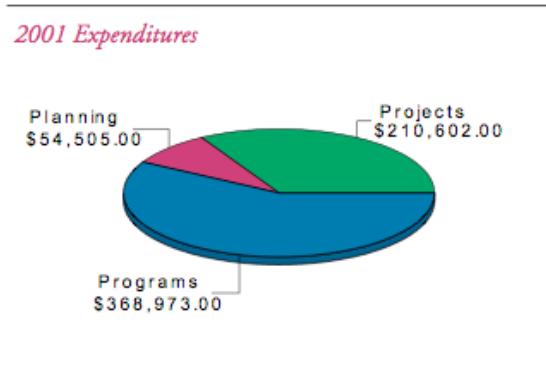


Financial Statement

Statement of Financial Position: December 31, 2001

Assets	
Cash held in trust by the Toronto and Region Conservation Authority	\$508,312
Liabilities	
Deferred revenue	\$487,262
Fund balance	
Surplus end of 2001	\$ 21,050

Statement of Financial Activities: Year Ended December 31, 2001



* Toronto and Region Conservation Authority (Waterfront Regeneration Trust)

***Notes to financial statement:*

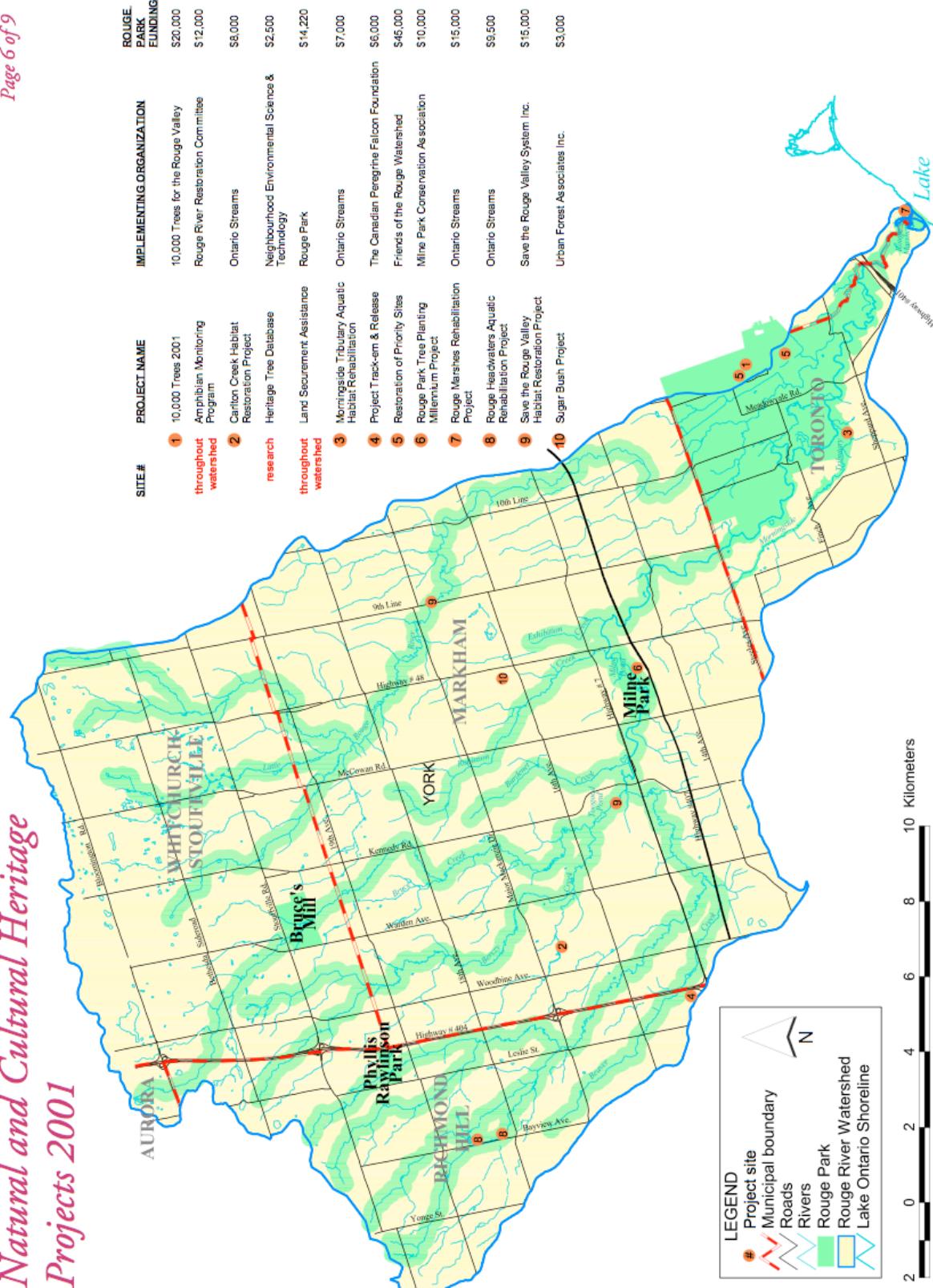
The Rouge Park Alliance is a partnership of 13 public sector bodies, including the Government of Canada, the Province of Ontario, the Regional Municipalities of Durham and York, the municipalities of Markham, Pickering, Richmond Hill, Toronto and Whitchurch-Stouffville, and the Toronto and Region Conservation Authority, Toronto Zoo, Waterfront Regeneration Trust, and one not-for-profit sector group, Save the Rouge Valley System Inc. The Alliance provides leadership to the partners and others for the implementation of the Rouge Park management plans.

Significant Accounting Policy:

Deferred Revenue - The Alliance receives certain amounts, principally from other public sector bodies, which may only be used in the conduct of certain programs or completion of specific work. These amounts are recognized as revenue in the year that the related expenditures are incurred or services performed.

Natural and Cultural Heritage Projects 2001

Page 6 of 9



2003 Annual Progress Report

Financial Statement

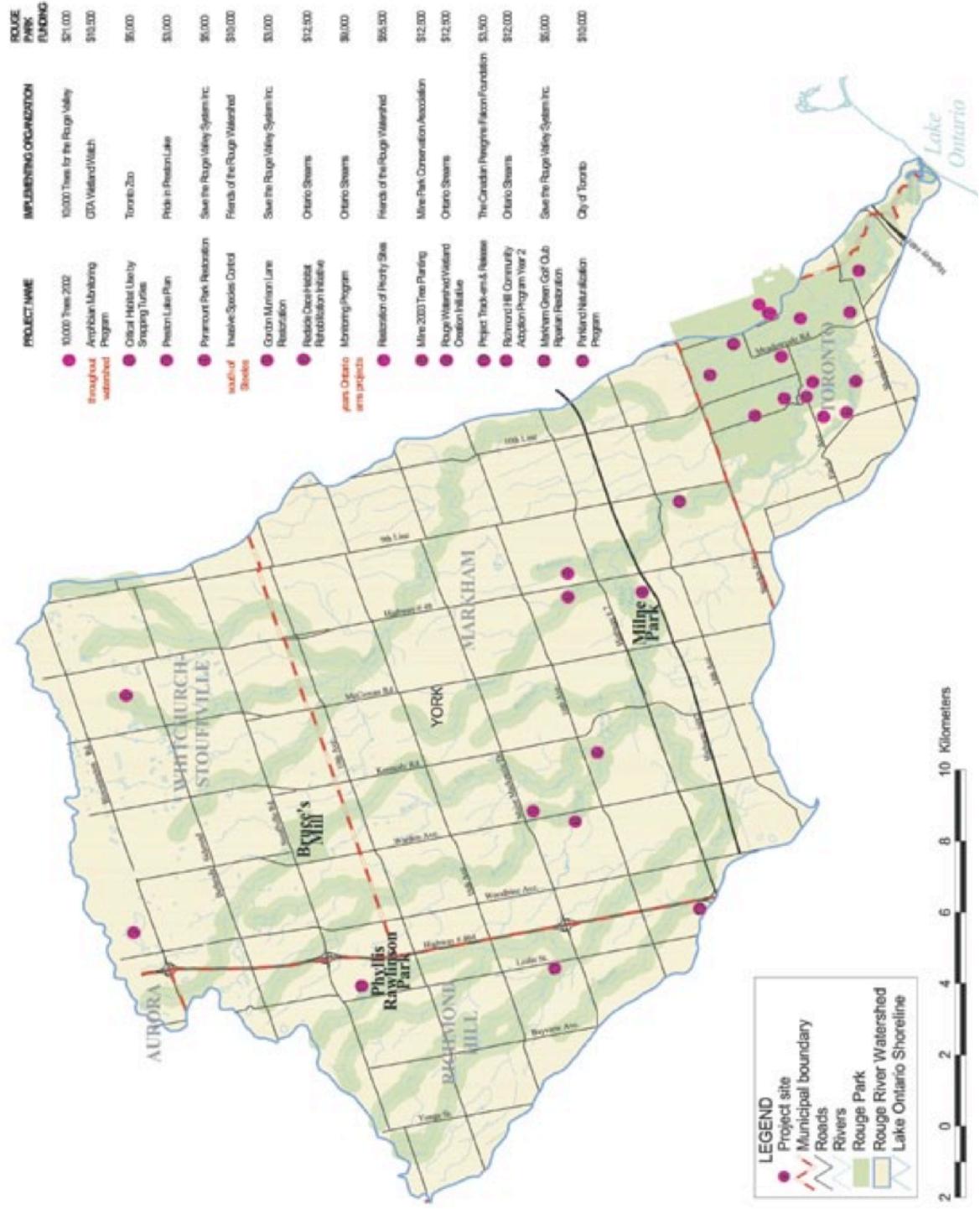
Statement of Financial Position December 31, 2003, with comparative figures for 2002

	2003	2002 (Unaudited)
Assets		
Due from Toronto and Region Conservation Authority	\$ 566,813	\$ 376,530
Accounts receivable:		
- Federal EcoAction program	1,320	9,000
- Project sponsor	-	11,250
- Municipal – Town of Markham	25,000	-
	\$ 593,133	\$ 396,780
Liabilities and Net Assets		
Liabilities:		
Accrued liabilities	\$ 4,800	\$ -
Project holdbacks	29,580	17,130
Deferred revenue	312,659	355,704
	347,038	372,834
Net assets:		
Unrestricted	246,095	23,946
Lease commitments	\$ 593,133	\$ 396,780

Note: This financial information is not complete; it has been extracted from the complete set of audited financial statements which includes the independent auditor's report, notes and supplementary financial information. Please see www.rougepark.com for full details of the audited financial statement.

