Towards a Strategic Communications Plan: Providing Community-Informed Insight into
the Role of the Biosphere Reserve on the Oak Ridges Moraine

by

James Sik Yin Law

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Author's Declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

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Abstract

The implementation of UNESCO Biosphere Reserves (BR) in Canada is strongly dependent on grassroots community-based support and understanding. The recent calls for the Oak Ridges Moraine and adjacent Greenbelt lands (ORMGB) to be designated a BR require that a communications strategy be created to garner local support. Taking into consideration complex systems theory, this study looked to build a communications framework that combined higher-scale social organizing literature like social movement and environmental campaigns more detail-focused group dynamics and strategic communications research. Applying this framework to the ORMBG landscape revealed key target audience groups and messaging for the BR communications strategy.

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Chapter 1 Introduction

Self-organization, planning and campaigns have been at the core of social movements to effect change in social, economic and environmental policy over the past half century (Cox 2006, Fisher and Kling, 1993, Oepen and Hamacher 2000, Goodwin and Jasper 2004). Internal group dynamics, creating a strong communications strategy and understanding the movement's progress are integral to effecting change successfully. Strong examples include the black civil rights movement during the 1950s and 1960s and the Stonewall movement in between 1960 – 1970 (Goodwin and Jasper 2004). More recently, environmental movements pushing for sustainable food, land-use and energy systems have also pushed for intuitional change, establishing large networks of non-profit, non-government and charity organizations that invest in research, communications and lobbying to achieve their mandates.

Communications play a key role in social movements because they help groups articulate and describe their mission to anyone outside their movement (Cox 2006, Oepener and Hamacher 2000, Patterson and Radtke 2009). Also, communications also help groups and organizations decide their roles, relationships and purpose. These two dynamics often affect each other in an adaptive process, one adjusting in response to the other to prevent unintentional mission creep or to adjust their mission if necessary. In essence, social movements bring together this combination of communications, identity politics and group dynamics. These three things work together in movements to help achieve clarity of purpose and effect long-term institutional change.

This thesis focuses on the initial processes of creating a strategic communications plan for the proposed Oak Ridges Greenbelt Biosphere Reserve (ORGBR). The push for the Oak Ridges Moraine (Chapter 2) and the surrounding Greenbelt lands (Ontario's Greenbelt Act 2005) to be given special planning designation for stewardship and sustainability and to be designated as an example of sustainable living by the United Nations Education, Scientific and Cultural Organisation shares similarities with other social and environmental movements. Namely, the process is largely grassroots, championed by the community and fighting for legislative and institutional change (in this case for land-use policy and conservation). As with the movements mentioned above, a strong communications strategy that facilitates good messaging and internal group dynamics is key to its success and is currently lacking (Pollock 2009).

Typically, strategic communications plans begin with an audience assessment, followed by messaging shaping and message dissemination *[Chapter 8.3]* (Patterson and Radtke 2009). While recognising the institutionalisation of this structure, the context in which the plan is being created is vital in creating the lens being taken to the plan. Specifically, when developing a new communications strategy a few years into a social movement, it is important to acknowledge what has already been communicated (whether in words or actions) and the socio-ecological, political and economic response. These past actions and reactions highly influence next steps.

It also important to consider the specifics of this social movement – that it is socio-ecologically focused, stressing the importance of land conservation, sound planning, sustainable resource use and democratic participation from stakeholders. Therefore, in addition to strategic communications plans and social movements, environmental communications and environment-

focused campaigns should be taken into consideration as well. Examples of other environmental movements include Critical Mass events for bike infrastructure, World Wildlife Fund campaigns for forest and land conservation, and global to local protests for sustainable energy systems (Endres *et al*. 2009).

This thesis will link together consideration of social movements (Goodwin and Jasper 2004), environmental communications/campaigns (Cox 2006, Oepen and Hamacher 2000) and communications theories (Patterson and Radtke 2009) to determine where the Oak Ridges Moraine Greenbelt Biosphere Reserve fits in the larger communications of the Oak Ridges Moraine and surrounding Greenbelt lands, its role in continuing the ORM social movement and potential messaging to move forward. It will look for similarities between all three bodies of literature to help match progress with various stages of a communications plan. For example, a key stage of a communications plan is to develop mission and mandate, as it also is in social movements and environmental campaigns (Oepen and Hamacher 2000, Patterson and Radtke 2009, Brock and Howell 1994). These comparisons will manifest in a framework that can be used to analyse and organize data from sources listed below. Understanding whether the Oak Ridges Greenbelt Biosphere Reserve has established a mandate and mission as a social movement and/or environmental campaign allows also understanding where we are in the strategic communications planning process (Patterson and Radtke 2009). The research for this thesis took place between September 2009 and December 2011.

Using this framework, the research objectives of this thesis are to explore how group dynamics and social movement-conscious strategic communications can be used to help implement

sustainability frameworks, through creating programs and projects and lobbying for political change, across the ORM and to examine the potential for using similar communications strategies across other Biosphere Reserves and small non-governmental organisations/non-profits in Canada. The research steps to accomplish these goals are:

i) to identify where the Oak Ridges Greenbelt Biosphere Reserve fits into the larger Oak Ridges Moraine social movement and environmental campaigns;

ii) from here, to identify what are the next steps in communicating the ORBGR within a strategic communications context; and

iii) provide suggestions for the structure, audience groups and message development of a strategic communications plan for the ORMGBR.

While the history of the Oak Ridges Moraine has already been examined through a planning and community participation lens (Whitelaw 2005) these objectives will use a socio-ecological communications-based critique and set the stage for next steps. They will also help the Oak Ridges Institute for Applied Sustainability (ORIAS; http://www.orias.ca), the coordinator for the ORGBR, more clearly define its role on the ORM landscape.

Work to meet all three objectives will use a combination of primary literature review, secondary literature review, participant observation and interviews to collect data *(Chapter 5)*. This mixture provides a cross-section of theories, recorded history, personal observations and stories from individuals who have been active participants in the Oak Ridges Moraine and Biosphere Reserves from other areas. It also facilitates the triangulation of data, looking for similarities or

differences between recorded and narrative sources. The resulting findings contribute to the framework developed in this thesis and applied towards the development of a strategic communications plan. The outcome of this thesis will not be a strategic communications plan, but rather, a set of insights into how far the Oak Ridges Moraine, as a movement for sustainability-oriented principles, has come in communicating its identity and goals and what it might best do now in moving forward with communicating the purpose and role of the ORGBR on the ORM landscape to its stakeholders.

In the following chapters, I first outline the history of the Oak Ridges Moraine, its community-based nature and the role of Biosphere Reserves in Canada to set context for this thesis (Chapters 2 and 3). Additionally, I provide justification to why a communications lens should be taken to the ORGBR and its place in the ORM landscape. Secondly, I outline the bodies of literature needed to establish the framework that will shape the analysis and organization of data in the research and clarify the details of my research objectives and outline the methods I use to analyse my data sources (e.g. interviews, secondary literature, participant observation) (Chapters 4 and 5) Thirdly, I mold these together to form the strategic communications framework used in this thesis (Chapter 6). Fourth, I put examine the data using the framework to determine where the ORGBR fits into the larger ORM social movement and determine next steps from there (Chapters 8 and 9).

Chapter 2 The Oak Ridges Moraine – a brief history and future vision

To set context for this thesis, this chapter outlines the key events in social history of the Oak Ridges Moraine, its current programs and policies, and plans for its future as a sustainable landscape. These details helped determine the bodies of literature that are required to establish a framework to place the ORGBR in the context of the ORM and the messaging to communicate the BR's purpose. Primarily the ecological importance of the Moraine, the grassroots nature of its community mobilisation and the push for more environmentally-sound governance help frame the research and conclusions made in this thesis.

The Oak Ridges Moraine (ORM) is a 12 000 year old interlobate Moraine in Southern Ontario that stretches 160km between Peterborough and Caledon (Monitoring the Moraine 2010). The Moraine is filled with sediments from advancing glaciers that now help filter rainwater across Southern Ontario (Monitoring the Moraine 2010). The landscape is also filled with natural growth and high biodiversity, creating a band of green space, fertile land and wildlife corridors across Ontario (Monitoring the Moraine 2010). Its distinct physical peak and geological, hydrological and natural features have made the ORM important to many people, communities and governments in recent history (Whitelaw 2005, Oak Ridges Moraine Stakeholder's Report 2007, Oak Ridges Moraine Conservation Plan 2001).

The ecological importance of the Moraine has been institutionalized into policy and regulation by strong social and community-based movements. Grassroots organizations, civil society, and

elected government in the 1970s and 1980s created the sociological domain of the ORM through initial planning and policy documents *(*explored more in depth in *Chapter 2.1* (Whitelaw 2005). Building on this foundation, strong local champions, active communities and government agencies accumulated their efforts and ideas in the Oak Ridges Moraine Conservation Act and Ontario's Greenbelt Act to establish a sustainability and environmentally-focused land-use planning framework for the Moraine. Continuing this movement, grassroots organizations and academic institutions are now pushing for the nomination of the ORM to be designated a UNESCO Biosphere Reserve – the Oak Ridges Greenbelt Biosphere Reserve (Whitelaw 2005, Oak Ridges Moraine Stakeholder's Report 2007).

The robust implementation of the ORGBR could help elevate ORM's social importance, strength its governing policies and improve its natural functions. However, a good communications plan is needed to successfully implement the Biosphere Framework across the landscape (Chapter 2.2) as was required in the Georgian Bay Biosphere Reserve (Pollock 2009). In order to create a comprehensive and context-appropriate plan, this thesis first explores a framework that can be used to analyse the history, current and future environment of the ORM, including the community organizations that have worked on the landscape, their success and challenges and communications efforts to date. From there, I can determine the role of the ORGBR in carrying forward the efforts of the Moraine and develop the communications/messaging to clearly explain its purpose and function (Cox 2006, Oepen and Hamacher 2000).

2.1 Community-based work on the Oak Ridges Moraine (ORM)

Oak Ridges Moraine non-government organizations (Oak Ridges Moraine Symposium Stakeholder's Report 2009) describe the ORM as a landscape founded in community-motivated, grassroots efforts. A quick look at the landscape's history verifies this claim. Whitelaw (2005) reports that local civil society environmental organizations, motivated in part by NIMBY-ism, advocated for the protection and conservation of the ORM landscape. With enough vigour and presence, the Region of York eventually 1974 recognised the ORM from a legal planning and land-use perspective. In addition, the broad public appeal and the ecological and hydrogeological importance of the ORM had elevated local interest beyond the realm of NIMBY-ism, establishing the ORM as a community-valued good. These events helped the ORM achieve social, institutional and legislative legitimacy early on. Recognising this growth, community organizations like the Concerned Citizens of King Township and Save the Ganaraska Again collectively created the Save the Oak Ridges Moraine (STORM) Coalition to maintain momentum. STORM's role was to bring together and mobilise local-scale social capital, engage stakeholders and government, and manage resources and capacity (Whitelaw 2005, Monitoring the Moraine 2010).

The collaborative nature of STORM placed the coalition in the role of agenda setting, creating a vision for moraine protection and nurturing local groups to lobby and effect political change. Locally, groups influenced governments to acknowledge the importance of the ORM in land-use planning and in watershed protection. On a larger scale, these community-level concerns paralleled provincial plans for a Greater Toronto Area Greenland strategy. Influencing planning and land-use management on various scales, the STORM Coalition and civil society heavily

directed the legislative and political agenda on the landscape. Results include the signing of the Oak Ridges Moraine Conservation Act and Plan in 2001, and the up-coming UNESCO World Biosphere Region nomination. The ORM is exemplary landscape in which community organizations and citizens demonstrated how to work to make the change they wanted to see (Whitelaw 2005, Monitoring the Moraine 2010).

2.2 The Oak Ridges Greenbelt Biosphere Reserve and Biosphere Reserves in Canada

A team of researchers with representatives from a network of environmental movement organizations (Save the Oak Ridges Moraine Coalition) and faculty members at the UW have undertaken an initiative to have the Oak Ridges Moraine and adjacent Greenbelt lands (ORGBR) designated as a World Biosphere Region (BR) under the United Nations Educational, Scientific and Cultural Organization's (UNESCO) Man and the Biosphere Program (MAB) (UNESCO 2011). The ORGBR is a unique landscape of natural resources, biodiversity, and local livelihoods with a community dedicated to sustainable living. It also houses the headwaters of watersheds and systems that serve the Greater Toronto Area and Golden Horseshoe Area in southern Ontario. This designation would recognize the Moraine's success in achieving the qualities embedded in the mandate of a UNESCO BR: to combine development with conservation, facilitate international learning about sustainable practices and generate capacity for future sustainability-oriented programs (Francis 2004). Also, the proximity to large urban centres makes this area unique, and the ORMGB would be designated as one of the few peri-urban BRs.