Statement of Expenditures and Revenue Year ended December 31, 2003, with comparative figures for 2002

	2003 Budget (unaudited)	2003 (unaudited)	2002 (unaudited)
Expenditures			
Programs	\$ 402,500	\$ 375,714	\$ 348,641
Planning	-	53,983	53,730
Projects	305,500	230,253	261,819
	708,000	659,950	664,190
Revenue			
WRT/TRCA	523,200	438,787	461,935
Habitat improvement initiative	-	223,145	-
Provincial	23,000	53,983	54,623
Municipal	119,200	119,200	113,904
Federal	17,600	4,480	28,728
Donations and sundry	25,000	42,504	7,896
	708,000	882,099	667,086
Excess of revenue over expenditures	-	222,149	2,896
Net assets, beginning of year	23,946	23,946	21,050
Net assets, end of year	\$ 23,946	\$ 246,095	\$ 23,946



2004 Annual Report

Finances

Statement of Financial Position
31 December 2004, with comparative figures for 2003

	2004	2003
Assets		
Due from Toronto and Region Conservation Authority	\$ 498,122	\$ 566,813
Accounts receivable:		
- Federal program	-	1,320
- Municipal – Town of Markham	25,000	25,000
	\$ 523,122	\$ 593,133
Liabilities and Net Assets		
Current liabilities:		
Accrued liabilities	\$ 4,800	\$ 4,800
Project holdbacks	28,830	29,580
<u>Deferred revenue</u>	327,245	312,658
	360,875	347,038
Net assets:		
Unrestricted	162,247	246,095
	\$ 523,122	\$ 593,133

Note: This financial information is not complete; it has been extracted from the complete set of audited financial statements which includes the independent auditor's report, notes and supplementary financial information. Complete audited financial statements may be found at www.rougepark.com

Statement of Expenditures and Revenue and Changes in Net Assets
Year ended 31 December 2004, with comparative figures for 2003

	2004 Budget (unaudited)	2004	2003
Expenditures			
Programs	\$ 430,400	\$ 382,496	\$ 375,714
Planning	100,000	11,630	53,983
Projects	363,200	235,770	230,253
	893,600	629,896	659,950
Revenue			
Waterfront Regeneration Trust Corporation/ Toronto & Region Conservation Authority	\$ 500,275	\$ 359,557	\$ 438,787
Habitat Improvement Initiative	-	-	223,145
Provincial	121,725	35,219	53,983
Municipal	128,600	128,600	119,200
Federal	14,900	3,420	4,480
Rental - net	-	15,239	-
Donations and sundry	25,000	4,013	42,504
	790,500	546,048	882,099
Excess of (expenditures over revenue) revenue over expenditures	(103,100)	(83,848)	222,149
Net assets, beginning of year	246,095	246,095	23,946
Net assets, end of year	\$ 142,995	\$ 162,247	\$ 246,095



2004 Heritage Projects			
# on map	Project Name	Organization	Approved Funding
throughout watershed	Redside Dace Outreach Program	Toronto Zoo	\$23,000
throughout watershed	Project School Visit	Canadian Peregrine Falcon Foundation	\$8,000
1	Milne 2004 tree planting	Milne Park Conservation Association	\$10,000
2	10,000 Trees Planting Event	10,000 Trees for the Rouge Valley	\$15,600
3	Rouge Watershed Wetland Creation, Year 2	Ontario Streams	\$15,000
3	The Rouge River watershed Wetland Creation Initiative Year 2: Request for Additional Funds	Ontario Streams	\$5,000
4	The Rouge Stream and Habitat Monitoring Project	Citizen Scientists Program	\$7,500
5	Richmond Hill Community Adopt-a-stream Program, Year 3	Ontario Streams	\$12,500
6	Restoration of Priority Sites	Friends of the Rouge Watershed	\$57,000
7	Redside Dace Habitat Rehabilitation Initiative, Phase 2	Ontario Streams	\$12,500
8	Carrick Restoration Project	Toronto & Region Conservation Authority	\$10,500
9	Bruce's Mill Dam Decommissioning and Wildlife Habitat Enhancement	Toronto & Region Conservation Authority	\$9,000
10	Plug Hat Restoration Project, Year 2 (formerly Parkland Naturalization Program)	City of Toronto	\$6,000
11	Critical Habitat use by Turtles in Rouge Park	Toronto Zoo	\$7,000
12	Native Wildflower Seeding and Plantings on New Topsoil at Beare Landfill and Borrow Pit	Friends of the Rouge Watershed	\$12,000

Natural & Cultural Heritage Projects 2004 Summary

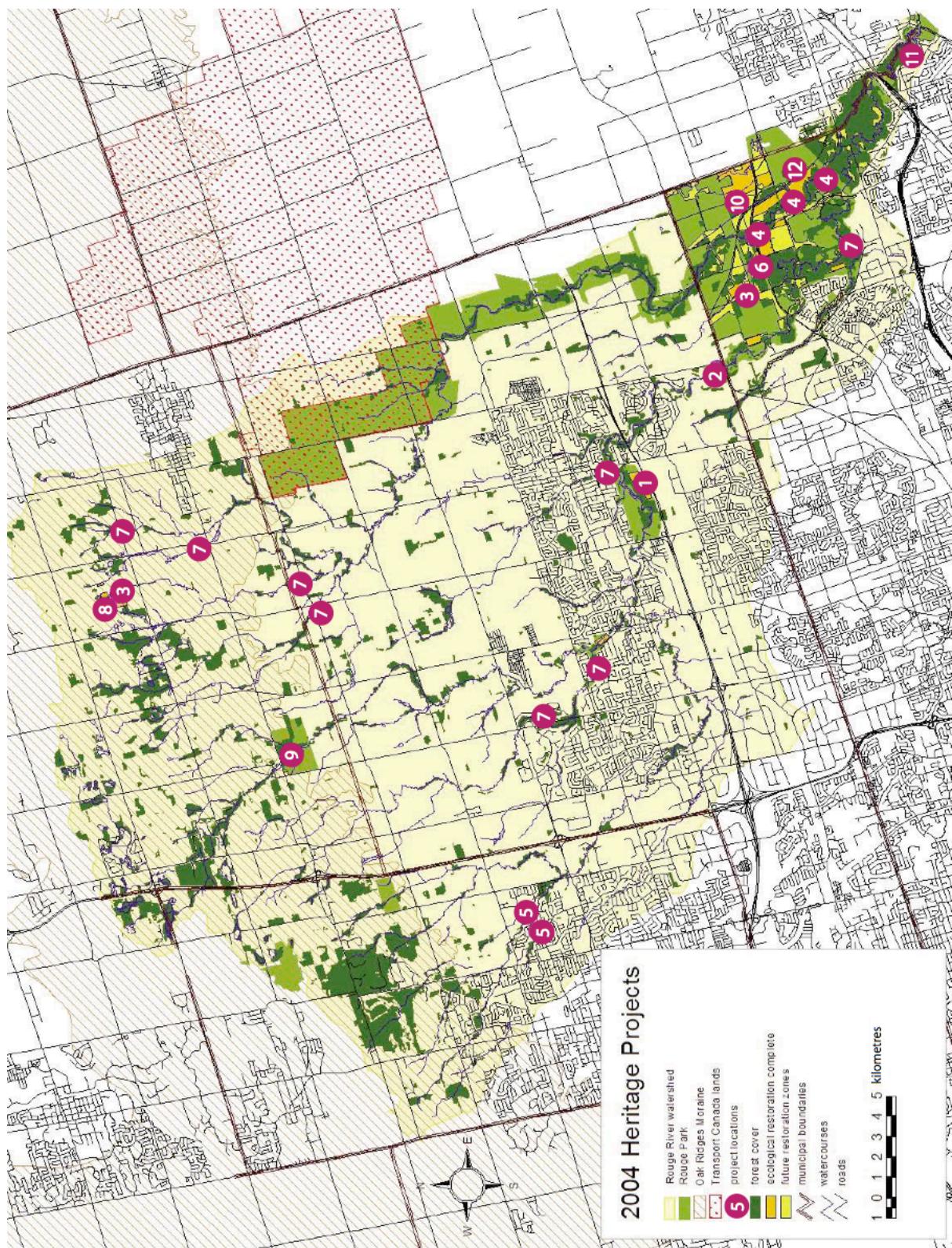
- Public awareness and education: 11 projects involved public awareness and education through in-school presentations, newsletters, websites, interpretive hikes, workshops, attending public events and tree plantings
- Rouge Park funding contribution: \$179,050
- Cash contributions from external groups: \$504,555
- In-kind contributions from external groups: \$363,603
- Total number of projects: 14
- Volunteer participation: 4802 volunteers contributed over 14,000 hours

For every \$1 of Rouge Park Alliance funds, roughly \$2 of in-kind contributions and \$3 of funds, a total of \$5 worth of additional partnership support was achieved.

In 2004, \$1,047,208 worth of projects were implemented in the Rouge River watershed.

1996 to 2004 Summary Natural & Cultural Heritage Projects

- Volunteer participation: over 36,000 volunteers contributed a total of 88,400 hours
- Public awareness and education: 27 projects involved public awareness and education through in-school presentations, newsletters, websites, interpretive hikes, workshops, attending public events and tree plantings
- Since the grant programme began, Rouge Park has contributed close to \$2,000,000 with a total value of almost \$8 million in restoration work throughout the Park and watershed
- Total number of projects funded: 122



2005 Annual Report

Finances

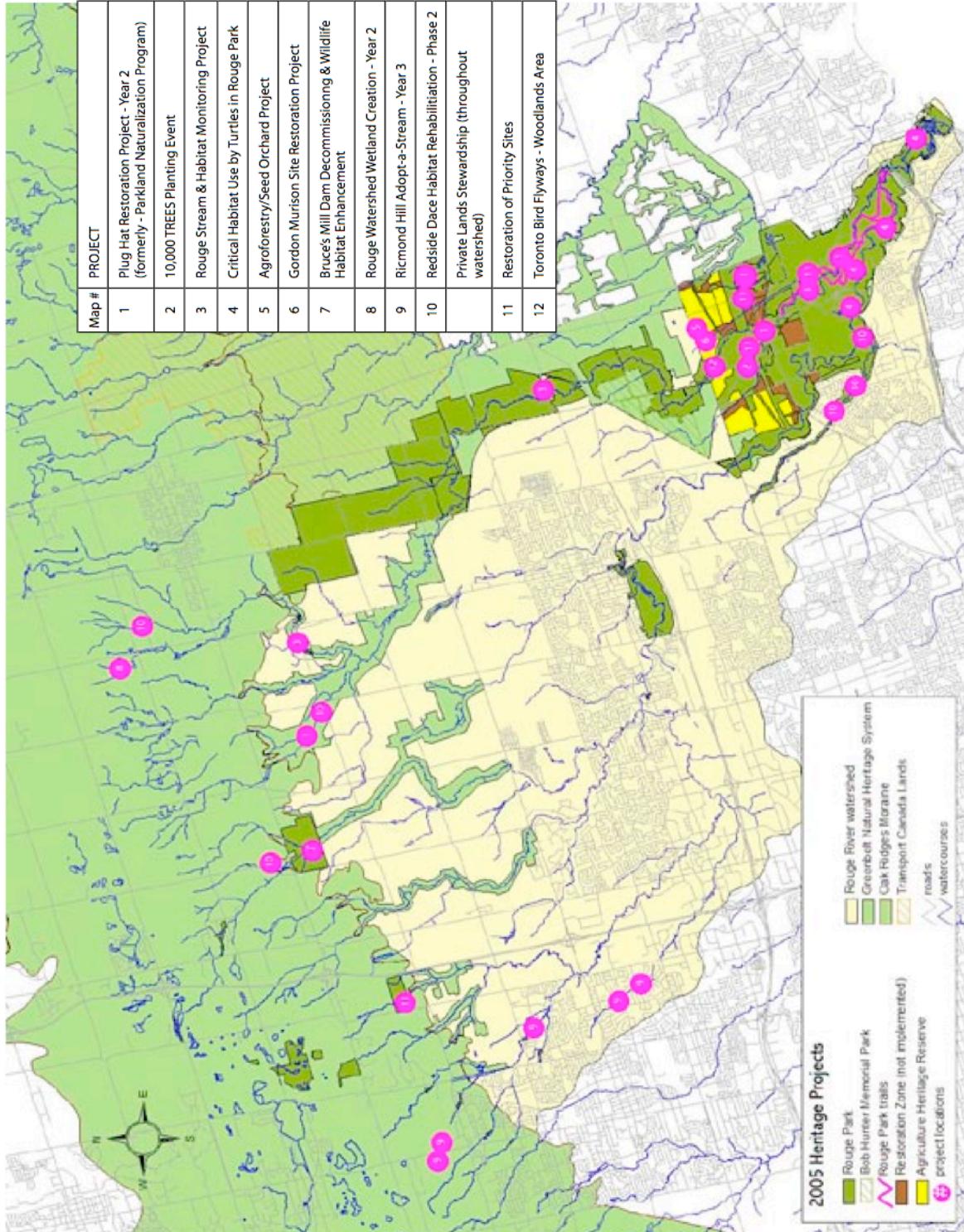
Statement of Financial Position
31 December 2005, with comparative figures for 2004

	2005	2004
Assets		
Due from Toronto and Region Conservation Authority	\$ 353,832	\$ 498,122
Accounts receivable:		
Municipal – Town of Markham	25,000	25,000
	\$ 378,832	\$ 523,122
Liabilities and Net Assets		
Current liabilities:		
Accrued liabilities	\$ 4,800	\$ 4,800
Project holdbacks	25,450	28,830
Deferred revenue	308,077	327,245
	338,327	360,875
Net assets:		
Unrestricted	40,505	162,247
	\$ 378,832	\$ 523,122

Note: This financial information is not complete; it has been extracted from the complete set of audited financial statements which includes the independent auditor's report, notes and supplementary financial information. Complete audited financial statements may be found at www.rougepark.com

Statement of Expenditures and Revenue and Changes in Net Assets
Year ended 31 December 2005, with comparative figures for 2004

	2005 Budget (unaudited)	2005	2004
Expenditures			
Programs	\$ 447,900	\$ 444,462	\$ 382,496
Planning	372,150	190,062	11,630
Projects	136,500	150,907	235,770
	956,550	785,431	629,896
Revenue			
Waterfront Regeneration Trust Corporation/ Toronto & Region Conservation Authority	\$ 540,000	\$ 312,262	\$ 359,557
Toronto & Region Conservation Authority	30,000	28,000	-
Provincial	100,500	104,407	35,219
Municipal	171,300	171,300	128,600
Federal	14,000	5,200	3,420
Rental - net	40,000	40,505	15,239
Donations and sundry	2,500	2,015	4,013
	898,300	663,689	546,048
Excess of (expenditures over revenue) revenue over expenditures	(58,250)	(121,742)	(83,848)
Net assets, beginning of year	162,247	162,247	246,095
Net assets, end of year	\$ 103,997	\$ 40,505	\$ 162,247



Finances
Statement of Expenditures and Revenue and Changes in Net Assets
Year ended December 31, 2006, with comparative figures for 2005

	2006 Budget (unaudited)	2006	2005
Expenditures			
Programs	\$ 575,300	\$ 515,122	\$ 444,462
Projects	456,350	292,526	190,062
Planning	128,000	28,174	150,907
	1,159,650	835,822	785,431
Revenue			
Waterfront Regeneration Trust Corporation/			
Toronto and Region Conservation Authority	844,250	588,801	312,262
Toronto and Region Conservation Authority	-	-	28,000
Provincial	76,000	71,243	104,407
Municipal	139,400	145,400	171,300
Federal	-	1,667	5,200
Rental – net	60,000	13,663	40,505
Donations and sundry	-	15,048	2,015
	1,119,650	835,822	663,689
Excess of (expenditures over revenue) revenue over expenditures	(40,000)	-	(121,742)
Net assets, beginning of year	40,505	40,505	162,247
Net assets, end of year	\$ 505	\$ 40,505	\$ 40,505

Note: This financial information is not complete; it has been extracted from the complete set of audited financial statements which include the independent auditor's report, notes and supplementary financial information. Complete audited financial statements may be found at www.rougepark.com

Objective: Natural Heritage

To protect, restore and enhance the natural ecosystem of the Park by ensuring the health and diversity of its native species, habitats, landscapes, and ecological processes. To ensure protection of the ecological integrity and cultural values of the park through innovative planning, management, and land use in the Park and its environs.

Ecological Restoration Site Planning

With financial assistance from the Friends of the Greenbelt Foundation, we began the preparation of "site prescriptions", or ecological restoration site plans, in the Little Rouge Corridor section of the Park.

Natural Heritage Action Plan

We are now well into the development of our next five-year Action Plan, which will recommend an ecological restoration strategy for upcoming years. We have traditionally restored 25 to 50 hectares annually, but with the recent growth of the Park to 4,700 hectares, additional funding and strategies for large scale ecological restoration are clearly needed.

2006 Projects Funded Total: \$164,550

"10,000 Trees for the Rouge Valley" 17th Annual Planting

Ecological restoration through tree and shrub planting with community participation.

Wetland, Woodland & Wildflower Habitat Project

Wetland creation and vegetation planting project with community participation.

Restoration of Priority Sites

Ecological restoration through tree and shrub planting with community participation.

Rouge River Watershed Redside Dace Rehabilitation

Rare species recovery through stream restoration.

Murison Forest Enclave

Ecological restoration through tree and shrub planting with community participation.

Richmond Hill Adopt-a-Stream

Community outreach project.

Critical Habitat Use by Turtles in Rouge Park

Remote tracking of turtle movement to determine habitat requirements.

Wetland Enhancement

Wetland creation and vegetation planting project with community participation.

Boyd Archaeological Field School

Subsidy for students to participate in actual archaeological excavation in the Park and contributes to our knowledge of the Park's cultural heritage.

Stream and Habitat Monitoring Project

Citizen participation in monitoring aquatic conditions in the watershed.

Walden Pond - Austin Drive Park Project

Ecological restoration through tree and shrub planting with community participation.

"Dog-strangling Vine" Research Study

Invasive species research study to determine feasible control methods.

Invasive Plant Inventory

Researching variety and proliferation of invasive flora species.

Funded \$4450

Richmond Hill Earth Day 2006 planting

Ecological restoration through tree and shrub planting with community participation.

Funded \$4000

Funded \$12 500

Funded \$10 000

Finances
Statement of Expenditures and Revenue and Changes in Net Assets
Year ended December 31, 2007, with comparative figures for 2006

	2007 Budget (unaudited)	2007	2006
Expenditures			
Programs	\$ 539,000	\$ 515,409	\$ 515,122
Projects	629,700	365,501	292,526
Planning	225,000	47,209	28,174
	1,393,700	928,119	835,822
Revenue			
Waterfront Regeneration Trust Corporation/ Toronto and Region Conservation Authority	715,600	537,658	588,801
Provincial	289,800	113,230	71,243
Municipal	151,000	144,000	145,400
Federal	-	-	1,667
Interest	30,000	36,262	-
Rental – net	60,000	57,110	13,663
Donations and sundry	147,300	39,859	15,048
	1,393,700	928,119	835,822
Excess of (expenditures over revenue) revenue over expenditures	-	-	-
Net assets, beginning of year	40,505	40,505	40,505
Net assets, end of year	\$ 40,505	\$ 40,505	\$ 40,505

Note: This financial information is not complete; it has been extracted from the complete set of audited financial statements which include the independent auditor's report, notes and supplementary financial information. Complete audited financial statements may be found at www.rougepark.com

Objective: Natural Heritage

To protect, restore and enhance the natural ecosystem of the Park by ensuring the health and diversity of its native species, habitats, landscapes, and ecological processes. To ensure protection of the ecological integrity and cultural values of the park through innovative planning, management, and land use in the Park and its environs.

Preparation for 2008

Each restoration project undertaken in Rouge Park requires an archaeological assessment, site preparation and communication with tenants and partners. In 2007 we completed the archaeological assessments and planning needed for implementation of all planned 2008, and some planned 2009 restoration projects. This allowed the groups who implemented the projects the maximum amount of time needed for planning.

Rouge Park staff developed detailed strategies for all remaining restoration areas, guiding future habitat restoration efforts.

In 2007 we took significant steps to develop and strengthen partnerships with a number of our working partners, including municipalities, environmental non-government organisations, Toronto and Region Conservation Authority, and numerous community groups. By improving our partnerships we increase the rate at which habitat restoration can occur.

Project	Funded
Critical Habitat Use by Turtles in Rouge Park Toronto Zoo	\$15 000
Restoration of Priority Sites Friends of the Rouge Watershed	\$50 000
Stream and Habitat Monitoring Project Citizen Scientists	\$5904
Invasive Plant Inventory and Control - Phase III Rouge Valley Foundation	\$12 800
Richmond Hill Headwaters Rehabilitation Program Ontario Streams	\$12 500
Walden Pond Austin Drive Park Project Community Resources Centre	\$6125
Native Seed Collection, Treatment and Dispersal Friends of Rouge Watershed	\$10 000
North Berm Afforestation 10 000 Trees for the Rouge Valley	\$25 000
Rouge watershed Wetland Creation Project Ontario Streams	\$6000
TOTAL	\$143 329

Rouge Park Annual Report 2008

Finances

Statement of Expenditures and Revenue and Changes in Net Assets

Year ended December 31, 2008, with comparative figures for 2007

Note: This financial information is not complete; it has been extracted from the complete set of audited financial statements which include the independent auditor's report, notes and supplementary financial information. Complete audited financial statements may be found at www.rougepark.com

	2008 Budget (unaudited)	2008	2007
Expenditures			
Programs	\$ 630,900	\$ 609,749	\$ 515,409
Projects	499,200	307,962	365,501
Planning	202,100	152,722	47,209
	1,332,200	1,070,433	928,119
Revenue			
Waterfront Regeneration Trust Corporation through			
Toronto and Region Conservation Authority	546,200	484,041	537,658
Federal	47,100	-	-
Provincial	332,400	304,404	113,230
Municipal	200,800	173,800	144,000
Topsoil Habitat Creation Berm Project	-	217,462	-
Interest	35,000	27,885	36,262
Rental – net	60,000	75,564	57,110
Donations and sundry	110,700	4,739	39,859
	1,332,200	1,287,895	928,119
Excess of revenue over expenditures	-	217,462	-
Net assets, beginning of year	40,505	40,505	40,505
Net assets, end of year	\$ 40,505	\$ 257,967	\$ 40,505

Research and Monitoring

While all of the habitat restoration projects require grant recipients to provide reports of accomplishments and successes, the Citizen Scientists received funding from the RPA to continue survey of stream water quality and aquatic insect health. This ongoing project dove-tails with the park's own monitoring that assesses success of plantings and numbers of birds seen in winter.

Given the ambitious pace of our restoration efforts, Rouge Park staff have also begun to strengthen and diversify our ecological monitoring program in order to better assess project outcomes and conservation needs. We look forward to undertaking a number of exciting new monitoring initiatives in 2009.

Preparation for 2009

With the Rouge Park Alliance's approval of the Natural Heritage Implementation Plan efforts began for delivery of the restoration activities.

There was continued strengthening of partnerships within the RPA, future sites were allocated to delivery partners, site preparations and archaeology were arranged for and, late in 2008 conversations with the farming community had begun.

The stage has been well set for acceleration of the Park's growth in 2009 and we anticipate major gains in habitat establishment and strengthened partnerships.

Project	Funded
Reesor Wetland Creation (2008) Friends of the Rouge Watershed	\$20 000
19th Annual Wildlife Habitat Restoration 10,000 Trees for the Rouge	\$25 000
Management of Turtle Populations Toronto Zoo	\$15 640
Restoration of Priority Sites Friends of the Rouge Watershed	\$40 000
2008 Donald Cousens Parkway North Berm and East Half Flatland Restoration Rouge Valley Foundation	\$28 400
Little Rouge Creek Aquatic Enhancement Ontario Streams	\$10 000
Rouge Stream and Habitat Monitoring Citizen Scientists	\$6 268
Native Seed Collection Friends of the Rouge Watershed	\$5 000
TOTAL	\$150 308

REFERENCES

- 10,000 Trees for the Rouge. 2010. *About Us*. <http://www.10000trees.com/aboutus.html> (accessed 10 May 2010)
- Abbate, G. 1985a. Land agency wants to develop 750 hectares in Scarboro. *The Globe and Mail*, 30 March, p. M2.
- Abbate, G. 1985b. Scarboro study rejects development plan. *The Globe and Mail*, 30 May, p. M5.
- Abbate, G. 1986. Death of wildlife deplored in Scarboro swamp draining. *The Globe and Mail*, 8 May, p. A16.
- Abbate, G. 1988a. Scarboro valley preserve sought. *The Globe and Mail*, 14 April, p. A19.
- Abbate, G. 1988b. Angry Markham residents denounce Rouge project. *The Globe and Mail*, 31 May, p. A20.
- Abbate, G. 1988c. Rouge Valley development wins committee's approval. *The Globe and Mail*, 1 June, p. A15.
- Abbate, G. 1988d. 1,200 urge Rouge Valley be preserved. *The Globe and Mail*, 28 June, p. 14.
- Abbate, G. 1988e. Ottawa offers aid to save Rouge lands. *The Globe and Mail*, 16 September, p. A16.
- Agger, R., Goldrich, D. and Swanson, B. E. 1964. *The rulers and the ruled: Political power and impotence in American communities*. New York: John Wiley and Sons.