With a successful designation, the landscape and communities of the Oak Ridges Moraine and adjacent Greenbelt lands would be recognized along with 580 other world-wide biosphere regions in 114 countries as models of sustainability (UNESCO 2011 – as of March 2012). Within Canada, there are 15 UNESCO Biosphere Reserves and four in Ontario: the Niagara Escarpment BR, the Georgian Bay BR, the Thousand-Island Frontenac BR and the Long Point BR (UNESCO 2011). Not only would the Oak Ridges Moraine biosphere region add to Ontario's prestige and leadership in sustainable development, but also the region would be unique in being Ontario's first peri-urban BR (UNESCO 2011). It will also recognize and encourage community-level efforts to pursue and achieve sustainable livelihoods and help further promote the current conservation and sustainability-oriented work of individuals and communities across the Moraine and adjacent Greenbelt lands. However, the BR possesses no legislative or regulatory powers and does not have governmental authority.

Currently, there is on-going research dedicated to looking at sustainable practices, resilience and community development on the ORM, GB areas (and BRs in general) (Taylor 2004) to provide a strong academic and practical knowledge foundation. However, Canadian BRs are greatly tied to public participation, community support and place-based governance (Pollock 2004; Francis 2004), which is important for maintaining sustainable communities (Edge and McAllister 2009). For initial nomination, UNESCO requires proof of community-level support in the form of letters of support from local groups and various levels of government (UNESCO 2011). Therefore, in order to successfully nominate and implement a Canadian BR, garnering public support and community momentum is essential. Clearly communicating the concept, purpose and benefits of a BR is an important step in this process (UNEP 2005).

2.3 Communications and the ORGBR

In the important period after designation, Canadian BRs need effective public engagement because their success relies on local community and stakeholder support *(Chapter 2.2*; Pollock 2004). It is also one of the key ways a BR can share its values with local stakeholders, the broader conservation community, the public and stakeholders (Pollock 2009). In order to build this support, a strong communications strategy and plan must be implemented to provide clarity and consistency in the BR's message and purpose (Cox 2006). Furthermore, the existing mission and mandate of the Oak Ridges Moraine dictates that this strong public engagement is necessary.

For example, from the ORGBR Nomination Document, the vision of the ORGBR is:

"**"To make the moraine and adjacent countryside economically viable and ecologically healthy by supporting innovations in conservation and sustainable development and by helping to build local capacities for research, education and monitoring."** (Oak Ridges Moraine Co-operation Plan 2011, p. 5)

Achieving this vision requires establishing horizontal relationships between sectors and vertical ones between scales to coordinate efforts (Pollock 2009, Francis 2004). This introduces a wide-range of complexities that may be difficult for individuals not involved in the inception and development of the ORGBR initiative to comprehend. Given groups, their co-operation and their functions evolve from communications (Frey 1994), the initiators of the ORGBR must share their ideas, logic and values with those outside of the project's origins.

Clearly communicating the concept of the Oak Ridges Moraine (ORM) as an UNESCO World Biosphere Region is essential in gaining community-level support for the designation and in building capacity towards sustainability-oriented policies and programmes under the Biosphere Region title. **A robust communications strategy is *the basis for reaching beyond the "conservation community of the ORM and Greenbelt and extending its network across sectors (agriculture, public health, local economic development, small and medium enterprises, public education etc.) to better address and integrate all three functions of the Biosphere Reserve***". (Oak Ridges Moraine Co-operation Plan 2011, p. 13; Pollock 2009). Given the broad scope, understanding how community values and can improve the effectiveness and clarity of communications methods is important in creating a successful communications plan specific to the Moraine. (Cox 2006) This would also set the foundation to provide guidelines in communicating future projects, especially given the Moraine's history of community-drive and placed-based activity.

With the importance of communications plans in defining a BR's roles and values to the broader public and landscape (Cox 2006) and the typical lack of capacity BRs have to develop such a plan (Pollock 2009), this thesis strives to allocate research, time and human resources to something so important yet neglected. I will examine the history and current work on the ORM landscape through an ecological, environmental and social movement lens that reflects the Moraine's aforementioned natural and grassroots focus. This will allow me to understand the values and messages that have been communicated and established to date and from there,

provides suggestions on the best role of the future ORGBR and how to disseminate this to ORM stakeholders.

Chapter 3 Systems Thinking, the Oak Ridges Moraine, and Biosphere Reserves

The multiple roles Biosphere Reserves play (in conservation, logistics and sustainable development) as mentioned above, suggest a system thinking approach should be applied across the landscape and any work on the landscape. The concept of post-normal science has been developing in response to the increasing need for traditional scientific research to be used and understood in a social context (Ravetz 1999). Indeed, the history of Western science and research focuses on taking apart complex issues for analysis in a very linear process (Ravetz 2004). The result is knowledge sorted into silos, independent disciplines that function with their own practices and norms, separated from the entirety.

Embracing a post-normal science approach helps address the uncertainty, complexity and pluralistic nature of social-ecological issues. Commonly, a broader holistic and interdisciplinary scope is used to improve the quality of research and to gain perspective on the entirety of the issue. Interdisciplinarity can help identify current gaps in knowledge, make links between isolated disciplines of research, and develop solutions scaled appropriate to the target issue (Nissani 1997). With multiple actors in a social-ecological system, knowledge from a variety of disciplines must interact to address these issues. Holism embraces this interdisciplinarity, but also searches to include relevant stakeholders and participants relevant to the issue (Georgiou 2007). However, missing from both holism and interdisciplinarity is the idea that social-ecological systems are always changing, reacting to stresses, and reorganizing.

Complex-systems thinking enhances science and research by acknowledging the dynamic nature, chaotic behaviour, and continuous motion of socio-ecological systems. Like holism, this approach avoids the reductionist linear approach to issues and uses feedback and external factors in analysis. However, complex system thinking also introduces Panarchy, the idea that systems at different scales and of different sizes and foci are interacting with each other (McCarthy 2007). These systems and their sub-systems may have multiple potential stable states (Walker *et al.* 2004), change at different rates and are mutually affecting, requiring multiple perspectives across types and scales to understand systems and their dynamics (Ravetz 1999). Contrastingly, a solely holistic approach is inadequate because it focuses mainly on one large scale, ignoring subsystems, their components, and their context (Kay and Schneider 1994).

Panarchy in systems thinking offers a perspective to look at hierarchical systems and their interacting elements (Gunderson and Holling 2002). In a Panarchy structure, natural, human, economic and socio-economic systems are all interlinked in their states and processes across various time and spatial scales. Given the diversity of actors and multiple disciplines working on the Oak Ridges Moraine *[Chapter 3]*, a Panarchy and complex-systems approach is important to quality assurance in environmental research. It is important to acknowledge that there are many movements, policies, programmes and behavioural changes acting across the landscape in different sizes and at different times. They have synergistic, cumulative and individual effects and can mutually change boundaries.

Therefore for this study, principles behind both holism and complex-systems thinking help achieve two goals. First, they facilitate the understanding of what realities communications

strategies must recognize and address and how communications must work in explaining the Biosphere Reserve concept within and between the different stakeholders, places, and institutions across the current ORM/Greenbelt landscape. In addition, the holistic and complex-systems based principles open research into exploring where the Biosphere Reserve nomination fits into the ORM/Greenbelt domain as a larger whole. It can place the Biosphere Region nomination in relation to the larger history the ORM and more importantly, how the role of the ORGBR can be communicated to stakeholders across the Moraine.

Setting the stage with these theories also opens the door to examining the interactions between the various systems at play in the ORGBR area. The bodies of literature I listed before: social movements (Brock and Howell 1994), environmental communications (Cox 2006), group dynamics (Forsyth 1990) and identity politics (Brown *et al.* 2002) all provide unique perspectives on the Moraine activities. Examining where these overlap, share similarities and have differences in a complex systems manner allows me to examine their theories at the same time in a cohesive and interactive manner. The product of comparing these disciplines into a framework for this thesis is outlined and presented below.

Chapter 4 Literature for the Framework

Given the complexity of social-ecological systems and the history of work across the Oak Ridges Moraine (ORM) landscape, a variety of literatures and theories should be taken into consideration when doing any work on the landscape. As highlighted in *Chapter 2*, the people and communities, their collective mobilization, and their activities and efforts built the present-day ecological, social and political environment of the ORM. Respecting the importance of this history and acknowledge the variety of players and disciplines involved, any further work on the ORM domain should take these key factors into consideration especially. For academic purposes, it is important to select the appropriate disciplines that can represent these players and combine them through complex-systems based ideologies to create a comprehensive and accurate framework for research and data analysis. This framework is essential in exploring the history of the ORM from multiple perspectives in order to understand how the ORGBR can continue to promote the work of the multiple Moraine stakeholders and in addition, provide insight into how the BR's mandate can be implemented, communicated and promoted across the landscape.

For the purpose of this thesis' research framework, I chose to join together literature from social movement (Brock and Howell 1994), identity dynamics (Brown *et al.* 2002), environmental project/campaigns (Oepen and Hamacher 2000), environmental communications (Cox 2006), group dynamics (Forsyth 1990), and grassroots literature (Chetkovich and Kunreuther 2006) in constructing a lens through which to describe the history of work across the ORM, to help identify the most desirable future role of a ORGBR and to indicate the most important themes and more suitable structure and channels for to communicate this role to

Moraine stakeholders (Hatch and Schultz 2002, Oepen and Hamacher 2000, Cox 2006, Forsyth 1990, Chetokovich and Kunreuther 2006). Grassroots organizations and social movement literature dissect the process of community mobilization to effect change – they provide a higher scale examination of the various stages of movement development, from determining a mission to bringing about institutional change. This includes the grassroots history of the ORM, in particular the history of community-based movements for social and institutional change across the ORM landscape including conservation-minded land-use policies, better monitoring of water quality and quantity, building local food systems and acknowledging connection between natural heritage and public health (Whitelaw 2005, Moraine for Life Symposium: Stakeholders' Report 2007). Also, the community-based and localized efforts to push for Biosphere Reserves in Canada further justify the need to consider social movement and grassroots literature when examining an ORGBR.

Environmental communications, projects and campaign literature outline the process in establishing the motives and missions, messaging and dissemination strategies behind collective group action of environmental social movements (Cox 2006; Oepen and Hamacher 2000). Identity and group dynamics literatures examine how communications and interactions between individuals, groups of individuals and communities affect the perception of their individual mission and purpose (Brown *et al*. 2002). They provide insight into how these groups determine their roles and mandate and how they choose to communicate these to external bodies. Furthermore identity dynamics outlines how these groups then use feedback to measure the accuracy of their messaging and readjust their communications or mission to align with their intended values as necessary. These disciplines facilitate a deeper look into the environmental

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social movements that occur across the ORM landscape by providing a more process-based critique to group mobilization, communications and shifts in purpose and mandate (Brock and Howell 1994). For example, both these disciplines incorporate practical group exercises including SWOT analysis, message development exercises and audience analysis and identification (Patterson and Radtke 2009). This contrasts the social movement and grassroots literature mentioned above, which takes a higher-scale theoretical approach to group mobilization (Brock and Howell 1994, Chetkovich and Kunreuther 2006).

These bodies of literature also help address the roles of Biosphere Reserves in general: conservation, sustainable development and logistics (Francis 2004). Environmental communications, campaigns and projects focus on mobilizing communities and groups to exercise their capacity and effect political and social change for conservation and sustainability. Studies in this discipline have to navigate carefully the multiple stakeholders involved in environmental change, including government, business and communities (Cox 2006). Social movements and group dynamics theories provide the necessary understanding for logistics; examining how individuals, groups and communities interact, establish roles and share knowledge (Brock and Howell 1994, Jenkins 1983, Forsyth 1990, Wilson and Hanna 1986). The grassroots literature provides a more local lens to examine principles of organisational development and mobilising social capacity, helping create a more accurate framework for my research.

Each of these disciplines provides insight into group organization, mobilization, and communicating for environmental change. Their use in constructing a framework for the

purposes of analysing the history of activity on the Moraine, the role of a potential ORGBR and communicating this to stakeholders is justified by the heavy community-based, grassroots and environmental focus of activity across the landscape. Combined, they also provide both a higher-scale and more specific critique to the framework, allowing a more comprehensive approach than using anyone body of work individually. Below, I examine in more depth what each discipline can bring to this research's framework.

4.1 Social Movements

The study of social movements is essential in understanding resource mobilisation, group behaviour and community organization (Zald and Ash 1966, McCarthy and Zald 1977, Jenkins 1983). Community mobilisation and grassroots efforts are key in influencing change in local contexts (Fisher 1993 from Fisher and Kling 1993, p, 4). From more conventional protests like those outside Parliament, to more novel events like Critical Mass (where bicyclists "take back" the roads), social movements for political and societal change reflect the ability of collective behaviour to influence populations (McCarthy and Zald 1977). Given their importance in our history, there is much debate and discussion about how social movements form and what determines their success in effecting large-scale change (Goodwin and Jasper, Kurzman, and Polletta from Goodwind and Jasper; Munck 1995). This section explores the development and evolution of social movement research and how it relates to this project's framework.

To set context, looking at the mandate of UNESCO Biosphere Reserves reveals why understanding social movements is important for the successful implementation of an Oak

Ridges Greenbelt Biosphere Reserve. Typically, Biosphere Reserves encourage and facilitate steps by governments (political) and communities (societal) to transition towards sound integration of economic and environment for sustainable living (Francis 2004) *[Chapter 3]*. This large-scale change across many scales and spheres draws similarities to the goals of other historical social movements – e.g. the gay liberation movement, the black civil rights movement, and more closely, the global warming movements that push for political and societal in shifts in policy, framing and perspective (McAdam 2004 from Goodwin and Jasper 2004, Feldpausch-Parker *et al.* 2009). Given these parallels, understanding how these exemplary social movements form, proceed and succeed is important in guiding the success of an Oak Ridges Biosphere Reserve designation. Specifically, looking at experiences and lessons learned in social movement messaging can greatly inform the Biosphere Reserve's communications guidelines and strategies developed in this project.

The discourse surrounding social movements evolved greatly since its beginnings (Goodwin and Jasper 2004, Kurzman 2004, Polletta 2003 from Goodwin and Jasper 2004; Zald and Ash 1966, McCarthy and Zald 1977; Jenkins 1983; Munck 1995). Specifically, it has expanded from a fairly narrow and small-scale focus to embracing a larger systems-like approach, as I will outline below. Jenkins (1983) explains early research in social movements had a predominantly structuralist focus, explaining individual participation in social movements through mass society theory and collective behaviour theory. Individuals were not the unit of focus; it was a critical mass or a strong collection of individuals into a group that had impact. The early literature also identified political opportunity as the dominant factor influencing the ability of a social movement to effect change and succeed. The result was a fairly narrow view

that promoted a single-variable correlation analysis of social movements and externalised power from those involved in the movement.

For example, a political opportunity structure theory suggests that social movements are more likely to emerge and succeed when there is a gap in the current political landscape (Morris 2003; Kurzman 2004, 113). This focus ignores factors of culture, society, history and human agency in explaining the success or effectiveness of social movements. In another example, collective behaviour theory suggests that social movements are irrational, emotional and spontaneous (Morris 1999, 531). It focuses on excitement and mass hysteria as the key reason for individuals to come together and push for change (Morris 2004).

These examples reveal a distinct pattern of minimizing and individualizing the multiple characteristics of social movements. Both political opportunity and collective behaviour theories attempt to isolate one variable in determining the ability of a social movement to form or succeed. They also both remove agency and power from those within the movement. Notably, political opportunity structure theory suggests that the ability to achieve success is limited by those outside the group with more institutional political power. Collective behaviour theory does not recognise a group's ability to rationally and intentionally organise; much is left to chance and timing (Rucht 1986).

The discourse has since grown to acknowledge multi-variables, interacting variables and the ability of movements to survive and succeed even without political opportunity. Particularly, the civil society social movements of the oppressed in the 1950s shifted critique away from a

structuralist perspective (Eyerman 1989; Kurzman 2004). This new post-structuralist critique focused on human agency, resource mobilisation and constructionism/conjunctural (explained below) modelling for explaining a social movement's formation and success. In contrast to prior research, this critique recognizes that at least some power, control and ability is held by the individuals organising the social movement.

Human agency acknowledges the part group dynamics and individual roles play in a group's control over their own success or failure; for example: leadership configurations, tactical solutions, and protest histories may all play a part in determining when a movement forms and their ability to effect change. This can include cultural framing, an analysis of how people perceive their grievances and optimism to effect change. A strong internal group conviction can allow for successful movements despite being repressed/oppressed by powerful political elites (Morris 2004). This is similar to discussion about "perceived opportunity", in which a group's perception of political opportunity is self-fulfilling and the movement may succeed even when the usual indicators suggest opportunity is lacking (Kurzman 2004).

Resource mobilisation rejects that social movements emerge from fluid, spontaneous and unstructured contexts. Instead, it suggests that groups purposefully move resources (people, capital and/or money) to organise and execute social movements (Morris 2004). Similar to recognising human agency, including resource mobilisation in discussing social movements acknowledges the ability of individuals and groups to take control over their own process.

Constructionism (Kurzman 2004), suggesting that people build their history instead of looking for opportunities, and conjunctural modelling focus on a multi-variable explanation of the nature of social movements. Specifically, conjunctural modelling acknowledges that states matter, culture matters, social structure matters, and accidents of history matter (Foran 1993). This perspective allows for a broader and larger-scale systems approach, acknowledging that multiple factors can interact and contribute to the formation and success of a social movement. However, moving away from single-variable structuralism does not necessarily mean rejecting causality, preventing the generalisation across groups, or dissolving patterns into chaos. These two themes simply try to look at all factors that can build a movement's success (Kurzman 2004).

Not only does this perspective (Kurzman 2004, Foran 1993) parallel the multi-variable/factor paradigm used in sustainability and environmental oriented studies, but post-structuralist theories also embody principles of complex-systems thinking. For example, in addition to the social movement itself (including potential supporters, actors and stakeholders), it is important to consider the larger social environment in which the movement exists, including the current societal norms, economic tone and political institutions (Zald and Ash 1966). It is also equally necessary to look at how these factors shift and change across the geography of the movement's landscape. Engaging with these multiple scales simultaneously is essential in understanding social movements in their entirety. Within our context, changing scales may reveal smaller social movements or secondary, but equally important movements, like the push for local food and agriculture as represented in the Greenbelt, occurring within the larger society.

Therefore, this project will use the more recent post-structuralist, constructionist and conjunctural framework in its approach to looking at social movements.

Despite moving beyond a structuralist perspective in looking at when social movements form and their success, there is still a rather structured approach in looking at the development of a social movement. For example, Brock and Howell (1994) describe social movements in five steps: identity, legitimacy, participation, penetration and distribution. Community and citizen groups must effectively communicate their message under each of these categories to build momentum and capacity behind the movement.

Identity, the first step, focuses on uniting all groups under a common purpose and name, letting audiences become aware of the movement's existence and purpose. This includes developing a common vision and establishing a structure for decision-making and operations. Legitimacy is achieved by demonstrating that the collective groups have power to support their identity (Larson 1973). Having group members in positions of power and showing public support for the group are ways of communicating credibility. Participation focuses persuading individuals to participate within the movement, often using specific issues as proxies for building motivation; the problems and facts communicated at this stage need to speak directly to the values and concerns of the target audience. The last two steps, penetration and distribution, occur when the movement has enough power to push for policy/governance change and achieve the institutionalisation of the movement.

Oepen and Hamacher (2000) in their discourse on environmental campaigns propose a similar structure *[Chapter 4.5 and 4.6]* in their recommendations for managing an environmental/social project: identification, formulation, implementation, and control. Identification involves understanding the current public and media opinion on the specific issue or project and holding meetings with interested actors to establish a common identity and meaning. Formulation involves exploring the capacity of all actors involved, proposes goals to improve capacity, and the communications strategies needed to achieve this difference. Implementation sets the communications plan into action, independent and complementary to any other legal or policy tools used to effect change. This would also include message monitoring and control.

The overlap in environmental communications and social movement literature is significant because it provides a foundation for building this thesis' framework. Each step of a social movement can be linked directly to a step of an environmental communications plan/campaign based off its similarities highlighted later in *Chapter 5.1* along with their parallels with other bodies of literature. Social movement critique provides the broader higher-level process of self-organization and its impact on political, legislative and sociological environments. It outlines milestones and achievements that indicate progress made by effective group mobilization and campaigning. Environmental communications literature outlines the activities and exercises necessary in carrying-out strong social movements, providing a smaller-scale practical examination of how to achieve these higher-scale milestones. In terms of developing a strategic communications plan for the ORGBR, this scope provides direction and next steps depending on how far the Moraine social movement has progressed. In addition,

suggestions on communications strategies and activates from research participants can be compared to those dictated by environmental communications literature to determine their feasibility.

4.2 Identity Development and Identity Politics

As noted in *Chapter 4.1*, social movement and organization perspectives describe identity as the values, opinions, mandate and purpose that characterise a group. This also affects how it perceives problems and their solutions and how it chooses to govern and express itself. While this may appear to be a static and internal process, identity is dynamic over time and changes in the socio-political environment. Specifically, it is a relational process in which the perceptions of those within and outside the group interact through dialogue to come to common ground (Hatch and Schultz 2002). Given the key role perceptions play within in process, understanding what individuals know or believe about an organization is key to understanding the identity dynamic (Brown *et al.* 2006).

Hatch and Schultz (2002) outline a process that establishes identity as a product of the interaction between image and culture. Organizational image is what others outside of the group think about the organization. Channels for this information include media, word-of-mouth or increasingly, direct interaction (Hatch and Schultz 2001). Culture, is mainly organizational culture or the way a group chooses to function as fuelled by the members' values and core principles. Identity is determined when image and culture interact: external perceptions can be internalised into organization culture and internal messages can impress public opinion.

There are a few inter- and intra-connections between the organization and its stakeholders and the general public that facilitate this process. Though under different titles, both Hatch and Schultz (2002) and Brown *et al.* (2006) agree on four main processes that create an organization's identity. Reflecting (Hatch and Schultz 2002), or "Viewpoint 1" (Brown *et al.* 2006: p. 103), involves those internal to the organization meditating on the associations they have about their group. While the specific processes are still unclear, these individual associations do accumulate on a collective-level identity. Expressing (Hatch and Schultz 2002), or "Viewpoint 2", (Brown *et al.* 2006: p. 103-104), can consist of logos, advertising, or any other method an organization chooses to send a message about its culture. These expressions can be specific to the values and priorities of audience groups in strategic or targeted communications.

The public or stakeholders can also feedback to influence an organization's identity. Mirroring (Hatch and Schultz 2002), or "Viewpoint 3" (Brown *et al,* p. 104), is when an organization internalises what they perceive stakeholders and the public think about the group. These perceptions were traditionally collected from the media, but the increased transparency of information has allowed for more direct dialogue from stakeholders. Community-groups in particular often have immediate communications with the individuals they impact. Impressing, or "Viewpoint 4", is how stakeholders, potential employees, the public and investors view the organization based upon this messaging. With the increasing transparency mentioned, the public associations from impressing and mirroring are often one and the same.

Understanding the dynamics of identity development and politics is important to this research for two reasons. First, it can help me understand how the ORGBR can express itself and how this image is influenced by those outside its organization. Acknowledging these processes help create more robust messaging from the very beginning, but also enable contingency planning. Second, this information needs to be considered when determining an internal governance structure. The organizational culture established by the ORGBR committee will greatly influence the communications dynamic between the public and the organization. Thirdly, it stresses that continual audience monitoring and feedback is important when implementing a communications plan and that this feedback can be used to iteratively readjust the plan for clarity and accuracy.

Additionally, identity dynamics provides an understanding of why it is important to consider audience in all stages of communications. Not only does the ORGBR have to keep in mind an audience when communicating its ideas, but it must also consider how the reaction from the audience will then affect and shift the group's original identity in return. It verifies the need for activities like audience analysis, messaging shaping, labelling and other strategic communications activities described below *[Chapter 4.6]*. In addition, while the specifics mentioned above do not contribute directly to the framework, they help justify the communications methods recommended closer to the conclusion of this paper *[Chapter 8]*.

4.3 Group Dynamics and Group Roles

Group dynamics is the study of how groups form, how individuals in groups interact, and how they collectively set out to accomplish goals – each group has a group structure, an underlying pattern that guides how the dynamics work out (Forsyth 1990). Structures evolve from stable relationships that develop from establishing group roles, status, and communications. Individuals within groups each settle in a role, which is a set of behaviours, dialogue and actions used to relate with others in the group (Wilson and Hanna 1986, Forsyth 1990). Roles are differentiated through a trial-and-error process; individuals act within a specific role and receive feedback from others in the group (Forsyth 1990).

Examining group dynamics is important for the ORGBR because it can prove difficult to establish a unique role for the BR amongst the multiple parties presently working and who have historically worked on the ORM. While social movement literature focuses on group mobilization and its effects on public perception and policy, group dynamics analyses the interactions, roles and responsibilities of various actors in large organizations like social movements. Specifically understanding which roles are currently filled, which roles are expressly not needed and which roles are needed, but lacking provide insight into how stakeholders feel the BR can continue promoting sustainability, learning and livelihoods across the landscape.