- Agrawal, A. 1995. Dismantling the divide between indigenous and scientific knowledge. *Development and Change* 26(3): 413-439.
- Agrawal, A. and Gibson, C. C. 1999: Enchantment and disenchantment: the role of community in natural resource conservation. *World Development* 27(4): 629-649.
- Ahern, J. 1995. Greenways as a planning strategy. *Landscape and Urban Planning* 33(1-3): 131-156.
- Allemand, J. 1984. Modern Pioneers: It's boom time on Metro's last frontier. *The Globe and Mail*, 14 July, p. H1.
- Allen, G. 1990. New Park in Rouge Valley applauded. *The Globe and Mail*, 27 March, p. A1.
- Amati, M. 2008. Green Belts: A Twentieth-century Planning Experiment. In M. Amati (ed), *Urban Greenbelts in the Twenty-first Century*. Hampshire: Ashgate, p. 1-17.
- Anan'ich, B. and Kobak, A. 2006. St Petersburg and green space, 1850-2000: an introduction. In P. Clarke (ed), *The European City and Green Space*. Aldershot: Ashgate, p. 247-71.
- Armstrong, J. 1988. Bradley vows he'll save part of the Rouge. *Toronto Star*, 15 April, p. A23.
- Arnstein, S. R. 1969. A ladder of public participation. *Journal of the American Institute of Planners* 35(4): 216-224.
- Aronson, J., Milton, S. J. and Blignaut, J. N. (eds) 2007. *Science, Business, and Practice*. Washington: Island Press.
- Bakker, K. 2003. *An Uncooperative Commodity: Privatizing Water in England and Wales*. Oxford: Oxford University Press.

- Bakker, K. 2005. Neoliberalizing Nature? Market Environmentalism in Water supply in England and Wales. *Annals of the Association of American Geographers* 95(3): 542-565.
- Banff National Park Management Plan. 2007. <http://www.pc.gc.ca/pn-np/ab/banff/docs/plan1/plan1a.aspx> (accessed 8 April 2011)
- Barber, B. R. 1984. *Strong Democracy*. Berkeley: University of California Press.
- Beck, U. 1992. *Risk Society: Towards a New Modernity*. London: Sage Publications.
- Beck, U. 1996. Risk Society and the Provident State. In S. Lash, B. Szerszynski and B. Wynne (eds), *Risk Environment and Modernity*. London: Sage Publications,
- Beck, U. 1999. *World Risk Society*. Malden: Blackwell Publishers.
- Beck, U., Giddens, A. and Lash, S. 1994. *Reflexive Modernization: Politics, Tradition and Aesthetics in the Modern Social Order*. Cambridge: Polity Press.
- Beierle, T. C. and Konisky, D. M. 2001. What are we gaining from stakeholder involvement? Observations from environmental planning in the great lakes. *Environment and Planning C* 19(4): 515-527.
- Bessette, J. M. 1980. Deliberative Democracy: The Majority Principle in Republican Government. In R. Goldwin and W. Shambra (eds), *How Democratic is the Constitution?* Washington: American Enterprise Institute for Public Policy Research.
- Besson, S. and Marti, J. L. 2006. Introduction. In S. Besson and J. L. Marti (eds) *Deliberative Democracy and its Discontents*. Hampshire: Ashgate.
- Bloor, D. 1976. *Knowledge and Social Imagery*. London: Routledge, Keegan and Paul.
- Bocking, S. 1997. *Ecologists and Environmental Politics: A History of Contemporary Ecology*. New Haven: Yale University Press.

- Bocking, S. 2002. Agendas, Interests, and Authority: Science and Politics in Canada. *Journal of Canadian Studies* 37(3): 5-13.
- Bocking, S. 2004. *Nature's Experts: Science, Politics, and the Environment*. New Brunswick: Rutgers University Press.
- Bocking, S. 2005. Protecting the Rain Barrel: Discourses and the Roles of Science in a Suburban Environmental Controversy. *Environmental Politics* 14 (5): 611-628.
- Born, S. M. and Sonzogni, W. C. 1995. Integrated environmental management: Strengthening the conceptualization. *Environmental Management* 19(2): 167-181.
- Brandon, K., Redford, K. H. and Sanderson, S. (eds) 1998. *Parks in peril: people, politics, and protected areas*. Washington: Island Press.
- Braun, B. and Castree, N. (eds) 1998. *Remaking Reality: Nature at the Millennium*. London: Routledge.
- Breiling, M. and Ruland, G. 2008. The Vienna Green Belt: From Localised Protection to a Regional Concept. In M. Amati (ed), *Urban Greenbelts in the Twenty-first Century*. Hampshire: Ashgate, p. 167-184.
- Brennan, R. J. 2011. Critics fear Conservatives will give Pickering airport wings. *Toronto Star*. <http://www.thestar.com/printarticle/980636> (accessed 26 April 2011)
- Brenner, N. 2002. Decoding the Newest “Metropolitan Regionalism” in the USA: A Critical Overview. *Cities* 19(1): 3-21.
- Brenner, N. and Theodore, N. 2002. Cities and the Geographies of “Actually Existing Neoliberalism”. *Antipode* 34:349-379.
- Broderick, K. 2005. Communities in Catchments: Implications for Resource Management. *Geographical Research* 43(3): 286-296.

- Bruner, A. G., Gullison, R. E., Rice, R. E. and da Fonseca, G. A. B. 2001. Effectiveness of parks in protecting tropical biodiversity. *Science* 291: 125-128.
- Bunce, M. 1985. Agricultural Land as a Real Estate Commodity: Implications for farmland preservation in the North American Urban Fringe. *Landscape Planning* 12(2): 177-192.
- Bunce, M. 1994. *The Countryside Ideal: Anglo-American Images of Landscape*. New York: Routledge.
- Büscher, B. and Dressler, W. 2012. Commodity conservation: The restructuring of community conservation in South Africa and the Philippines. *Geoforum* 43: 367-376.
- Busenberg, G. J. 2000. Resources, Political Support, and Citizen Participation in Environmental Policy: A Reexamination of Conventional Wisdom. *Society and Natural Resources* 13: 579-587.
- Butler, R. W. and Boyd, S. W. 2000. Tourism and parks - a long but uneasy relationship. In R. W. Butler and S. W. Boyd (eds), *Tourism and National Parks: Issues and Implications*. Chichester: John Wiley & Sons, p. 3-12.
- Buxton, M. and Goodman, R. 2003. Practice Review: Protecting Melbourne's Green Belt. *Urban Policy and Research* 21(2): 205-209.
- Buxton, M. and Goodman, R. 2008. Protecting Melbourne's Green Wedges - Fate of a Public Policy. In M. Amati (ed), *Urban Greenbelts in the Twenty-first Century*. Hampshire: Ashgate, p. 61-82.
- Callon, M. 1986. Some Elements of a Sociology of Translation: Domestication of the Scallops and the Fishermen of St Brieuc Bay. In John Law (ed), *Power, Action and Belief: A New Sociology of Knowledge*. London: Routledge & Kegan Paul.
- Canada, Department of Justice. 2008. *Fisheries Act* (R.S., 1985, c. F-14). <http://laws.justice.gc.ca/en/showdoc/cs/F-14//en?page=1> (accessed 10 May 2010)

- Canada Newswire. 2012. *Parks Canada Cuts are placing our Historic Canals in Jeopardy*.
<http://www.newswire.ca/en/story/1054129/parks-canada-cuts-are-placing-our-historic-canals-in-jeopardy> (accessed 5 October 2012)
- Carson, R. 1962. *Silent Spring*. Boston: Houghton Mifflin.
- Carter-Whitney, M. and Esakin, T. 2010. *Ontario's Greenbelt in an International Context*. Canadian Institute for Environmental Law and Policy.
- Castells, M. 1972. *The Urban Question*. London: Edward Arnold.
- Castells, M. 1983. *The City and the Grassroots: A cross-cultural theory of urban social movements*. London: Edward Arnold.
- Castells, M. 1996. *The rise of the network society. The Information Age: Economy, society and culture. Volume 1*. Cambridge: Blackwell.
- Castells, M. 1997. *The power of identity. The Information Age: Economy, society and culture. Volume 2*. Malden: Blackwell.
- Castells, M. 2005. Global Governance and Global Politics. *Political Science and Politics* 38(1): 9-16.
- Castree, N. 2005. *Nature*. New York: Routledge.
- Castree, N. 2008a. Neoliberalising nature: processes, effects, and evaluations. *Environment and Planning A* 40: 153-173.
- Castree, N. 2008b. Neoliberalising nature: the logics of deregulation and reregulation. *Environment and Planning A* 40: 131-152.
- Citizen Scientists. 2010. *About Us*. http://www.citizenscientists.ca/About_Us.html (accessed 5 December 2010)

City of Toronto. 1999. City of Toronto Council and Committees. <http://www.toronto.ca/legdocs/1999/agendas/committees/sc/sc990622/it035b.htm> (accessed 8 April 2011)

Chambers, C. and Sandberg, L. A. 2008. Pits, Peripheralization and the Politics of Scale: Struggles over Locating Extractive Industries in the Town of Caledon, Ontario, Canada. *Regional Studies* 41(3): 327-338.

Cohen, B. 1963. *The Press and Foreign Policy*. Princeton: Princeton University Press.

Collins, H. M. 1985. *Changing Order: Replication and Induction in Scientific Practice*. London: Sage.

Conley, A. and Moote, M. A. Evaluating Collaborative Natural Resource Management. *Society and Natural Resources* 16: 371-386.

Conservation Ontario. 2010. *Fact Sheet*. http://www.conservation-ontario.on.ca/resources/Fact_sheets/CO_Fact_Sheet_Feb_2010.pdf (accessed 5 December 2010)

Conservation Ontario. 2011. *History of Conservation Authorities*. <http://www.conservation-ontario.on.ca/about/history.html> (accessed 8 April 2011)

Cox, K. 1998. Spaces of dependence, spaces of engagement, and the politics of scale, or: Looking for local politics. *Political Geography* 17(1): 1-23.

Cronon, W. 1991. *Nature's Metropolis: Chicago and the Great West*. New York: W. W. Norton & Company.

Cronon, W. 1996. *Uncommon Ground: Rethinking the human place in nature*. New York: W. W. Norton & Company.

Crutzen, P. J. and Stoermer, E. F. 2000. *The Anthropocene*. *Global Change Newsletter* 41: 17-18.

- Dahl, R. A. 1957. Decision-Making in a Democracy: The Supreme Court as a National Policy-Maker. *Journal of Public Law* 6: 279-295.
- Dahl, R. A. 1961. *Who Governs? Democracy and Power in American Society*. New Haven: Yale University Press.
- Dahl, R. A. 1989. *Democracy and Its Critics*. New Haven: Yale University Press.
- Davidoff, P. 1965. Advocacy and pluralism in planning, *Journal of the American Institute of Planners* 21(4): 331-338.
- Davis, M. 1992. *City of Quartz: Excavating the Future in Los Angeles*. New York: Vintage.
- Dearden, P. and Rollins, R. 2002. The Times They Are Still A-Changin'. In P. Dearden and R. Rollins (eds), *Parks and Protected Area Management in Canada: Planning and Management. 2nd Edition*. Toronto: Oxford University Press, p. 3-20.
- Dearden, P. and Rollins, R. 2009. The Times They Are Still A-Changin'. In P. Dearden and R. Rollins (eds), *Parks and Protected Area Management in Canada: Planning and Management, 3rd Ed.* Toronto: Oxford University Press, p. 3-20.
- Delaney, D. and Leitner, H. 1997. The political construction of scale. *Political Geography* 16: 93-97.
- della Porta, D. 1995. *Social Movements, Political Violence, and the State: A Comparative Analysis of Italy and Germany*. Cambridge: Cambridge University Press.
- Demeritt, D. 1998. Science, social constructivism and nature. In B. Braun and N. Castree (eds), *Remaking Reality: Nature at the Millennium*. London: Routledge, p. 172-192.
- Dey, I. 1999. *Grounding grounded theory: Guidelines for qualitative inquiry*. San Diego: Academic Press.
- Don Valley Historical Mapping Project. 2011. *Points of Interest: The Don Narrows*. <http://maps.library.utoronto.ca/dvhmp/don-narrows.html> (accessed 8 April 2011)

- Donovan, K. 1986. Rouge Valley oasis lost to development. *Toronto Star*, 13 May, p, E3.
- Douglass, M. and Friedmann, J. 1998. *Cities for Citizens: Planning and the Rise of Civil Society in a Global Age*. Chichester: John Wiley & Sons.
- Dryzek, 1982. Policy Analysis as a Hermeneutic Activity. *Policy Sciences* 14: 309-329.
- Dryzek, 1990. *Discursive Democracy*. Cambridge: Cambridge University Press.
- Dryzek, J. 2000. *Deliberative Democracy and Beyond: Liberals, Critics, Contestations*. Oxford: Oxford University Press.
- Dudley, N. and Stolton, S. 1999. *Conversion of paper parks to effective management: developing a target*. Report to the WWF-World Bank Alliance from the IUCN/WWF Forest Innovation Project.
- Duffy, A. 1988. Markham group says development a threat to Rouge. *Toronto Star*, 26 April, p, A7.
- Duncan, J. S. and Duncan, N. G. 2001. The aestheticization of the politics of landscape preservation. *Annals of the Association of American Geographers* 91(2): 387-409.
- Duncan, J. S. and Duncan, N. G. 2004. *Landscapes of Privilege: the politics of the aesthetic in an American suburb*. New York: Routledge.
- Dunn, K. 2000. Interviewing. In I. Hay (ed), *Qualitative Research Methods in Human Geography*. Toronto: Oxford University Press.
- Edey, R. C., Seasons, M. and Whitelaw, G. 2006. The media, planning and the Oak Ridges Moraine. *Planning, Practice and Research* 21(2): 147-161.
- Ellis, C. J., Kenyon, I. T. and Spence, M. W. 1990. The Archaic. In C. J. Ellis and N. Ferris (eds), *The Archaeology of Southern Ontario to A.D. 1650*. Occasional Publication of the London Chapter of the Ontario Archaeological Society.

- Elson, M. J. 1986. *Green belts: conflict mediation in the urban fringe*. London, Heinemann.
- Elster, J. 1998. *Deliberative Democracy*. Cambridge: Cambridge University Press.
- Evans, P. 2002. Political Strategies for More Livable Cities: Lessons from Six Cases of Development and Political Transition. In P. Evans (ed), *Livable Cities? Urban Struggles for Livelihood and Sustainability*. Berkeley: University of California Press, p. 222-246.
- Fábos, J.G., 1995. Introduction and overview: the greenway movement, uses and potentials of greenways. *Landscape and Urban Planning*. 33(1-3): 1-13.
- Fábos, J. G. 2004. Greenway planning in the United States: its origins and recent case studies. . *Landscape and Urban Planning* 68: 321-342.
- Fábos, J. G. and Ryan, R. L. 2004. Editorial: International greenway planning: an introduction. *Landscape and Urban Planning* 68: 143-146.
- Fábos, J. G., Milde, G. T. and Weinmayr, M. 1968. *Frederick Law Olmsted Sr.: Founder of Landscape Architecture in America*. Amherst: University of Massachusetts Press.
- Faludi, A. 1994. Coalition Building and Planning for Dutch Growth Management: The Role of the Randstad Concept. *Urban Studies* 31(3): 485-507.
- Ferguson, D. 1993. Ontario's New Democrat government is poised to create Canada's largest urban park in Scarborough's Rouge Valley. *Toronto Star*, 12 January, A1.
- Fine, S. 1988. Scarboro wilderness is sought for dump. *The Globe and Mail*, 8 September, p, A10.
- Fischer, F. 1990. *Technocracy and the Politics of Expertise*, Newbury Park: Sage Publications.
- Fischer, F. 1993. Citizen participation and the democratization of policy expertise: from theoretical inquiry to practical cases. *Policy Sciences* 26: 165-187.

- Fischer, F. 2000. *Citizens, Experts and the Environment: The Politics of Local Knowledge*. Durham: Duke University Press.
- Fischer, F. 2003. *Reframing Public Policy: Discursive Politics and Deliberative Practices*. Oxford: Oxford University Press.
- Fishkin, J. S. 1991. *Democracy and Deliberation: New Directions for Democratic Reform*. New Haven: Yale University Press.
- Fishkin, J. S. 1995. *The Voice of the People: Public Opinion and Democracy*. New Haven: Yale University Press.
- Flink, C. A. and Searns, R. M. 1993. *Greenways: A Guide to Planning, Design, and Development*. Washington: Island Press.
- Flyvberg, B. 1998. *Rationality and Power: Democracy in Practice*. Chicago: University of Chicago Press.
- Forsyth, T. 2003. *Critical Political Ecology: The politics of environmental science*. London: Routledge.
- Frickel, S. and Moore, K. (eds) 2006. *The New Political Sociology of Science*. Madison: University of Wisconsin Press.
- Friedmann, J. 1973. *Retracking America; A Theory of Transactive Planning*. Garden City: Anchor Press.
- Friedmann, J. 1987. *Planning in the Public Domain: From knowledge to action*. Princeton: Princeton University Press.
- Friedmann, J. 1998. The New Political Economy of Planning: The Rise of Civil Society. In M. Douglas and J. Friedmann (eds), *Cities for Citizens: Planning and the Rise of Civil Society in a Global Age*. Chichester: John Wiley & Sons, p. 19-35.

Friends of the Rouge Watershed. 2010. *FRW Visions and Objectives*.
<http://www.frw.ca/rouge.php?ID=3> (accessed 5 December 2010)

Friends of the Rouge Watershed. 2011. *New and Issues: Moraine drain sucks wells, streams and wetlands dry*. <http://www.frw.ca/rouge.php?ID=35> (accessed 5 October 2011)

Frisken, F. 2001. The Toronto Story: Sober Reflections on Fifty Years of Experiments with Regional Governance. *Journal of Urban Affairs* 23(5): 513-541.

Fuller, R. A., Irvine, K. N., Devine-Wright, P., Warren, P. H. and Gaston, K. J. 2007. Psychological benefits of greenspace increase with biodiversity. *Biology Letters* 3: 390-394.

Fuller, S. 2000. *Thomas Kuhn: A Philosophical History for Our Times*. Chicago: University of Chicago Press.

Fuller, S. 2006. *The Philosophy of Science and Technology Studies*. New York: Routledge.

Galbraith, J. K. 1983. *The anatomy of power*. Boston: Houghton Mifflin.

Gault, I. 1981. *Green Belt Policies in Development Plans*. Oxford: Oxford Polytechnic Department of Town Planning, Working Paper Series, 41, p. 1-17.

Giddens, A. 1999. Risk and Responsibility. *Modern Law Review* 62(1): 1-10.

Gilbert, L., Sandberg, L. A. and Wekerle, G. R. 2009. Building bioregional citizenship: the case of the Oak Ridges Moraine, Ontario, Canada. *Local Environment* 14(5): 387-401.

Gillham, O. 2002. *The limitless city: a primer on the urban sprawl debate*. Washington: Island Press.

Girard, D. 1989a. Disgraceful proposal to unleash bulldozers. *Toronto Star*, 16 September, D2.

Girard, D. 1989b. Environmentalists blast Peterson over leaked report. *Toronto Star*, 28 September, E2.

Girard, D. 1989c. Stay out of Rouge, developer tells Crombie. *Toronto Star*, 14 September, E2.

Glaser, B. G. 1992. *Basics of grounded theory analysis*. Mill Valley: Sociological Press.

Goldman, M. J. and Turner, M. D. 2011. Introduction. In M. J. Goldman, P. Nadasdy, and M. D. Turner (eds), *Knowing nature: Conversations at the intersection of political ecology and science studies*. Chicago: University of Chicago Press, p. 1-23.

Gorrie, P. 2004. Big pipe hits new snag; Environmental groups launch *Fisheries Act* prosecution. Opponents say it will 'subsidize 35 years of urban sprawl. *Toronto Star*. 9 July, E01.

Government of Canada. 2011. Speech from the Throne.
<http://www.speech.gc.ca/eng/media.asp?id=1390> (accessed 5 October 2011)

Gunderson, L. H. 1997. The Everglades: Trials in Ecosystem Management. In G. K. Meffe and C. R. Carroll (eds), *Principles of Conservation Biology*. Sunderland: Sinauer Associates, p. 451-458.

Hajer, M. 1995. *The Politics of Environmental Discourse*. Oxford: Oxford University Press.

Hall, P. G. 1963 *London 2000*. London: Faber.

Hall, P. G. 1988. *Cities of tomorrow: an intellectual history of urban planning and design in the twentieth century*. Oxford: Blackwell Publishers.

Hall, P., Gracey, H., Drewett, R. and Thomas, R. 1973. *The containment of urban England. Volume Two*. London: George Allen and Unwin.

Hanna, K. S. and Walton-Roberts, M. 2004. Quality of Place and the Rescaling of Urban Governance: The Case of Toronto. *Journal of Canadian Studies* 38(3): 37-67.

- Hanna, K. and Webber, S. 2010. Incremental planning and land-use conflict in the Toronto region's Oak Ridges Moraine. *Local Environment* 15(2): 169-183.
- Harrison, K. 1996. *Passing the buck: Federalism and Canadian environmental policy*. Vancouver: University of British Columbia Press.
- Harvey, D. 1996. *Justice, Nature and the Geography of Difference*. Malden: Blackwell Publishers.
- Harvey, D. 2005. *A brief history of neoliberalism*. Oxford: Oxford University Press.
- Healey, P. 1997. *Collaborative Planning: Shaping Places in Fragmented Societies*. Vancouver: UBC Press.
- Herington, J. 1991. *Beyond green belts: Managing Urban Growth in the 21st Century. Report for the Regional Studies Association*. London: Jessica Kingsley.
- Herod, A. and Wright, M. 2002. Placing scale: an introduction. In A. Herod and M. Wright (eds), *Geographies of Power: Placing Scale*. Blackwell: Oxford, p. 1-14.
- Heynen, N. and Robbins, P. 2005. The Neoliberalization of Nature: Governance, Privatization, Enclosure and Valuation. *Capitalism Nature Socialism* 16(1): 5-8.
- Holling, C. S. 1973. Resilience and Stability of Ecological Systems. *Annual Review of Ecological Systems* 4: 1-23.
- Holling, C. S. 1986. Resilience of ecosystems; local surprise and global change. In W. C. Clark, R. E. Munn (eds), *Sustainable Development of the Biosphere*. Cambridge: Cambridge University Press, p. 292-317.
- Holling, C. S. 2001. Understanding the Complexity of Economic, Ecological, and Social Systems. *Ecosystems* 4: 390-405.
- Howard, E. 1898. *To-morrow: A Peaceful Path to Real Reform*. London: Swan Sonnenschein.