Under this lens, it becomes important to understand what role the ORGBR can fill in helping forward the current sustainability-oriented and environmentally-conscious policies of the ORM and which roles it should avoid taking-on because they are either already filled or are not valued. With this knowledge, the ORGBR can be communicated to prove a use for the

stakeholders on the Moraine, ensuring that its role does not produce any redundancies, but fills gaps in capacity across the landscape (e.g. acting as a networker or logistics co-ordinator). Furthermore, identifying which roles other Moraine groups shapes the messaging developed towards these audience groups. For example information givers, groups who provide data for forming decisions, including facts that derive from expertise (Forsyth 1990), may be more interested in how the BR can facilitate the dissemination of their research and knowledge. Knowing the roles of groups also provides insight into the access they each have to specific resources and social networks. This information is vital to creating strategic communications plan because it allows me to identify the gatekeepers to certain audience groups.

Bormann describes a stimulus-response model in which feedback from other members determines how likely an individual will take on a role (Bormann 1975). For example, an individual might experience discouragement from the rest of the group when taking up a new role and therefore, will begin to shy away from those behaviours. Similarly, positive reinforcement encourages individuals to continue their role and ambiguous feedback results in repetition of behaviours to seek further response. Group stability is achieved when an individual is comfortable in their role and is encouraged by the rest of the group (Forsyth 1990).

There are many types of roles that exist within an organization. Each individual might take on one role in each of these types, accumulating a number of behaviours over time. For example, there are more formal, group-task or task-oriented roles that have established responsibilities and criteria. These roles do not adapt to the characteristics of individuals; rather, it is a search to find the right individual for the role (Wilson and Hanna 1986, Forsyth 1990).

Forsyth (1990) provides some examples of these roles. There are also more informal roles that are socio-emotional and group building-in nature. The group members' existing skills and qualities determine which of these roles they play, particularly when maintaining interpersonal relationships (Wilson and Hanna 1986, Forsyth 1990). While supporters, facilitators, leaders etc., are need in many types of roles, an individual who performs well in a role in one type, may not in another type. (Forsyth 1990).

Sometimes, however, individuals are mismatched with their role and experience role conflict or role stress. Inter-role stress occurs when an individual either does not possess the qualities or the resources to fulfil a certain role (Forsyth 1990, Wilson and Hanna 1986). This often occurs when an individual is chosen or elected into a role with which they are not familiar (Wilson and Hanna 1986). Individuals may also be dissatisfied with the requirements of their role or the individuals with whom they have to work; this is intra-role stress (Forsyth 1990). When these stresses are high, people who are in the roles will often choose to resign of leave the position.

While individuals use their qualities to settle into group roles, their character also determines how individuals and sub-groups interact with one another. For example, people who have status tend to exert their power by displaying their knowledge and experience (Godfrey, Jones and Lord, 1986). They often tell other people what to do, reiterate and reinterpret what others say, and confirm or argue other's viewpoints. In addition, those who have a lot of power (i.e., supervisors, managers) may choose to limit the interactions between other individuals.

These dynamics help dictate attraction and repulsion within a group; some individuals are popular, some are outcast and some are neglected (Forsyth 1990).

These dynamics can affect how communications occur within an organization. Popular individuals tend to be central to communications, with all information passing through them. They are able to digest the information, interpret the signals, and redistribute the information to the individuals they choose. If the communications system is highly centralised, then these hub-individuals might become overwhelmed with information and become inefficient. Another risk of having information pass through only a few individuals is having a large number of periphery groups in the dark. A lack of information within in these groups could result in misinformation or contempt for the larger group. In these cases, a decentralised communications system, where everyone is saturated with the same amount of information, may be more functional.

4.4 Environmental Communications

The success of the ORGBR will rely greatly on the uptake of its concept and mandate by community members, residents and citizens living across the landscape. Therefore, this research project is primarily focused on environmental communications with the public sphere. Cox (2006) describes environmental communications is a pragmatic and constitutive vehicle for understanding the environment, the perception of environmental issues and our relationships with nature. As a pragmatic medium, environmental communications educates, alerts, mobilizes and helps solve problems. Example methods include public education, advocacy, programmes and services and fundraising (Cox 2006; Patterson and Radtke 2009). As a constitutive process,

having the power to organize and frame an issue, communications is symbolic action that shapes our framing of nature, its issues and our solutions (Cox 2006). Communications are meant to act as a constant mediator between individuals, groups and nature/the environment, facilitating a negotiating to determine a common definition and perception of an environmental issue.

This mediator and symbolic action perception of environmental communications is echoed by Cantrill (1998) who identifies a similar value, framing and nature model. The environmental self (Cantrill 1998) describes how individuals relate to their natural environmental, including what they appreciate about the space around them and what motivates them to interact with their environment. These priorities and values are used to frame how they then create, relate to and understand their environment. These perceptions created by the environmental self interact with the external persons when they are negotiated with others in public discourse and generate discussions specific to a local setting.

Cox (2006) describes these discussions happening within the public sphere (the sphere controlled and regulated by legislative bodies), which is a place where individuals and groups engage others discursively about issues. Six main groups interact within this sphere: citizens and community groups, environmental groups, scientists and scientific discourse, corporations and business lobbies, anti-environmental groups, and the media and environmental journalism (Cox 2006). Given the grassroots and community-based governance structure of biosphere regions and the NGO lead conservation policy efforts on the Oak Ridges Moraine, literature on communications with community and citizen groups in a social movement is important to review. Below I highlight the relevance of communications in implementing the biosphere

reserve mandate across the ORG area and the foundations of a strategic communications approach.

Communications and Community Mobilization, Sustainability and Placed-Based Governance

Agreement on and application of sustainability principles continue to be a challenge for many societies in the 21st century. Gibson (2005) recognises common essentials for the concept of sustainability: an interdisciplinary framework to shape assessments of problems and solutions, working in short and long term time scales, developing comprehensive general guidelines that are applicable to specific contexts, and improving resiliency and flexibility. These principles parallel, but go well beyond the principles behind holism, complex-systems thinking and Panarchy. Robinson *et al.* (1990) suggest that in applying general sustainability principles to local communities, we should be looking at building "sustainable societies." In order to do so, understanding the complexities and context of local communities is essential in shaping broader sustainability concepts for specific situations. This idea has been embraced in formal and informal decision-making institutions. Communicating the environment and issues through public consultation sessions helps in public understanding of the processes and complexities of local environmental, social and economic issues. There have also been efforts to devolve jurisdictional power about local issues to community members through citizen action (Jackson 1993).

Most of the literature on sustainability and placed-based governance focuses on redistributing power to and fostering socio-ecological understanding in the community through

processes such as public participation in environmental assessments and decision-making (Fitzpatrick and Sinclair 2003, Sinclair and Diduck 2001, Charnley and Engelbert 2005). Some research suggests that this process is a good opportunity for communications involving information dissemination and social learning. Fitzpatrick and Sinclair (2003) examine using environmental assessment as an education and learning tool for participants. They stress sensitivity to differences in knowledge, language, culture and power when trying to generate information exchange and participation. Opening up the discussion platform allows more individuals to participate and the group as a whole is exposed to a larger diversity of opinions.

Sinclair and Diduck (2001) completed a similar study on Canadian environmental assessment deliberations, stressing six criteria for generating an ideal learning environment. These criteria stress availability of information, openness to alternatives and improving the ability for individuals and groups to participate as collectively, they indicate the creation of a positive space where individuals feel able to deliberate and discuss. Charnly and Engelbert (2005) review public participation and perception of the USEPA Superfund program, finding it to be a good tool for community feedback on the program and monitoring success. Survey results revealed that actors involved wanted to be informed about Superfund programmes and influence the activities under the jurisdiction of the USEPA.

Also, social movements rely heavily on community mobilisation for momentum and capacity to affect change. Generally, communities mobilize in response to dominant groups who exercise their power in undemocratic ways to change policies and economies in ways that negatively affect the lives of less powerful groups] (Fisher and Kling 1993). Resisting the

hegemon and its forces, citizens and communities seek innovation to gain more control over the decisions that affect their lives. In other cases, citizens find experts and bureaucratic processes insufficient to protect the environment. This lack of trust can turn activists, families and individuals to community groups, forming solidarity and confidence to affect their local environment (Glazer and Glazer 1998).

Powerful grass roots civil society organizations and social networks are primary examples of community mobilisation in social movements. Though community-level environmentalism can be traced back at least to the 1960s and 1970s, a strong body of community mobilization narratives come from environmental justice movements in the 1980s in the United States. Key events include the case of Love Canal, in which citizen action led to a $15 million federal fund to clean-up a contaminated community and establish Superfund (King and McCarthy 2005); the case of *CANT vs. LES*, in which strong public comments and a citizen lawsuit forced Louisiana Energy Services to address the inequitable distribution of costs in constructing a uranium power plan on African Americans (Bullard and Johnson 2005); and the United Nations Basel Convention, in part fuelled by citizen concern over the movement of toxic waste (Krueger 1999).

While much research looks into the power community groups can have in effecting change in governance structures and decision-making, equally important is what constitutes effective structuring and organization. Chetkovich and Kunreuther (2006) surveyed a diversity of self-identified social change leaders and groups to research structure, funding and movement in civil society groups. Regarding communicating information and knowledge sharing, social

change organizations responded that they primarily focus on researching according to the needs of their activists. Often, they provide warning research to let citizens know what policy and governance changes are coming so communities can prepare collective action. Bryant (1995) recognizes that community participation and communications is imperative at every step in mobilising a community for change, suggesting kitchen table meetings, workshops, and focus groups. Mandell and Withorn (1993, chapter from Fisher and Kling) also stress the importance of participation in communicating information, reviewing the importance of involving women in the Massachusetts Welfare Rights to combat the dominant welfare myths and stigma.

Given the importance and strong history of placed-based governance and decision-making across the ORM, either through institutional environmental assessment processes or grassroots organizations, communicating the environment and the Moraine will continue to be a strong priority. Particularly, the implementation of an ORGBR would require further development of and emphasis on place-based governance and community participation. In addition, effective communications is key in knowledge sharing between groups in a social movement and in groups effectively responding to changes across the social landscape. Consequently as a necessary part of developing these systems, creating a strategic communications plan for the BR, its roles, structure and responsibilities becomes a priority. Also, given the strength of community-involvement and appetite for participation in the past, developing a stakeholder-based strategic communications plan falls inline with Moraine priorities and context.

4.5 Strategic Communications and the Strategic/Environmental Communications Process

Messaging and the transfer of information is key in building a solid organization, maintaining good governance and facilitating community mobilization across the Oak Ridges and Greenbelt landscape. This paper suggests that the Oak Ridges Greenbelt Biosphere Reserve are planning to use the foundations of strategic communications to help effectively achieve these results. Notably, Oepen and Hamacher (2000) define any environmental communications as a planned and strategic progress. Communications become strategic when they are integrated into all areas of an organization, are orchestrated (intentional) ongoing, and involve targeting priority audiences and constituents (Patterson and Radtke 2009). This also provides a framework to set priorities, improve performance and build capacity, allowing non-government organizations with limited amounts of monetary and human resources to create the largest impact possible (Patterson and Radtke 2009).

Effective strategic communications can advance the work of an NGO or community group by increasing the support-base for its work or garnering more resources and capacity (Patterson and Radtke 2009). With careful planning and the effective use of methods, instruments and techniques, limited resources can be best allocated to clearly articulate an organization's values, vision, mission and outcomes (Patterson and Radtke 2009, Oepen and Hamacher 2000). This is key in mending the comprehension gap and personalising impacts so that individuals can relate to the work being completed (Oepen and Hamacher 2006). The goal of strategic environmental communications is to establish a two-way social interaction that aims to establish a shared vision for sustainability and capacity building (Oepen and Hamacher 2000).

Given the planned nature of strategic communications, the relevant literature (Patterson and Radtke 2009) has set out a general method for developing a strategic communications plan. While there are variations in specific techniques used to accomplish certain objectives, there appears to be a broad process for developing a strategy. This pattern proceeds with a situation analysis, then audience selection, message development, objective setting, and finally selection of communications methods and tools. This process parallels Oepen and Hamacher's (2000) suggested communications project: assessment, planning, project, and action and reflection. Below, I outline the key exercises in creating a strategic communications plan (Patterson and Radtke 2009, Oepen and Hamacher 2000).