Howlett, M. 2001. Great Expectations, Mixed Results: Trends in Citizen Involvement in Canadian Environmental Governance. In E. A. Parsons (ed), *Governing the Environment: Persistent Challenges, Uncertain Innovations*. Toronto: University of Toronto Press, p. 303-344.

Huber, M. T. and Emel, J. 2009. Fixed minerals, scalar politics: the weight of scale in conflicts over the ‘1872’ Mining Law’ in the United States. *Environment and Planning A* 41: 371-388.

Husung, H. and Lieser, P. G. 1996. Green Belt Frankfurt. In R. Keil , G. R. Wekerle and D. V. Bell (eds), *Local Places in the Age of the Global City*. Montreal: Black Rose Books, p. 211-222.

Innes, J. E. 1995. Planning theory’s emerging paradigm: communicative action and interactive practice. *Journal of Planning Education and Research* 14(3): 183-190.

Innes, J, and Booher, D. E. 2004. Reframing Public Participation: Strategies for the 21st Century. *Planning Theory and Practice* 5(4): 419-436.

Irish, P. 1990. 10,500 Rouge acres declared a park. *Toronto Star*, 26 March, p. A1.

IUCN. 2010. Protected Areas - what are they, why have them? http://www.iucn.org/about/work/programmes/pa/pa_what/ (accessed 5 December)

IUCN. 2011. WCPA Categories System for Protected Areas Task Force. http://www.iucn.org/about/work/programmes/pa/pa_products/wcpa_categories/ (accessed 8 January)

Jackson, P. 1989. *Maps of Meaning*. London: Unwin Hyman.

James, R. 1987a. Council to decide if Rouge should be saved. *Toronto Star*, 15 September, E5.

- James, R. 1987b. Metro's last wilderness up for grabs Scarborough to consider permitting Rouge area development. *Toronto Star*, 21 September, p. A20.
- James, R. 1987c. Rouge Valley decision deferred until November. *Toronto star*, 22 September, p. A6.
- James, R. 1987d. Scarborough votes to keep Rouge Valley green. *Toronto Star*, 3 November, p. A7.
- James, R. and Page, S. 1987. Thousands join Rouge battle 45 ratepayer groups combine to fight development in valley. *Toronto Star*, 2 November, p. A7.
- James, R. 1990a. Metro nay put waste in Rouge if Scarborough blocks dump. *Toronto Star*, 10 May, p. A7.
- James, R. 1990b. Rouge River site one of 15 named on secret list for garbage plan. *Toronto Star*, 11 December, p. A8.
- Jasanoff, S. 1986. *Risk Management and Political Culture*. New York: Russell Sage Foundation.
- Jasaoff, S. 1990. *The Fifth Branch: Science advisors as policymakers*. Cambridge: Harvard University Press.
- Jasanoff, S. 2003. Technologies of humility: citizen participation in governing science. *Minerva* 41: 223-244.
- Jessop, B. 1998. The rise of governance and the risks of failure: the case of economic development. *International Social Science Journal*, 50(155): 29-46.
- Jessop, B. 2002. Liberalism, neoliberalism, and urban governance: a state-theoretical perspective. *Antipode* 34: 452-472.
- Jongman, R. H. G. 1995. Nature conservation planning in Europe: developing ecological networks. *Landscape and Urban Planning* 32: 169-183.

- Josey, S. 1988a. Giant Rouge park too big and costly mayor charges. *Toronto Star*, 1 June, p. A7.
- Josey, S. 1988b. Scarborough fails to move on Rouge despite support for preservation. *Toronto Star*, 28 June, p. ME1.
- Josey, S. 1988c. Ottawa offers \$10 million for Rouge park. *Toronto Star*, 16 September, p. A1.
- Josey, S. 1988d. Developer presses case for housing in Rouge. *Toronto Star*, 25 May, p. A6.
- Josey, 1988e. All or nothing says Rouge foes. *Toronto Star*, 31 May, p. E1.
- Josey, S. and Armstrong, J. 1988. The final battle for Rouge area draws closer. *Toronto Star*, 27 June, A18.
- Josey, S. 2004. Environmentalists win round. *Toronto Star*, 22 July, p. B5.
- Kapches, M. 1981. *The Middleport Pattern in Ontario Iroquoian Prehistory*. Unpublished Ph.D. Dissertation, Department of Anthropology, University of Toronto, Toronto, Ontario.
- Keane, J. 1998. *Civil Society: Old Images, New Visions*. Cambridge: Polity Press.
- Keil, R. 2000. Governance Restructuring in Los Angeles and Toronto: Amalgamation or Secession? *International Journal of Urban and Regional Research* 24(4): 758-781.
- Keil, R. 2002. "Common-sense" neoliberalism: Progressive conservative urbanism in Toronto, Canada. *Antipode* 34(3): 578-601.
- Keil, R. and Boudreau, J-A. 2005. Is there regionalism after municipal amalgamation in Toronto? *City* 9(1): 9-22.
- Kjaer, A. M. 2012. Governance and the Urban Bureaucracy. In J. S. Davies and D. L. Imbroscio (eds), *Theories of Urban Politics. 2nd Edition*. London: Sage, p. 137-152.

- Kolasa, J. 1989. Ecological Systems In Hierarchical Perspective: Breaks in community structure and other consequences. *Ecology* 70(1): 36-47.
- Konisky, D. M. and Beierle, T. C. 2001. Innovations in public participation and environmental decision making: Examples from the Great Lakes region. *Society and Natural Resources* 14: 815-826.
- Kühn, M. 2003. Greenbelt and Green Heart: separating and integrating landscapes in European city regions. *Landscape and Urban Planning* 64: 19-27.
- Kühn, M. and Gailing, M. 2008. From Green Belts to Regional Parks: History and Challenges of Suburban Landscape Planning in Berlin. In M. Amati (ed), *Urban Greenbelts in the Twenty-first Century*. Hampshire: Ashgate, p. 185-202.
- Kuhn, T. 1962. *The Structure of Scientific Revolutions*. Chicago: University of Chicago Press.
- Kyeremateng, S. O. 2011. *Introduction: Beginnings of the Farmer's Advocate*. http://www.lib.uoguelph.ca/resources/archival_&_special_collections/collection_update/19/farmersadvocate.htm (accessed 10 May 2011)
- Laidley, J. L. 2007. The ecosystem approach and the global imperative on Toronto's Central Waterfront. *Cities* 24(4): 259-272.
- Latour, B. 1987. *Science In Action: How to Follow Scientists and Engineers Through Society*. Cambridge: Harvard University Press.
- Latour, B. 1999. *Pandora's Hope: Essays on the Reality of Science Studies*. Cambridge: Harvard University Press.
- Latour, B. 2005. *Reassembling the Social: An Introduction to Actor-Network-Theory*. Oxford: Oxford University Press.

- Latour, B. and Woolgar, S. 1979. *Laboratory Life: the Social Construction of Scientific Facts*. Princeton: Princeton University Press.
- Lave, R. 2012. Bridging Political Ecology and STS: A Field Analysis of the Rosgen Wars. *Annals of the Association of American Geographers* 102(2): 366-382.
- Lave, R., Doyle, M. and Robertson, M. 2010a. Privatizing stream restoration in the US. *Social Studies of Science* 40(5): 677-703.
- Lave, R., Mirowski, P. and Randalls, S. 2010b. Introduction: STS and Neoliberal Science. *Social Studies of Science* 40(5): 659-675.
- Law, J. 1986. Editor's introduction: Power/Knowledge and the dissolution of the sociology of knowledge. In J. Law (ed), *Power, Action and Belief: A New Sociology of Knowledge*. London: Routledge & Kegan Paul, p. 1-19.
- Law, J. 1992. *Notes on the Theory of the Actor Network: Ordering, Strategy and Heterogeneity*. Lancaster University: Centre for Science Studies. <http://www.comp.lancs.ac.uk/sociology/papers/Law-Notes-on-ANT.pdf> (accessed 12 January 2012)
- Lee, S. and Roth, W-F. 2006. Community-Level Controversy Over a Natural Resource: Toward a More Democratic Science in Society. *Society and Natural Resources* 19: 429-445.
- Leahy, S. 1996. Rumblings in the Rouge. The battle to save the Rouge Valley has been won but the was over the kind of park it will be rages on. *Toronto Star*, 15 June, p. SA2
- Leaney, R. and Kilgour, D. 1989. Five options offered for garbage crises. *The Globe and Mail*, 27 November, A11.

Legislative Assembly of Ontario. 1987. Official Records for 28 April 1987. Speech from the Throne. Hansard Transcripts. http://www.ontla.on.ca/web/house-proceedings/house_detail.do?locale=en&Parl=33&Sess=3&Date=1987-04-28#P6_476 (accessed 5 June 2011)

Leopold, A. 1949. *A Sand County Almanac With Sketches Here and There*. Oxford: Oxford University Press.

Lippman, W. 1922. *Public Opinion*. New York: Macmillan.

Loftus, A. J. and McDonald, D. 2001. Of liquid dreams: water privatization in Buenos Aires. *Environment and Urbanization* 13(2): 179-199.

Logan, J. R. and Molotch, H. L. 1987. *Urban Fortunes: The Political Economy of Place*. Berkeley: University of California Press.

Logan, S. and Wekerle, G. 2008. Neoliberalizing environmental governance? Land trusts, private conservation and nature on the Oak Ridges Moraine. *Geoforum* 39(6): 2097-2108.

Lukes, S. 1974. *Power: A Radical View*. London: Macmillan

Macaraig, J. M. R. 2005. *Science, Politics and Water: The case of the 'Big Pipe' at Robinson Creek, Ontario, Canada*. Master in Environmental Studies Major Paper, Faculty of Environmental Studies, York University, Toronto, ON.

Macaraig, J. M. R. 2011. Nature's Keepers: Civil society actors and the neoliberalization of conservation in the Rouge Park. *Local Environment* 16(4): 357-374.

Macaraig, J. M. R. and Sandberg, L. A. 2009. The Politics of Sewerage: Contested Narratives on Growth, Science, and Nature. *Society and Natural Resources* 22(5): 448-463.

MacKenzie, J. I. 2002. *Environmental Politics in Canada: Managing the commons into the twenty-first century*. Toronto: Oxford University Press.

- Mackie, R. 1989. Rouge Valley should be designated provincial park, MPPs agree. *The Globe and Mail*, 21 November, p. A18.
- Margerum, R. D. 1999. Integrated Environmental Management: The Foundations for Successful Practice. *Environmental Management* 24(2): 151-166.
- Marris, P. 1998. Planning and Civil Society in the Twenty-First Century: An Introduction. In J. Friedman and M. Douglass (eds), *Cities For Citizens: Planning the Rise of Civil Society in a Global Age*. Chichester: John Wiley & Sons, p. 9-17.
- Marsden, T., Murdoch, J., Munton, R. and Flynn, A. 1993. *Constructing the Countryside*. London: UCL Press.
- Marshall, C. and Rossman, G. B. (eds) 1999. *Designing qualitative research. 3rd Edition*. Thousand Oaks: Sage.
- Marston, S. 2000. The Social Construction of Scale. *Progress in Human Geography* 24: 219-242.
- Marx, K. and Engels, F. 1998. *The German Ideology*. New York: Prometheus Books.
- Maychak, M. 1989. MPPs back park for Rouge valley. *Toronto Star*, 21 November, A6.
- Mayer, M. 2006. Manuel Castells' *The City and the Grassroots*. *International Journal of Urban and Regional Research* 30(1): 202-206.
- Mayer, M. 2000. Urban Social Movements in an Era of Globalisation. In P. Hamel, Lustiger-Thaler and M. Mayer (eds), *Urban Movements in a Globalising World*. London: Routledge, p. 141-157.
- McCarthy, J. and Prudham, S. 2004. Neoliberal nature and the nature of neoliberalism. *Geoforum* 35: 275-283.
- McElhinny, B. 2006. Written in sand: Language and landscape in an environmental dispute in Southern Ontario. *Critical Discourse Studies* 3(2): 123-152.

McNamee, K. 2009. From Wild Place to Endangered Spaces: A History of Canada's National Parks. In P. Dearden and R. Rollins (eds), *Parks and Protected Area Management in Canada: Planning and Management*, 2nd Ed. Toronto: Oxford University Press, p. 21-50.

Ministry of Municipal Affairs and Housing, 2011. *More facts about the Oak Ridges Moraine*. <http://www.mah.gov.on.ca/Page1705.aspx> (accessed 15 March 2011)

Mitchell, K. 2002. Transnationalism, neo-liberalism, and the rise of the shadow state. *Economy and Society* 30(2): 165-189.

Mittelstaedt, M. 1995. NDP set to unveil financial statement. Document expected to predict Ontario deficit of \$6.5-billion in current fiscal year. *Globe and Mail*. 22 April, A5.

Molotch, H. 1976. The City as a Growth Machine: Toward a Political Economy of Place. *The American Journal of Sociology* 82(2): 309-332.

Moran-Ellis, J., Alexander, V. D., Cronin, A., Dickinson, M., Fielding, J. Sleney, J. and Thomas, H. 2006. Triangulation and integration: processes claims and implications. *Qualitative Research* 6(1): 45-59.

Mumford, L. 1961. *The City in History*. New York: Harcourt Brace and World.

Munton, R. 1983. *London's Green Belt: Containment in Practice*. London: George, Allen and Unwin.

Murdoch, J. and Marsden, T. 1994. *Reconstituting rurality: Class, community ad power in the development process*. London: UCL Press.

NAOP. 2011. *About Olmsted and the Olmsted Legacy* <http://www.olmsted.org/ht/d/sp/i/1162/pid/1162> (accessed 8 April 2011)

Nash, R. 2001. *Wilderness and the American Mind*. 4th Edition. New Haven: Yale University Press.

- National Park Now Committee. 2010. *Rouge National Park Proposal*.
- National Park Service. 2011. *Yellowstone*. <http://www.nps.gov/yell/index.htm> (accessed 8 April 2011)
- Niagara Escarpment Commission. 2011. *Overview* <http://www.escarpment.org/about/overview/index.php> (accessed 8 April 2011)
- Noss, R. 1990. Indicators for Monitoring Biodiversity: A Hierarchical Approach. *Conservation Biology* 4(4): 355-364.
- O'Connor, D. R. 2002a. *Report of the Walkerton Inquiry: A Strategy for Safe Drinking Water*. Ontario Ministry of the Attorney General, Queen's Printer for Ontario.
- O'Connor, D. R. 2002b. *Report of the Walkerton Inquiry: The Events of May 2000 and Related Issues*. Ontario Ministry of the Attorney, Queen's Printer for Ontario.
- Okata, J. and Murayama, J. 2010. Tokyo's Urban Growth, Urban Form and Sustainability. In A. Sorensen and J. Okata (eds), *Megacities: Urban Form, Governance, and Sustainability*. Tokyo: Springer, p. 15-42.
- O'Neill, R. V., DeAngelis, D. L., Waide, J. B. and Allen, T. F. H. 1986. *A Hierarchical Concept of Ecosystems*. Princeton: Princeton University Press.
- Ontario Nature. 2011. *History/Milestones*. <http://www.ontariornature.org/discover/history.php> (accessed 10 May 2011)
- Ontario Parks 2011. *Discussion Paper - About Today's Protected Areas*. http://www.ontarioparks.com/english/today_protected.html Queens Printer for Ontario (accessed 8 April 2011)
- Ontario Streams. 2010. *The Organization*. <http://www.ontariostreams.on.ca/organization.html> (accessed 5 December 2010).

Pacione, M. 2009. *Urban Geography: A global Perspective*. 3rd Edition. New York: Routledge.

Page, S. 1987a. Greenbelt, homes among options for Rouge. *Toronto Star*, 2 September, p. A6.

Page, S. 1987b. Construction ruining Rouge, group says. *Toronto Star*, 8 September, p. E1.

Parker, S. and Munawar, M. 2001. *Editorial*. In S. Parker and M. Munawar (eds), *Ecology, culture and conservation of a protected area: Fathom Five National Marine Park, Canada*. Leiden: Backhuys Publishers, p. ix-xii.

Parks Canada. 2009. *National Parks System Plan*. 3rd Edition.
<http://www.pc.gc.ca/eng/docs/v-g/nation/index.aspx> (accessed 19 January 2011)

Parks Canada. 2010. *Toronto National Historic Sites Urban Walks*.
http://www.pc.gc.ca/culture/proj/urbain/cartes-maps/index_e.asp?mapid=3&buildingid=4 (accessed 19 July 2010)

Parks Canada. 2011. *Welcome to Parks Canada*. <http://www.pc.gc.ca/eng/index.aspx> (accessed 19 January 2011)

Parks Canada. 2012a. Harper Government announces funding for Rouge National Urban Park in the Greater Toronto Area. http://www.pc.gc.ca/apps/cprnr/release_e.asp?id=1861&andor1=nr (accessed 30 May 2012)

Parks Canada. 2012b. Rouge National Urban Park: Concept.
<http://www.pc.gc.ca/eng/progs/np-pn/cnnp-cnnp/rouge/rouge1.aspx> (accessed 8 August 2012)

Parson, E. A. 2001. Environmental Trends: A Challenge to Canadian Governance. In E. A. Parsons (ed), *Governing the Environment: Persistent Challenges, Uncertain Innovations*. Toronto: University of Toronto Press, p. 3-29.

- Patano, S. and Sandberg, L. A. 2005. Winning back more than words? Power, discourse and quarrying on the Niagara Escarpment. *Canadian Geographer* 49(1): 25-41.
- Patten, M. 2002. *Qualitative Research and Evaluation Methods. 3rd Edition*. London: Sage Publications.
- Patterson, J. T. and Cheel, R. J. 1997. The Depositional History of the Bloomington Complex, an Ice-Contact Deposit in the Oak Ridges Moraine, southern Ontario, Canada. *Quaternary Science Reviews* 16(7): 705-719.
- Peck, J. 2001. Neoliberalizing states: thin policies/hard outcomes. *Progress in Human Geography* 25: 445-455.
- Peck, J. 2010. *Constructions of Neoliberal Reason*. New York: Oxford University Press.
- Peck, J. and Tickell, A. 2002. Neoliberalizing Space. *Antipode* 34(3): 380-404.
- Perkins, H. A. 2009. Out from the (Green) shadow? Neoliberal hegemony through the market logic of shared urban environmental governance. *Political Geography* 28(7): 395-405.
- Perrow, C. 1984. *Normal Accidents: Living with High Risk Technologies*. New York: Basic Books.
- Pierre, J. 2005. Comparative Urban Governance: Uncovering Complex Causalities. *Urban Affairs Review* 40(4): 446-462.
- Polanyi, K. 1944. *The Great Transformation: The Political and Economic Origins of Our Time*. Boston: Beacon Press.
- Porter, W. H. 1940. The Ontario Conservation and Reforestation Association. *The Forestry Chronicle* 16: 245-248.
- Presthus, R. 1964. *Men at the top: A study in community power*. New York: Oxford University Press.

- Prudham, S. 2004. Poisoning the well: Neo-liberalism and the contamination of municipal water in Walkerton, Ontario. *Geoforum* 35(3): 343-359.
- Randolph, J. 2004. *Environmental land use planning and management*. Washington: Island Press.
- Raphael, D. 2003. Barriers to addressing the societal determinants of health: public health units and poverty in Ontario, Canada. *Health Promotion International* 18: 397-405.
- Reid, S. 1988. Grassroots groups 'screaming stop'. *Toronto Star*, 5 November, 8.
- Richardson, A. H. and Barnes, A. S. L. 1956. *Rouge Duffins, Highland, Petticoat Conservation Report*. Ontario, Conservation Branch.
- Robinson, P. J. 1933. *Toronto During the French Regime: A History of the Toronto Region from Brule to Simcoe, 1615-1793*. Toronto: The Ryerson Press.
- Roth, R. J. and Dressler, W. 2012. Market-oriented conservation governance: The particularities of place. *Geoforum* 43: 363-366.
- Rouge Park. 1994. *Rouge Park Management Plan*. Province of Ontario.
- Rouge Park. 2008. *Heritage Appreciation and Visitor Experience Plan for Rouge Park*. Toronto: EcoLeaders.
- Rouge Park. 2010. *Our History*. <http://www.rougepark.com/about/history.php> (accessed 5 May 2010)
- Rouge Park. 2010. *Governance, Organization and Finance Review of the Rouge Park Alliance*. Toronto: StrategyCorp/Hemson.
- Rouge Park. 2011a. *Governance, Organization and Finance Review of the Rouge Park Alliance*.
http://www.rougepark.com/media/pdfs/RP_Governance_Report_by_Constant.pdf
 (accessed 8 April 2011)

Rouge Park. 2011b. *Rouge Park Alliance Considers Consultant's Report* http://www.rougepark.com/media/pdfs/RP_Govenance_Media_Release.pdf (accessed 19 August 2011)

Rouge Park. 2011c. *About Us*. http://www.rougepark.com/about/about_us.php (accessed 10 May 2011)

Rouge Park. 2011d. *Cultural Heritage*. <http://www.rougepark.com/unique/cultural.php> (accessed 8 April 2011)

Rouge Park. 2012. *Rouge Park Map*. http://www.rougepark.com/explore/park_map.php (accessed 17 March 2012)

Rouge Park Alliance. 2009. *Minutes - Meeting #3/09 - May1, 2009*. http://www.rougepark.com/about/alliance/2009/rpa_minutes_may1_2009.pdf (accessed 5 December 2011)

Rouge Valley Foundation. 2010. *Our Partners*. http://www.rvcc.ca/Our_Partners.html (accessed 10 May 2010)

Rouge Valley Naturalists. 2010. *About*. <http://www.rougevalleynaturalists.com/about.html> (accessed 5 December 2010)

Sabatier, P. 1988. An Advocacy Coalition Framework of Policy Change and the Role of Policy-Oriented Learning Therein. *Policy Sciences* 21: 129-168.

Sager, T. 2011. Neo-liberal urban planning policies: A literature survey 1990-2010. *Progress in Planning* 76: 147-199.

Sancton, A. 1999. Differing approaches to municipal restructuring in Montreal and Toronto: from the Pichette Report to the Greater Toronto Services Board. *Canadian Journal of Regional Science* 22(1-2): 187-199.

- Sancton, A. 2005. The governance of Metropolitan Areas in Canada. *Public Administration and Development* 25(4): 317-327.
- Sandberg, L. A. and Clancy, P. 2000. *Against the Grain: Foresters and Politics in Nova Scotia*. Vancouver: University of British Columbia Press.
- Sandberg, L. A. and Clancy, P. 2002. Politics, science and the Spruce Budworm in New Brunswick and Nova Scotia. *Journal of Canadian Studies* 37: 164-191.
- Sandberg, L. A. and Wekerle, G. 2010. Reaping Nature's Dividends: The Neoliberalization and Gentrification of Nature on the Oak Ridges Moraine. *Journal of Environmental Policy & Planning* 12(1): 41-57.
- Savitch, H. V. and Vogel, R. K. 2000. Introduction: Paths to New Regionalism. *State and Local Government Review* 32(3): 158-168.
- Searle, R. 2000. *Phantom Parks: The Struggle to Save Canada's National Parks*. Toronto: Key Porter Books Limited.
- Sewell, J. 1984. Swamped with love. *The Globe and Mail*, 13 April, p. M1.
- Shanahan, C. 1988. Pickering airport land fight heats up. *Toronto Star*, 19 January, p. E1.
- Shaw, T. 2007. Editorial. *Journal of Environmental Planning and Management* 50(5): 575-578.
- Smiley, S., de Loë, R. and Kreutzwiser, R. 2010. Appropriate Public Involvement in Local Environmental Governance: A Framework and Case Study. *Society and Natural Resources* 23(11): 1043-1059.
- Smith, N. 2006. Foreword. In N. Heynen, M. Kaika and E. Swyngedouw (eds), *In the Nature of Cities*. London: Routledge, p. xi-xxv.