Situation analysis

SWOT Analysis

A situation analysis, or an environmental scan/analysis, is essential in identifying and gathering information about trends in the internal (those within the organization) culture and external (those outside the organization) forces (Patterson and Radtke 2009). This exercise can provide a good idea of the current socio-political terrain the communications strategy must navigate and the organization's available capacity and resources available to develop and implement a capable plan. From here, an organization can make a well-informed decision as to which objectives and goals are possible and which resources are needed to achieve them. It is also a good opportunity to identify internal weaknesses or social opposition that could hinder the dissemination of a group's vision, values and mandate.

One of the most commonly used tools for a situation analysis is a SWOT (strengths, weaknesses, opportunities and threats) analysis. It is a structured brainstorming process that categorically examines different aspects of a group/organization and the larger environment in which it functions (Oepen and Hamacer 2000). For example, in completing an internal SWOT analyses, groups typically focus on their organizational culture, administration, programmes and projects, human resources, infrastructure, and organizational development. For the external environment, a SWOT analysis might choose to look at demographic, economic, political, technological, and social forces (Patterson and Radtke 2009). Understanding the current situation of an organization is important in understanding which goals and objectives are achievable, achievable with further capacity building, or unachievable.

Patterson and Radtke (2009) report that in a SWOT analysis strengths and weaknesses typically apply to the internal culture and environment. An example weakness is failure of the organizational culture of a group to provide for free and frequent flow of information between individuals. This can hinder quick responses to emergency situations or create inconsistencies in the collective understanding of the group's mandate and goals. However, a strong and diverse network of partner organizations and groups is an example of organizational development strength. Having access to a diverse and large resource base allows an organization to deal with political, funding and staffing changes that are beyond their agency.

Consequently, opportunities and threats from a SWOT analysis generally apply to the external environment and landscape in which and organization functions. Shifts in political ideologies, economic recessions and booms, and new technologies can stimulate the effect of a

group/organization or render it obsolete. The S and W of SWOT interact with the O and T in how they affect an organization's ability to deal with external forces. Strengths are important in using opportunities to their fullest extent and handling threats. Weaknesses should be mitigated because they prevent the uptake of opportunities or make an organization vulnerable to threats.

Audience Profiling

Audience Selection and Segmentation

Identifying target audience groups is an important step in allowing an organization to use its resources most effectively. In strategic communications, there is no "general public"; people are divided into groups and messaging is specific to each group (Patterson and Radtke 2009). Creating narrower audience groups, though there can be many, provide for a better understanding of their compositions and values. This makes it more likely that the messages developed for each specific audience group will be adapted to the traits of each audience and be overall more persuasive and effective.

An audience analysis is also useful in identifying the common discourse and created environmental *[Chapter 8.3.2]*. Understanding this dialogue reveals the meanings assigned to the local environment, how willing individuals are to discuss and shift these meanings, and lastly, how much these can be transformed into informing local planning and policy (Cantrill 1998). This knowledge is important to a strategic communications plan in informing the messaging and message, but also understanding how easily the plan can navigate conflicts or encourage shifts.

For example, If the local individuals are very set in their perceptions and have a history of not engaging in debate, they may be impermeable to new messages.

An audience is defined as a group of people who face a similar problem or opportunity, collectively recognise that the problem exists, and organise around finding a solution to the issue (Patterson and Radtke 2009). This process is typical to issue framing, suggesting that individuals in an audience group view and perceive a problem or topic in a similar way and would be receptive to the same messaging. There are three broad audience groups that organizations can possibly reach: the active public, those who are already working in the organization and have adopted a change in practice; the engaged public, those who are already working on the issue and have attempted or are evaluating innovation; and the aware public, those who have general information about new ideas and care about the issue and could be motivated to work for the issue or include innovations in their lives (Patterson and Radtke 2009; Oepen and Hamacer 2000).

Audience Analysis

An audience analysis allows organizations to understand the motivations, responsibilities and abilities of each segment/audience group. These data help organizations identify which areas to target their resources and when to prioritise certain audience groups. For example, identifying critical behaviours in audience groups is a process that links specific behaviours to the change projects are trying to effect. This prioritisation exercise acknowledges that not all behaviours can be changed easily nor do all behaviours need to change in order to effect change (Oepen and Hamacher 2000). Identifying key factors of influence is an exercise that profiles where audiences

group place their most important and essential values (Oepen and Hamacher 2000). Targeting these areas in communications is likely to create the largest impact and influence the most change in the audience.

There are a number of characteristics that affect what are the key factors and behaviours that influence how people engage with issues. This includes demographic information, geographic information, psychographic information and psychographic information. A combination of these factors allow organizations to know how people spend their day, their time allocation according to what is important to them, how easily they can access information. On a larger scale, this survey can reveal standing social norms and cultural values that are pervasive within an audience group.

Message Development

Based upon the values, opinions and priorities defined in the previous step, messaging can be developed specific to each audience group (Oepen and Hamacher 2000). This process involves framing the main issue in a way that allows the audience group to find value and stake in it, personalizing the issue (Patterson and Radtke 2009). This allows diverse audience groups support the same cause, even though each might be pledging their support for different reasons. In addition to developing specific messaging, this step also involves selecting the appropriate channels to use in disseminating communications. Reflecting on group dynamics *(Chapter 4.3)*, the gatekeepers to audience groups and social networks may change depending on what values are used to frame the issue. For example, if an audience group values land conservation and

preservation, the best channels to go through may be land-trusts, government parks, or conservation authorities

Summary

Strategic communications activities are the smaller-scale practical exercises that help implement the theories and concepts proposed in *Chapter 4.1 – 4.4*. However, the larger over-arching insights from literatures reviewed in this chapter are essential in creating a community-based, grassroots, environmental strategic communications plan for introducing the Moraine and its stakeholders to an ORGBR. Social movement literature outlines the socio-political changes indicate each step of progress in pushing for social change. Knowing how far a social movement has progressed directly influences the target goals and tasks of the movement's organisations. Environmental communications/campaign literature provides the structure to complete these tasks and goals, providing the tools necessary to effectively demonstrate the core values, purpose and mission of the social environmental movement. Group dynamics and grassroots organisation literature respectively outline the external and internal environmental and actors that can help best execute the communications strategy. Understanding the roles and strengths of groups within a movement and the same of individuals within each group, provides and opportunity for groups and individuals to identify which messages and dissemination strategies they can best take on in a environmental movement and determine an efficient use of limited resources.

However, in order to use these literatures in an integrated complex systems approach to analyse the ORM and its history, the future roles of the ORGBR and how to communicate this

role, it is important to merge the various insights from the literatures into a comprehensive framework. Below, I outline the methodology for building this framework and for using this framework to analyse the history and development of a community-based movement on the Moraine, what roles the ORGBR can play in continuing this work and what messaging would most effectively communicate this role.

Chapter 5 Methodology for Frameowrk Construction and Application

5.1 Overview of Methodology

For clarity, I will structure the methodology section using the Research Objectives set out in chapter 1 and elaborated in *5.2* below. The objectives are as follows i) to identify where the Oak Ridges Greenbelt Biosphere Reserve fits into the larger Oak Ridges Moraine social movement and environmental campaigns ii) from here, to identify what are the next steps in communicating the ORBGR within a strategic communications context and iii) provide suggestions for the structure, audience groups and message development of a strategic communications plan for the ORGBR. All methods used in this study were qualitative methods for three main reasons. First, this study describes what is happening on the Moraine as opposed to why events are happening (Creswell 1998); it does not look for a causal effect between two or more variables. Second, a qualitative approach provides a platform to integrate a researcher's perceptions, experiences and insights from the field (Creswell 1988). The community-based nature of the Oak Ridges Moraine conservation and sustainability efforts made participation inevitable and participant observation and experience became a vital part of this study. Third, qualitative methods aim to understand experiences as a whole, rather as separate variables (Sherman and Webb 1988). This is important given the complex system-based and multi-discipline approach required by this study.

Three different research frameworks and data analyses were used to meet the Objectives of this study. A case study approach was used to address Objective 5.2.1, Scanning the Oak Ridges Moraine (ORM) as a social movement. This objective was mainly about understanding the

motivations behind the past and current actions across the landscape. Importantly, the behaviour of the actors could not be controlled and the domain is current and still developing. This satisfies Yin's (2008) case study criteria. For Objectives 5.2.2 – 5.2.4, an audience assessment framework was used. This process involved identifying actors, determining their actions, motivations and priorities, and finally, grouping them according to similarities. This process is outlined in strategic communications strategies, environmental communications and group dynamics literature to utilize resources efficiently: group together common interests and values and target them with a specifically-shaped message. Participatory action research (PAR) was used in Objectives 5.2.5. and 5.2.6. PAR is a "learn-as-you-go" framework, an iterative cycle of planning, executing, learning and then repeating. This included proposing monitoring methods to assess the success of communications strategies and developing an improvement mechanism to refine the plan.

5.2 Methodology Rationales

Creating a comprehensive framework for developing a communications strategy for the ORGBR.

The main goal of looking at a variety of literature and frames in chapter 4 was to establish a well-rounded and strong basis for a framework to look at the Oak Ridges Moraine and Greenbelt case history as a pre-requisite to building a communications strategy for the ORGBR. The literature review findings provide a lens through which to look at how far along we have come in establishing a conservation and sustainability-minded frame across the landscape and how we should proceed. As this step sets the stage for the rest of the study, its process and results are outlined in *Chapter 6*.

Understand where the Oak Ridges Moraine Biosphere Reserve project fits into the larger Oak Ridges Moraine social movement.

At each step of a social movement, different information is transmitted to the target audience through different selected channels (Patterson and Radtke 2009; Oepen and Hamacher 2000). Therefore, understanding the current stage of a social movement is important influencing communications strategies. This is useful particularly in placing the Biosphere Region can be in the larger social movement for sustainable living across the Oak Ridges Moraine (ORM) landscape *[Chapter 3]*. In order to frame the Biosphere Region correctly, it is essential to understand the larger environment and context, including at which phase of a social movement is the ORM and the landscape's social norms and traditions.

Chapter 4 provided a comprehensive review of the literature from multiple disciplines that are key in understanding the Moraine. The findings from this review will be used in chapter 6 to create a framework to analyse the landscape's history focusing on social movement and communications aspects. By looking for similarities in the literature, this variety can be combined together in a multi-scale and multi-scope critique to understand how far Moraine groups have come in conservation, sustainable development and organizational logistics; and furthermore, what role the ORGBR could play in further advancing this agenda. This process will also provide suggestions on next steps in communications activates and exercises to disseminate this role to Moraine stakeholders.

In addition, semi-structured interviews and secondary literature (reports, journal articles, media articles, and political articles) were used to examine the history of the ORM as a domain.

Asking questions directly to those who have lived and worked on the landscape and experienced its history provided much valuable information. Matching historical events to traits listed in the framework *[Chapter 6]* will allow me to see progress across the Moraine on a larger social movement scale.

Identify the current stakeholders on the Oak Ridges Moraine and their perceptions, values and opinions of the landsacpe. From these actors, identify the target audience for communications and potential allies for communications. Identify motivators and key factors of influence of the target audience and develop messaging specific to these groups

Identifying the current stakeholders on the Oak Ridges Moraine (ORM) is important in understanding the definition of the landscape. This definition shapes the issues, interests and perception of the Moraine and therefore, will directly affect the framing of the communications plan. This process included making a list of organisations and interest groups that have a stake in the ORM and constructing an actor list. Four semi-structured interviews, asset mapping workshop reports, and secondary documents from stakeholder symposiums were valuable resources from which to extract these values.

Actors (organisations and stakeholders) on the Oak Ridges Moraine were divided into target audiences for communications, channels/allies for communications, and threats to communications. In order to effectively identify values and shape messages according to these priorities, audiences were separated into groups with common interests because they likely can be delivered very similar messages. In addition, this grouping helped identify ally groups that can provide access to previously inaccessible audiences and increase citizen interest. The values

and priorities identified in *Step 5.2.2.* were to classify organisations and determine their key factors of influence. Key factors of influence are social or ecological traits and information that change attitudes and behaviours. Analysis and organisation of audience values and priorities that determine these factors were completed through a Knowledge Attitude and Practice (Oepen and Hamacher 2000) and Audience Analysis outlined in *Chapter 8.3*.

5.3 Qualitative Methods used

Participant observation

Participant observation is a qualitative method of observation that allows a researcher to take a more active role as opposed to being a passive observer (Flick 2002). This process allows the researcher to use observations in understanding the practices, interactions, events and dynamics that occur in the field. Acting as an insider, the research has a pre-understanding about the context and situation behind social dynamics and interactions and has established interpersonal relationships that build trust and rapport (Coghlan and Brannick 2001; Alder and Adler 1987). These qualities allow the research to gain more intimate, personal, in-depth and accurate insights from participating in the field (Adler and Adler 1987). Also, established relationships with actors provide links to more key informants and sources for interviews (Coghlan and Brannick 2001).

However, participant observation does have several weaknesses. First, the researcher's personal biases and opinions are filters for all observations made during participant observation sessions and make obtaining objective data difficult (Nielsen and Repstad 1993). To mitigate this

issue, the research should periodically withdraw from the setting and often recalibrate with the purpose, values and context of the larger group (Alder and Adler 1987). Researchers also run the risk of aligning themselves too closely to certain organisations, limiting access to other perspective or antagonistic actors (Adler and Adler 1987). Maintaining a level of distance and neutrality can help alleviate these concerns. Lastly, a researcher by actively participating can change or influence the dynamics of the system being studied. This influence can hinder or assist decision-making processes, and should be made transparent when reporting and analysing data.

The meetings attended for this duration of this study include:

- Moraine for Life Meeting with the Oak Ridges Moraine Foundation – 12 May 2009

- University of Waterloo, Faculty of Environment Biosphere Sustainability Project Group Meetings (monthly) – From September 2009 to April 2011

- Greenbelt Council Meeting – 16 November 2010

- Meeting with the Ministry of Municipal Affairs and Housing 2 December 2010

- Oak Ridges Greenbelt Biosphere Reserve Steering Committee Meeting – 2 December, 2010

- Meeting with Centre for Community Mapping (COMAP) – 12 January 2011

- Peel Region Public Health Meeting – 29 March 2011

Secondary literature and documents
Context and historical reviews provide a good understanding of current knowledge and the change of issues over time (Neuman 2006). These reviews enhance the understanding of what has shaped and framed the Oak Ridges Moraine and how this has evolved over time. Literature

can provide key criteria and best practices to use in assessing stakeholder values, using values in communications methods and developing a strategic communications strategy. Secondary documents provide information specific to the Moraine domain, including its history, current state and actors and stakeholders. This information can be used to inform the interpretation of data collected in participant observation sessions and interviews.

Semi-structured interviews

Interviews are used to strengthen the foundations for describing and understanding the experiences and perspectives of key actors' as conveyed verbally through questions and answers and in depth discussion (Kvale 1996; Creswell 1998). Interviews can be used to further inform the current state and history of the Oak Ridges Moraine and provide examples of successful communications strategies or sustainability-oriented programmes. Interviews also examine why interviewed actors act and experience issues the way they do (Kvale 1996), providing insights into why specific communications methods and programmes were chosen and the logic behind these decisions. Specifically, semi-structured interviews consist of planned questions for the interview, but allow the interviewee to orient the direction of the discussion and engage in issues with more depth.

I requested an interview with interviewees through e-mail, phone-call or in person and made sure to attach an information letter in all instances. Interviewees were given time to read over the information letter, the interview questions and respond. Interviews were held in a location suggested by me, but comfortable for the interviewee. Each interview last about thirty minutes to an hour and was recorded with a digital recorder. Interviewees were aware and

consented to the recordings. Each interviewee was asked the same set of questions (see Appendix A). During the interview, interviewees were free to ask for clarification when responding to the questions and were given the ability to lead the conversation into areas they saw relevant. If I felt that the conversation was straying too far from the topic at hand, I would try to steer the interview back to the question at hand. Analogies and comparisons to other situations by interviewees to explain their ideas were not considered irrelevant.

The questions were set specific to the objectives. Questions 1 and 2 were targeted towards the Identity part of social movements, asking interviewees how far-spread they perceive the ORM identity. Question 3 explores the connections made across the ORM, investigating the political and social relationships on the landscape. Question 4 and 5 were specific to communications experiences, harnessing lessons learned about scanning values across the ORM and learning which communications methods interviewees have found effective. It was requested that all responses be based on the interviewees own experiences working across the landscape and not as much from literature or third party resources. These questions were also posed to other Biosphere Reserves in order to contrast and draw parallels with their experiences to those of the ORM.

After each interview, I contacted the interviewee once again to ask if they were comfortable allowing what they said to be used in the study. If they requested a transcript of the interview or a digital mp3 of the interview before consenting, I sent it. After consent, their interview was added to the information matrix (Appendix C) and the original interview

recordings were destroyed. The follow people were interviewed for this study, with their permission:

• Kim Gavine - Oak Ridgse Moraine Foundation (NGO), female

• Rebecca Pollock - Georgian Bay Biosphere Reserve (NGO), female

• Dave Burnett – Toronto Region Conservation Authority (Conservation Authority), male

• Joyce Chau- Citizens' Environment Watch soon (NGO), female

Interview Coding and Codebook

Coding and codebooks are common used as key elements in the qualitative analysis of interviews, narratives and stories (McQueen *et al.* 1998). This establishes a common foundation of codes, their descriptions, and defining criteria to identify certain observations and attributes in narrative. The data obtained from coding were used to analyse trends and relationships between codes prevalent throughout the sample size.

This process was used in a study by McQueen *et al.* (1998) to analyse 600 narratives from women about their feeling, opinions and experiences with HIV and contraception. It was used in another study by Foteyn (2008) to code similar qualities of interviews about women and incidences of caner. Though each study asked different questions about unique situations, they both used a variety of codes to examined transcribed semi-structured interviews from study participants to define and identify a variety of expressions.

Both research projects used a codebook containing a number of codes and criteria to provide consistent reference for analysing narratives. This codebook was used to deconstruct interviews and organise statements according to their subject matter. Using either proprietary software or Microsoft Access (Fonteyn e*t al.* 2008), these studies processed the relationships between codes to identify co-occurrence and relationships could be inductively or deductively determined (Glaser and Strauss 1967).

For my study, coding was used to extract similar types of information from a across a variety of source formats (e.g interviews, participant observation and secondary literature review), providing a consistent backbone to use in analysing formats that are inconsistent in presentation of information. For example, interviews provide a more direct source of information; the research asks targeted question to look for specific information. On the other hand, participant observation is more distanced from the researcher and information is presented through interpersonal relations, personal comments and group discussions as filtered through the primary researcher. The creation of code criteria, for example the inclusions or exclusion of certain key words and phrases allows diverse formats to be analysed with a single methodology and opens them to be used data comparison and triangulation.

To develop the codebook, two interviews (I1, I2) and one set of meeting minutes (ORMGBR Committee meeting – 16 attendees from various disciplines and institutions) were picked at random to start initiate the coding process. As described by Glasser and Strauss (1967) and Strauss and Corbin (1990), coding included looking for key nouns, verbs, adjectives and adverbs to establish categories. Codes ranged from abstract to concrete to generate general and

specific theories. The codes were determined using a similar method to Fonteyn e*t al.* (2008) and McQueen *et al.* (1998)'s interview coding process: codes were developed for both the interviews and a set of meeting minutes and the common codes were retained. As I went through each interview and meeting notes, the categories were refined with criteria (including and excluding criteria) that are outlined in the codebook (Appendix B).

I analysed the results for look for consistencies and differences between reports and interviews under each code. Common nouns or references to the same events were identified and noted as trends. These trends are cross code and therefore, contain the history, present situation and recommended actions for each commonality found. This data was fed into the framework outlined in Table 1.1 and an Audience and Knowledge, Attitude and Practice (KAP) Analysis

Audience and Knowledge, Attitude and Practice (KAP) Analyses (Oepen and Hamacher 2000)

Audience assessment includes more than understanding the values and priorities of the actors involved. In addition, the assessment should segment and identify audience groups, key factors influencing these groups, and the critical behaviours from these groups that will affect change. Understanding these traits helps identification of what knowledge must be communicated to inform group attitudes that will confer changes in practice and habits. KAP analyses are tools that profile actors and stakeholders to provide information used in creating audience awareness and the eventual adoption of programmes and policies. This involves the following activities:

Audience segmentation

Audience segmentation is an important tool used to classify actors and stakeholders by socio-economic status or other characteristics. Later, factors of influence, message formation and communications methods are analysed and designed per group. Segmentation ensures that the knowledge and importance of typically marginalised and powerless populations (including women, lower education, lower income, and visible minorities) are acknowledged. This helps create a more neutral process, revealing influences, costs and benefits that would remain unknown without direct involvement from these groups. However, this division is case-specific the same group lines do not always apply or remain constant across contexts. Segmentation is often done to bring marginalised voices out from the majority; for example, by income, race, or gender. However, in our situation it might make more sense to organise by group affiliation, mission objective or purpose. By doing so, we can ensure that the diversity of motivations and influencing factors to act and protect the Oak Ridges Moraine can be addressed with specific messaging.

Communications Methods

After audiences and their key factors of influence are identified, the Biosphere Region concept and ideas must be summarised and delivered in a way that exemplifies benefits (Oepen and Hamacher 2000). This includes identifying communications objectives, including which groups to access, decreasing misinformation, increasing positive attitudes and by when these objectives should be met (Chetkovich and Kunreuther 2006, Johnston and Noakes 2005). There should be followed by a collaborative effort to decide which resources to use in achieving these objectives, specifically selecting communications tool that are appropriate to the ORM context. Sample

methods can be extracted from literature and interviews with managers from other Ontario Biosphere Regions. Example systems for discussing and choosing methods include the MOVE (Moderation and Visualisation for Participatory Group Events) tool and selecting audio-visual presentations.

These methods collectively provide insight into the progress of the ORM as a social movement for sustainable living and how the ORGBR can work to further this agenda. They also provide practical results from the audience analysis and message development processes to help effectively communicate and implement the BR across the ORM landscape. For data, a combination of interviews, participant observation at ORM and ORGBR related events, and secondary literature provide insights into the values and opinions of a variety of actors across the Moraine. These data can then be built into a framework to understand past and current ORM-based projects from social movement and environmental campaign perspectives. In addition, the values and opinions of Moraine stakeholders are key in the development of ORGBR messaging and selecting the appropriate channels to disseminate them. Below, I outline the development of the framework to analyse the ORM work to date.

Chapter 6 Building the Framework

In line with Objective 5.2.1, the main goal of looking at a variety of literature and frames was to establish a well-rounded and strong framework to look at the Oak Ridges Moraine and Greenbelt lands as a pre-requisite to building a communications strategy. It will provide a method to look at how far along ORM networks and organisations have come in establishing a conservation and sustainability-minded frame across the landscape and how we should proceed. As stated, these different frames of thought were selected to aim across scales and disciplines to help address the complexity the Moraine as a socio-ecological system. However, these ideas must be organised properly in order for the framework to be effective.

The way I approached this is to look for similarities between different frames and also look for methods to help accomplish these similarities. For example, both environmental campaigns/projects (Oepen and Hamacher 2000, Cox 2006) and social movement literature (Chapter 4.1) establish that an understanding of how members of the organization see themselves and how others perceive them is important. The similarity between these two bodies of literature can be satisfied by knowledge from identity politics and audience analysis methods. While this may appear to be building a hierarchical approach, establishing that one body of theory is "larger" or "higher" scale than another, interactions and the influences between literatures will be pointed out. The results of this process are shown in Table 1.1.

6.1 Searching for Similarities

While the steps of a social movement above appeared to be simplistic, determining the traits and characteristics of each step require a more in depth research approach. Due to the complex history of the Oak Ridges and Greenbelt area *[Chapter 2]*, including its heavy public participation, sustainability focus, and political narrative, it is important to look at a few bodies of social movement literature. Weaving together multi-discipline lenses and applying the synthesis to the ORG landscape helps build the most appropriate framework for its social movement analysis. Each body of social change-focused literature used in this research will provide insight into the various systems acting across the Oak Ridges Moraine landscape and adjacent Greenbelt lands.

For example, examining group dynamics literature (Wilson 1986, Forsyth 1990) provides understanding of how individuals and groups interact in political, social and professional situations. Notably, group dynamics investigates a social movement's ability to self-organise, set mandates and determine governance structures. Literatures on grassroots social movements and civil society social movements also are necessary given the community-driven nature of community mobilisation across the ORG landscape *[Chapter 1, Chapter 2, Chapter 3]* and the push for government to adopt policies and institutions. Lessons can also be taken from the climate change movements in learning how to organise and message conservation, environmental systems and sustainability. The similarities and synergies found between social movement literature, environmental campaign/communications literature and group/identity dynamics are combined below:

Identity/Identification

The identity development phase of a social movement is a time period during which groups and organising bodies establish a name, mandate and purpose (Brock and Howell 1994). Through this process, diagnostic and prognostic framing occured guided by the shared values of the organising group: the first framing provides an interpretation of evens and issues and the latter presents possible solutions to these problems (Johnston and Noakes 2005). The result is the creation of a narrative, rhetoric or myth, differentiating those who believe in the narrative, "we", and those who do not, "them." (Feldpausch-Parker *et al.* 2009; Johnston and Noakes 2005). These views and values support the growth of the organization and movement (Chetkovich and Kunreuther 2006).