- Sorensen, A., Koizumi, H. and Miyamoto, A. 2008. Machizukuri, Civil Society, and Community Space. In A. Daniere and M. Douglass (eds), *Japan. Community Space and the City*. Ithaca: Cornell University Press, p. 33-50.
- Sorensen, A. and Sagaris, L. 2010. From Participation to the Right to the City: Democratic place management at the neighbourhood scale in comparative perspective. *Planning Practice and Research* 25(3): 297-316.
- Speirs, R. 1988a. Liberals seek way to save face, Premier eyes Rouge Valley provincial park. *Toronto Star*, 7 May, p. D5.
- Speirs, R. 1988b. Premier's lack of interest threat to Rouge. *Toronto Star*, 4 July, p. A13
- Spence, M. W., Pihl, R. H. and Murphy, C. 1990. Cultural Complexes of the Early and Middle Woodland Periods. In C. J. Ellis and N. Ferris (eds), *The Archaeology of Southern Ontario to A.D. 1650*. Occasional Publication of the London Chapter of the Ontario Archaeological Society.
- Stairs, G. S. 2000. *Ecosystem-Based Protected Area Management in a Municipal Landscaper, The Case of The Rouge Park*. Masters Thesis. Department of Geography, University of Toronto.
- Stanfield, L. (ed) 2007. *Ontario Stream Assessment Protocol. Version 7*. Ontario Ministry of Natural Resources. Queen's Printer for Ontario.
- Statistics Canada. 2009. *Table 5.1. Urban populations by province, 1996, 2001 (modified and adjusted), and 2006*. <http://www.statcan.gc.ca/pub/92f0138m/2008001/t4054956-eng.htm> (accessed 10 May 2009)
- Statistics Canada. 2010. Population of census metropolitan areas. <http://www40.statcan.ca/l01/cst01/demo05a-eng.htm> (accessed 5 December 2010)

- Steffen, W., Grinevald, J., Crutzen, P. and McNeill, J. 2011. The Anthropocene: conceptual and historical perspectives. *Philosophical Transactions of the Royal Society A* 369: 842-867.
- Stein, D. L. 1987a. Huge pressure to develop the Rouge Valley. *Toronto Star*, 14 September, A17.
- Stein, D. L. 1987b. The province's secret plan for Rouge Valley. *Toronto Star*, 4 November, A27.
- Stewart, K. 1999. *Greeening Social Democracy? Ecological Modernization and the Ontario NDP*. Ph. D. Dissertation, Department of Political Science, York University, Toronto, ON.
- Stevenson, E. 2000. *Park Maker: A Life of Frederick Law Olmsted*. New York: Macmillan.
- Strauss, A. and Corbin, J. 1990. *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory. 2nd Edition*. Thousand Oaks: Sage.
- Stoll-Kleeman, S. and O'Riordan, T. 2002. From Participation to Partnership in Biodiversity Protection: Experience from Germany and South Africa. *Society and Natural Resources* 15: 161-177.
- Swyngedouw, E. 2005a. Governance Innovation and the Citizen: The Janus Face of Governance-beyond-the-State. *Urban Studies* 42(11): 1991-2006.
- Swyngedouw, E. 2005b. Dispossessing H₂O: The Contested Terrain of Water Privatization. *Capitalism Nature Socialism* 16: 81-98.
- Tang, B. S., Wong, S. W., and Lee, A. K. W. 2007. Green belt in a compact city: A zone for conservation or transition? *Landscape and Urban Planning* 79(3-4): 358-373.
- Tarrow, S. 1994. *Power in Movement: Social Movements, Collective Action and Politics*. Cambridge: Cambridge University Press.

- Taylor, N. M. 1998. *Urban planning theory since 1945*. Thousand Oaks: Sage.
- Taylor, P. 1982. A materialist framework for political geography. *Transactions of the Institute of British Geographers, New Series* 7: 15-34.
- Taylor, P. 1985. Toronto's last 'wilderness' may disappear: Battle lines drawn over Rouge River area. *The Globe and Mail*, 26 December, p. A15
- Taylor, S. 1988. No need seen to conserve it all. *Toronto Star*, 19 July, p. E2.
- Taylor, S. 1992. Trimmer to join Rouge Panel. *Toronto Star*, 24 April, p. A6.
- Taylor, S. 1995a. New Rouge park hailed as 'symbol for future'. When complete, the park will cover 4,660 hectares. *Toronto Star*, 6 April, p. A6.
- Taylor, S. 1995b. Rouge Park threatened, ex-MP warns Fears development for recreation. *Toronto Star*, 9 February, p. SC3.
- Temple, J. 1988. Group to unveil bid for wilderness park in Rouge Valley. *Toronto Star*, 13 April, p. A32.
- Theberge, J. and Theberge, J. 2002. Application of Ecological Concepts to the Management of Protected Areas. In P. Dearden and R. Rollins (eds), *Parks and Protected Area Management in Canada: Planning and Management. 2nd Edition*. Toronto: Oxford University Press, p. 70-96.
- Todd, R. 1987. Development foes for Scarboro wilderness. *The Globe and Mail*, 20 July, A14.
- Toronto and Region Conservation Authority, 2011a. *Hurricane Hazel*. <http://www.hurricanehazel.ca/index.html> (accessed 8 April 2011)
- Toronto and Region Conservation Authority, 2011b. *Flood Protection*. <http://www.trca.on.ca/protect/water-management/flood-protection.dot> (accessed 8 April 2011)

Toronto and Region Conservation Authority, 2011c. *The evolution of flood control*. http://www.hurricanehazel.ca/ssi/evolution_flood_control.shtml (accessed 8 April 2011)

Toronto and Region Conservation Authority, 2007. *Rouge River State of the Watershed Report*. <http://www.trca.on.ca/protect/watersheds/rouge-river/resources.dot> (accessed 8 April 2011)

Transport Canada. 1974. *Airport Inquiry Commission Report*. Government of Canada, Ottawa.

Tremblay, M-A. 1982. The key informant technique: a non-ethnographic application. In R. G. Burgess, G. Allen and Unwin (eds), *Field Research: A Sourcebook and Field Manual*. London: Routledge, p. 151-163.

United Nations. 2008. *World Urbanizing Prospects. The 2007 Revision. Executive Summary*. Department of Economic and Social Affairs. New York, USA.

Unwin, R. 1909. *Town Planning in practice*. London: T. Fisher Unwin.

US Wilderness Act. 1964.
http://www.wilderness.net/NWPS/documents//publiclaws/PDF/16_USC_1131-1136.pdf (accessed 19 January 2012)

Varga, S., Jalava, J. and Riley, J. L. 1991. *Ecological Survey of the Rouge Valley Park. Aurora*. Ontario Ministry of Natural Resources, Central Region.

Vejre, H., Primdahl, J. and Brandt, J. 2007. The Copenhagen Finger Plan: Keeping a Green Space Structure by a Simple Planning Metaphor. In B. Pedrolí, A. van Doorn, M. L. Paracchini, D. Wascher, and F. Bunce (eds), *Europe's Living Landscapes: Essays Exploring our Identity in the Countryside*. Zeist: KNNV Publishing, p. 311-330.

Vincent, D. 1991. Restore Rouge as historic site, native chief says. *Toronto Star*, 21 March, p. E3.

- Walks, R. A. 2004. Place of residence, party preferences, and political attitudes in Canadian cities and suburbs. *Journal of Urban Affairs* 26(3): 269-96.
- Walks, R. A. 2009. The urban in fragile, uncertain, neoliberal times: towards new geographies of social justice? *The Canadian Geographer* 53(3): 345-356.
- Walker, D. and Myrick, M. 2006. Grounded Theory: An Exploration of Process and Procedure. *Qualitative Health Research* 16(4): 547-559.
- Wallace, I. and Shields, R. 1997. Contested terrains: Social space and the Canadian environment. In W. Clement (ed), *Building on the new Canadian political economy*. Montreal: McGill Queen's University Press.
- Wannop, U. A. 1995. *The Regional Imperative: Regional Planning and Governance in Britain, Europe and the United States*. London: Jessica Kingsley Publishers and Regional Studies Association.
- Ward, S. V. 2000. Re-examining the international diffusion of planning. In R. Freestone (ed), *Urban planning in a changing world: the twentieth century experience*. London: E & FN Spon, p. 39-60.
- Watanabe, T., Amati, M., Endo, K. and Yokohari, M. 2008. The Abandonment of Tokyo's Green Belt and the Search for a New Discourse of Preservation in Tokyo's Suburbs. In M. Amati (ed), *Urban Greenbelts in the Twenty-first Century*. Hampshire: Ashgate, p. 21-36.
- Watts, M., and McCarthy, J. 1997. Nature as artifice, nature as artefact: Development, environment and modernity in the late twentieth century. In R. Lee and J. Wills (eds), *Geographies of Economies*. London: Arnold, p. 71-86.
- WDPA. 2011. *Statistics*. <http://www.wdpa.org> (accessed 10 May 2011)
- WDPA-Marine. 2011. *About*. <http://www.wdpa-marine.org> (accessed 10 May 2011)

- Weber, E. 2000. A new vanguard for the environment: Grass-roots ecosystem management as a new environmental movement. *Society and Natural Resources* 13(3): 237-259.
- Wekerle, G., Sandberg, L. A., Gilbert, L. and Binstock, M. 2007. Nature as a cornerstone of growth? Regional and ecosystems planning in the Greater Golden Horseshoe, *Canadian Journal of Urban Research* 16(1): 20-38.
- Wilkes, D. 2001. An overview of Canada's first national marine park. In S. Parker and M. Munawar (eds), *Ecology, Culture and Conservation of a Protected Area: Fathom Five National Marine Park, Canada*. Leiden: Backhuys Publishers, p. 13.
- Whyte, W. H. 1968. *The Last Landscape*. Garden City: Doubleday.
- Woodley, S. 2002. Planning and Managing For Ecological Integrity. In P. Dearden and R. Rollins (eds), *Parks and Protected Area Management in Canada: Planning and Management. 2nd Edition*. Toronto: Oxford University Press, p. 97-114.
- Wolch, J. 1990. *The shadow state: Government and the voluntary sector in transition*. New York: The Foundation Center.
- Wong, T. 1988a. Scarborough votes to save Rouge Valley. *Toronto Star*, 12 July, p. A7.
- Wong, T. 1988b. Scarborough saves Rouge...for now. *Toronto Star*, 19 July, p. E1.
- Wright, L. 1990. 10,500 acres along Rouge to be saves as parkland. *Toronto Star*, 27 March, p. A1.
- Wynne, B. 1996. Misunderstood misunderstandings: Social identities and public uptake of science. In A. Irwin and B. Wynne (eds), *Misunderstanding science? The public reconstruction of science and technology*. Cambridge: Cambridge University Press, p. 19-46.

- Young, D. and Keil, R. 2007. Re-regulating the urban water regime in neoliberal Toronto. In N. Heynan, J. McCarthy, S. Prudham, and P. Robbins (eds), *Neoliberal Environments: False promises and unnatural consequences*. New York: Routledge.
- Zald, M. and McCarthy, J. 1987. *Social Movements in an Organizational Society: Collected essays*. New Brunswick: Transaction.