Decision-making, governance and operating structures are also established in the identity phase (Brock and Howell 1994). In community-based organizations, structure is often determined by the needs and wants of the organization's members. This provides structural flexibility, from more rigid governance for simple and stable environments to more decentralised governance for more complex situations (Chetkovich and Kunreuther 2006). These rules and guidelines help guide another part of the identity phase, the articulation and amplification of the social movement's core narrative and values (Benford and Snow 2000). Amplification mainly involves carrying out activities to disseminate the movement and group's identity, whether it is through advertising-based marketing, working with other groups, or word-of-mouth.

Legitimacy/Identification

The typical next phase of a social movement involves an effort by the organising group to show that they have power and can affect government or institutional decision-making (Brock and Howell 1994). This may include lobbying efforts (Brock and Howell 1994), direct action towards those who have power, or demonstrating in the spaces of institutions that possess power (Feldpausch-Parker *et al.* 2009). These can be met with a variety of campaign formats, from local to national, that match the target scale.

Internally, the "we" develops agency over developing their history. Motivational framing allows participants to frame with issues and narrative in a way that provides reason for others to join in collective action (Johnston and Noakes 2005, 6). This can be done through allowing participants to share their stories or provide opportunities for individuals to take responsibility and accountability (Clarke and Milburn 2009, 327-330). A thorough framing process with the movement's participants also allows for the creation of a consistent and articulate frame, goal and campaign (Clarke and Milburn 2009, 327-330; Snow and Benford 1986).

Participation/Formulation

Once a social movement has increased strength and can take on larger scale projects, it has reached the participation phase (Brock and Howell 1994). This includes taking on larger projects and showing evidence that efforts invested in the social movement have resulted in progressive actions. Expanding the scope and scales of actions and celebrating the success allow the movement to become part of the social pattern of a city or landscape (Feldpausch-Park *et al.* 2009). Signs of this include similar groups/initiatives that share the same purpose and goals popping-up in the surrounding landscape.

At the participation phase, partnerships with new and existing groups start to arise (Brock and Howell 1994) These may be political coalitions, complementary alliances, affiliations, issue networks or joint project partners (Chetkovich and Kunreuther 2006). The goal is to share resources and commitment, building trust and equity within the movement. For example, the United States Step It Up movement (Feldpausch-Parker *et al.* 2009) to combat climate change had much success in Texas by collaborating with other local groups. The local Step It Up event had built partnerships with the state government, Sierra Club, Habitat for Humanity, architecture organizations, fine arts networks and the local solar decathlon to promote climate change and renewable energy policies. These different bodies shared their knowledge, experience, audiences and power to stage a lobby outside of the state capitol.

Penetration and Distribution/Implementation and Control

Penetration and distribution are typically identified by large-scale social acceptance of the values behind the social movement and the pursuit of a vision different from the norm. When this shift occurs, frame resonance is achieved and society has moved from one paradigm to another (Snow and Benford 1986). An example of this success would include government and public policy institutions incorporating the necessary changes to adopt these values. These changes are often followed by a period of celebration, recognising the efforts and achievements of the groups and community involved in building the social movement.

Social movements literature contributes to the framework by providing a lens to examine how resource mobilization, group behaviour and community organizing can effect large-scale

change, like implementing a UNESCO Biosphere Reserve designation and framework across the Oak Ridges Moraine landscape. Specifically, I applied the more recent constructionist perspective of social movements because it acknowledges the importance of human agency and system complexity. These traits parallel the heavily community-based focus of the ORM (Whitelaw 2005, Moraine for Life Symposium: Stakeholders' Report 2007) and the multiple layers of governance that currently exist (Oak Ridges Moraine Conservation Act 2001, Greenbelt Act 2005, Moraine for Life Symposium: Stakeholders' Report 2007). Additionally, the literature provides that makings for a framework to help segment [?] and organize events and activities that have occurred on the Moraine. The classification of these facilitates the understanding of how far the ORM has come as a social movement and what is must achieve to progress further.

6.2 Framework Stages

Based upon these highlighted similarities, the bodies of literature come together into three main stages as a result of comparisons between the bodies of literature highlighted above. I looked for similarities in references to key tasks or accomplishments highlighted in the processes outlined in social movements, environmental campaigns/communications, strategic communications and group dynamics. Specifically, I was looking for common ways groups self-organise and create messages at stages outlined in the literature. Overall, I found that groups first establish a goal and determine their position within the larger environment; second, they focus on how they communicate their purpose; and lastly, they disseminate their values and goals to the broad society. Below I go in more specific detail and references.

The first *[Chapter 6.1]* is the identification stage where organizations begin the process of understanding themselves and those external to them (Brock and Howell 1994, Feldpausch-Parker *et al.* 2009). This also includes establishing the small network of groups as a force on the landscape that has the potential to effect change (Johnston and Noakes 2005). There are a few exercises in audience analysis methods, identity politics and group dynamics theory that can help achieve this. This includes such things as understanding the values and opinions in the current landscape, using an organizational SWOT and identifying whom plays which roles within an organization (Oepen and Hamacher 2000, Patterson and Radtke 2009, Audience Analysis lit).

The second step involves *[Chapter 6.1]* (Brock and Howell 1994, Feldpausch-Park *et al.* 2009, Chetkovich and Kunreuther 2006) developing the message for the organization and selecting the appropriate tools to disseminate the organization/networks values, priorities and mission. This includes expanding your network, having other similar initiatives appear across the landscape, and sharing resources and contacts. Grouping together audiences and developing messages specific to each group would be useful in achieving these goals. For example, the messages you send to those who you want to join your network and to those who simply want to know what you do are two different messages (Chetkovich and Kunreuther 2006, Brock and Howell 1994). Similarly, the channels and ways chosen to send this information will change depending on group as well. Knowing the details of each group will help create the most well informed selections.

The third *[Chapter 6.1]* (Snow and Benford 1986) step is large-scale uptake and institutionalisation of the mission of the original organization/network of groups. This can

manifest as common use or to the idea in media, conversation and dialogue or references to the

idea in government policy and planning (Feldpausch-Parker *et al.* 2009). In order to reach this

level of popularity, groups promoting the cause must continue to spread their message, while

maintaining control over the misinformation or poor interpretations that may arise (Cox 2006,

Oepen and Hamacher 2000). Monitoring the message, contingency messaging and conflict

resolution are all key tools in this process. Lastly, celebration of this achievement is also

important in this third stage (Brock and Howell 1994).

Table 1.1: The framework resulting from combining a variety of literatures and theories important in studying the Oak Ridges Moraine landscape. The framework consists of three main steps with different parts of each original research-base (Chapter 6.1).

Plan Steps	Step 1: Defining and Understanding our Environment		Step 2: Developing and Selecting the Appropriate Tools	Step 3: Management, Institutionalisation and Uptake
Literature	Topic/Process/Method			
Social Movement	Identity	Legitimacy	Participation	Penetration and Distribution
Environmental Communications	Identification		Formulation	Implementation and Control
Strategic Communications	- Situation analysis - SWOT (internal and external) - History matrices		- Define target audience(s) - Audience analysis - Message development and formulation	- Spreading the message - Reducing noise/clarification of message - Celebration
Group Dynamics	- Identifying and establishing roles		- Identifying roles and relationships in audience groups	- Conflict resolution

This framework allows us to see similarities and overlaps between bodies of literature, outlining the broader phases of a social movement and the specific activities that facilitate the forward mobilization of groups and communities through this process. This can be used to analyze the ORM and its history as a domain through a social movement based, environmental communications perspective to set the stage for the ORGBR, providing insight into the future BR's role on the Moraine and the activities required to send related messages to stakeholders. Below I outline the results of applying this framework to the history and the community-based activity across the Moraine.

6.3 Placing the ORM in Social Movements/Environmental Communications

Chapter 6.1 outlines the phases of a social movement and the required actions/status at each stage for its completion [*Chapter 6.1, Table 1*] (Brock and Howell 1994, Johnston and Noakes 2005). Applying the narrative built from the data to these criteria reveals that the Moraine is most likely at the Participation phase. The Moraine has achieved enough results to move beyond the Identity and Legitimacy phase, but can only move forward after completing a few additional objectives. Below I assess the current state of the ORM to various stages of a social movement to explain.

Identity/Identification
The Identity/Identification phase is indicated by the creation of a collective rhetoric and myth and the separation between those who believe in the narrative and those who don't (Feldpausche *et al.* 2009, Johnston and Noakes 2005). Establishing protocols for governance, decision-making and operational structure is also an important requirement

of this phase (Brock and Howell). Establishing these key foundations is followed by collective action and grassroots organisations' efforts to amplify the narrative (Benford and Snow 2000, 614), which are fuelled by the values behind the rhetoric itself (Chetkovich and Kunreuther 2006).

Looking at the data (KEY EVENTS and CATALYSTS), the verbal mention of the Oak Ridges Moraine, as a separate entity, multiple times and its justified classification as a domain (Whitelaw 2005) provides evidence that a Moraine rhetoric and myth has been created. There is a clear story of conserving and protecting land, water and other assets attached to the ORM name. Each interviewee, meeting and report describes a realization that the Moraine needed to be protected from uncontrolled land-use, water contamination or degradation of its natural heritage. Whether it is the York-Peel-Durham regional studies (I1), response to the E-Coli outbreak in the public water supply of Walkerton, Ontario (I2), or the recognition of the ORM as a feature in the Geological Survey of Canada studies (I2), there is an overall narrative of Moraine communities seeing events that triggered their efforts to protect the Moraine.

Legitimacy
One sign of Legitimacy *[Chapter 5.1.4]* (Brock and Howell 1994, Feldpausch-Parker *et al.* 2009, Johnston and Noakes 2005, Clarke and Milburn 2009, Snow and Benford 1986) is organised groups showing they can effect government and legislative change. Campaigns and lobbying (Brock and Howell 1994. Feldpausch-Parker *et al.* 2009) are two common ways this takes form. It allows those who created the narrative to take

control over their history and participate in collective action to create change. To ensure quality in this narrative, communities give all stakeholders a chance to participate and contribute to the campaign.

Data from all interviewees, reports and participant observation (IMPROVE) *[Chapter 7.3]* show that the Moraine movement has obtained Legitimacy through the ORMCP and to a certain extent, Ontario's Greenbelt. The creation of the Citizens' Advisory Committee, the unification of Save the Oak Ridges Moraine into one landscape wide group (STORM Coalition), and co-operation with municipalities on regional strategies are consistent with Legitimacy activities. Firstly, they all demonstrate the ability of communities and local groups to participate and influence higher scale governance. Secondly, they represent, lobbying through research and collective action to effecting policy change. These local scale efforts built up to what all interviewees describe as the peak of the movement, the implementation of the ORMCP. This plan is the institutionalisation of Moraine community's narrative and values on large-scale.

Groups across the Moraine also continue to shape the narrative of the landscape. While seen as more of a negative aspect to some interviewees, NIMBYism is alive and strong on the ORM (I1) *[Chapter 7.4, 7.5, 7.7]*. Initiatives to protect water quality/quantity land-use monitoring, and forest conservation have developed out of these local concerns. The actions, campaigns and continued to shape the ORM story. The shifts in narrative are meant to promote what they feel is important and should be a priority for higher scale decision-making.

Participation/Formulation

Larger-scale projects and increased networks are indicators of the Participation/Formulation phases of social movement and environmental communications plans *[Chapter 5.1.4]* (Brock and Howell 1994, Feldpausch-Park *et al.* 2009, Chetkovich and Kunreuther 2006). With institutional backing and a strong narrative, large-scale projects can happen more often and produce clear, tangible results that are passed on to the public. The public absorbs these results into their day-to-day lives and decision, or the social fabric of the community. These results should also represent progress across the landscape.

A second indicator is new groups dedicated to a similar cause self-starting across the landscape *[Chapter 5.1.4]* (Brock and Howell 1994, Feldpausch-Park *et al.* 2009, Chetkovich and Kunreuther 2006). More innovative than those created during the initial phase of a movement, these networks bridge different institutional silos (government, non-profit, business sector) and discipline sectors (science, economics, law, etc.). Through a variety of partnerships, these groups share their knowledge, resources and audience to build a stronger movement.

The data to be presented below in [Chapter 7] indicate that the Moraine seems to have achieved some of these qualities. Broadly, interviewees, participant observation and reports show a consistent conclusion that community actions and mobilisation conferred clear results like the Oak Ridges Moraine Conservation Plan and to a certain extent, the

Greenbelt Act. Also, issues that were once local have been scaled-up to become landscape-wide concerns; for example, many groups have appeared across the ORM dedicated to protecting the Moraine, including its land, water and livelihoods (Moraine for Life Symposium: Stakeholders' Report, 2007).

Programs such as Caring for the Moraine and the Monitoring the Moraine program are landscape wide projects that have real impact on the state of the ORM and the amount of data and knowledge available to citizens. In parallel, many other Moraine groups like the trail association, land trust and the It's About Water initiative in Millbrook, Ontario have developed across the landscape (Speak Out Cavan-Monaghan http://www.speakoutcavanmonaghan.ca/viewcustompage.php?id=8306). Their work continues to shape the values and narrative told about the Moraine.

However, also noted in the data (BARRIER and DRECREASE)[?] is a lack of co-ordination and fragmentation between these groups and projects. For example, the Caring brand did not achieve much consistency beyond a brand name until a co-ordinator was hired to build a network with all participating programs and groups. Other examples of Moraine-wide co-ordination are the Moraine Research Coalition (http://www.moraineforlife.org/research/ResearchCoalition.php, http://comap.ca/mrc/), a project planning to connect researchers and community needs across the landscape, and Monitoring the Moraine, a project measuring various indicators of Moraine health across all regions.

In addition, the large diversity of opinions and perceptions of the Moraine have made it difficult it identify projects that would generate interest en-masse. Interviewees believe NIMBYism is the leading motivation for action across the Moraine, making it difficult to build long-term momentum and support for projects that are not local. When communities are interested only in issues that affect them, building robust Moraine-wide monitoring water, land-use and conservation networks fall to the bottom of the list. As one interviewer said, to many, the Moraine is "out of sight out of mind."

Penetration and Distribution/Implementation and Control
The Penetration and Distribution/Implementation and Control *[Chapter 5.1.4]* (Brock and Howell 1994, Snow and Benford 1986) of social movements and environmental communications strategies represent a wide and large-scale acceptance of the values behind the original narrative. All communities actively pursue the new vision and establish it as a new norm through paradigm shift. Government and businesses intuitions follow by incorporating these values into their everyday decision-making processes as necessary to function in parallel with the public. To recognise their efforts and successes, celebration events are held by communities in commemoration of their history.

The Georgian Bay BR has reported examples of this phase as all stakeholders, residents, cottagers and businesses alike are, within limits, share a "Georgian Bay feeling" and the BRs values have been adopted through a variety of programs (I4). "Sustainable development" labelling, wildlife education initiatives, and a co-ordinated Georgian Bay 5 network represents groups finding their values within the BR label and

applying it to their lives and businesses. In addition, the GBBR public conference recently held, not only as a workshop, but as a celebration of the BR's history drew in over 150 attendees.

From the data, as described below, the Moraine has not yet reached this point. While institutional legislation and a network of non-government organisations protect the ORM, businesses have yet to incorporate the plan and it is still under threat from development. The challenges presented in the data (BARRIERS) include the lack of awareness of the ORM (less than 50% according to recent ORMF surveys [I1, I2]) contrasting the "Georgian Bay feeling," and organisational fragmentation from working with the diversity of values and opinions across the landscape, contrasting coalitions like the Georgian Bay 5. However, events like the Moraine Train and anniversary events (Save the Oak Ridges Moraine 2009) do represent celebrations of the work accomplished across the landscape to date.

In summary, the Moraine movement is still building a strong, large coordinated network that can complete landscape-wide projects such as stewardship programs and monitoring. Though the landscape has advanced institutional legitimacy (Brock and Howell 1994) through legislation, especially the Oak Ridges Moraine Conservation Act (2001) and the Greenbelt Act (2005), these values have yet to be well incorporated into all sectors as developers continue to encroach on Moraine territory (The Oak Ridges Moraine Foundation 2007, Fuller and Zhang, 2009) and fragmentation remains an issue

as groups try to self-coordinate. Lastly, while celebration events do happen, interviewees (I2, I3) comment that the same people and groups attend each time.

Therefore, the social movement and environmental communications campaign across the Moraine stands somewhere between the Participation/Formulation and Penetration and Distribution/Implementation and Control phases *[Chapter 5.1.4]*. The ORM is a recognised and institutionalised identity with strong narratives and groups attached to the name however, the Moraine still struggles from issues that prevent it from becoming a strong solid force. This identification provides guidance on activities to complete that can push the Moraine along its social progress through the use of the BR designation.

The Participation and Distribution phase of social movements and environmental communications strategies/campaigns involves completing defining your audiences, completing an audience analysis and establishing messaging. From a group dynamics critique, this process also involves role identification and relationship mapping. The process of audience analysis uses the qualitative methods mentioned in *Chapter 5.3.4 and 5.3.5*. This involves scanning secondary literature (e.g. stakeholder reports), participant observation and interview transcripts with those listed in *Chapter 5.3.3*. The results of this scan to retrieve values for audience selection and message development are below.

Chapter 7 Coding Results

The follow section outlines the results of a scan of participant observation, interviews and secondary literature to reveal how the stakeholders of the ORM understand the history of the plans, project and programs on the Moraine, and consequently, the potential role of the ORGBR and the value they could find in a BR being established on the landscape. The values and opinions retrieved from the data were sorted into categories that express what are key events, catalysts for change (whether people or events), improvements or degradation in social, environmental and sustainability-oriented policies, barriers to these improvements, and suggestions on how to promote these improvements. Understanding how these opinions intersect with the goals of a BR (conservation, sustainable development and logistics, provides insight into the role stakeholders feel the ORGBR can play on the Moraine and consequently, the messaging that should be used in its communications strategy.

7.1 KEY EVENTS and CATALYSTS

Interviewees, literature and participant observation reveal consistent narratives about the creation of the Oak Ridges Moraine domain and the catalysts for the initiative to create the Oak Ridges Greenbelt Biosphere Reserve (ORGBR). Parties indicated that the government studies (e.g. Geological Survey of Canada, provincial studies, York-Peel-Durham region studies), Ontario Municipal Board (OMG) hearings (e.g. Richmond Hill), the Walkerton water contamination incident and NGO mobilisation (e.g. knocking on doors, Citizens' Advisory Committee) were all key to the push for sustainability and environmentally-conscious legislation and social change on the Moraine.

Additionally, the following catalysts brought together government, public and private groups and crystallised the need for action across the landscape. Concern over uncontrolled development and urban sprawl into green space from communities forced developers to take development applications to the OMB, pushing Richmond Hill and the Region of York to put developments on hold until the ORMCP was established (I1, I2). Secondly, the Walkerton disaster and aftermath motivated ORM communities to be more concerned about and committed to protecting water quality and quantity, specifically around headwaters, landforms and wetlands (I1). Though not always described in a positive light, NIMBYism is also described to be a motivating factor, with landowners wanting to take care of their own property and related interests. Public hearings/consultations, trusted local champions and hubs, and popular media (e.g. newspapers ads) are also described as factors that promoted action across the Moraine (I1).

7.2 IMPROVEMENTS

Data from interviews, participant observation and reports characterise improvements and accomplishments from community organizing on the Moraine in social and environmental policy to include the following: the development of a regional strategy (like the Oak Ridges Moraine Conservation Plan), increased awareness of water systems and watersheds, and a consistency of branding (under the Oak Ridges Moraine Foundation and the Caring for the Moraine program). Movements on the Moraine are also attributed to helping develop the Greenbelt Act, protecting the Moraine's buffer

areas and the contained farmland. Cumulatively, water, natural heritage and functions, aggregate resources, cultural heritage, views and vistas have been protected (I1).

7.3 BARRIERS

Common barriers to implementing sustainability-oriented initiatives, like the ORGBR, are mentioned across all sources of data and are more numerous than catalysts (Appendix C). Results consistently stress that many people are not aware that they currently live on the Moraine and in Georgian Bay, much less a future Biosphere Reserve (BR). Additionally, study participants worry over the ever-increasing number of "green" labels across the Southern Ontario (e.g. Niagara Escarpment, Oak Ridges Moraine, Greenbelt) and expect that landowners would be nervous about the BR designation and see it as yet another layer of government regulation as did happen with the Oak Ridges Moraine Conservation Plan (I2; Participant observation – Greenbelt Council Meeting).

Some interviewees (I2, I3, I4) believe difficulty in defining the landscape's priorities, sustainable development and branding for such a large and populated area has been a contributing factor. They express that communities are no longer as motivated by urban sprawl and water issues and have forgotten why the protection of the Moraine is important. The landscape now means many different things to different people and local issues now motivate communities to act (e.g. NIMBYism). This has lead to a fragmentation across the Moraine and contributes to the difficulty in establishing Moraine-wide programs (I3).

This difficulty also exists in the Georgian Bay domain and BR, where organizers had similar difficulties in defining its landscape and the region as a BR (I4). Without exercises to establish a definition, or the components of one, a communications strategy could not be created (I4). In parallel, they find it difficult to measure the effectiveness of the methods they chose to demonstrate the purpose of a BR to communities due to a lack of metrics and indicators (I4). Furthermore, no one has taken a lead to reach consensus on a common definition and furthermore, many groups on the Moraine (e.g. communities of visible minorities, bikers, artists, etc.) that could add more opinions, values and complexity to this identity have been overlooked (I3).

These events are consistent with narratives describing a weak history of communications (I2), across the Moraine, with most of the few dedicated resources being placed towards face-to-face conversations with communities (a deep, but narrow-reach strategy). One interviewee (I2) and the asset mapping reports relate this to a lack of financial and human resources to create good communications strategies. The Moraine relies on public and foundation funding (I2, I3) that runs short and on volunteers who must prioritise their full-time employment.

7.4 DEGRADATION
Interviewees (I1, I2) reported that people are now only interested in issues that affect them, moving away from the broader water, land-use and conservation issues. Communities are less attached to the roots of the Oak Ridges Moraine Conservation Plan and have forgotten why the plan was legislated in the first place (I1, I2, I3). NIMBY is

currently the strongest way to mobilise communities across the landscape. Otherwise to most residents, the Moraine is "out of sight, out of mind." (I1) and they also feel unequipped to comment or engage in areas outside of their expertise.

7.5 ASSESS: SITUATION

Two interviewees (I1, I2) reported that social action and movement across the Moraine peaked with the Oak Ridges Moraine Conservation Plan. Since then, visible interest in ORM conservation efforts has decreased, as described above. One interviewee also recommends that a grassroots-level, issue-specific focus is the most promising way to mobilise communities (I3). Individuals will come out to specific ORM-centred events (e.g. Moraine Train) land-use workshops, water monitoring, etc.). Interviewees also said this community participation is what is needed to protect the Moraine in addition to the legislation (I2, I3).

The community organizing experiences on the Moraine vary. Some data (I2) indicate that getting people involved is more difficult than it has been in the past and face-to-face/one-on-one channels are the only effective methods of communications, as typical of grassroots organizing *[Chapter 8]* (Chetkovich and Kunreuther 2006). Caring for the Moraine, a program for conservation and environmental awareness collaborative supported by 30 conservation authorities and non-government organizations (Oak Ridges Moraine, 2011), was not widely effective at first, but improved when someone was hired to co-ordinate program. Again, there isn't a strong communications presence or structure

for community mobilisation in place on the Moraine and little to no monitoring of those who do participate (I2).

Participants of the Oak Ridges Greenbelt Biosphere Reserve Steering Committee and one interviewee (I4) see BR organizations, like ORIAS (the Oak Ridges Institute for Applied Sustainability http://orias.ca/) as a group on the Moraine that can connect groups and communities (Participant Observation – ORGBR Committee Meeting). The BR can mobilise knowledge, link research and open on-the-ground opportunities. This echoes the differences people between the Greenbelt and the ORM and the opportunity the two have to work in harmony. Interviewees describe the Georgian Bay BR to play a similar co-ordinating role, pulling together initiatives to represent the environmental consciousness of the region. It generates dialogue, creates a brand and avoids polarising issues by advocating through education as seen in their *I Stop for Turtles* program (I4).

7.6 ASSESS: PEOPLE

Two interviewees (I1, I2) report that a majority of the people involved in social movements and community mobilisation across the ORM think that the Moraine is saved. Communities were invigorated to build, create and implement the ORMCP, but the plan is believed to be the peak of these efforts (I1). After a short "afterglow" with getting the plan in place, people soon forgot the motivations and energy that established the plan in the first place. In fact, some landowners now complain about the plan, believe it restricts

their ability to enact their will upon their property (I2). However, it is also possible that those who are opposed to the plan did not speak up before implementation of the plan.

Participants and reports (I1, I2; Participant Observation – Meeting with Ministry of Municipal Affairs and Housing) do acknowledge the rural agitation across the Moraine centred on land-use and land-ownership issues and the further stress a BR could bring. The Georgian Bay BR has united under a "Georgian Bay feel" (I4). No Moraine-based interviewees, reports or participant observation mentioned a Moraine-based equivalent. Especially with regard to First Nations communities, the Georgian Bay BR stresses the relationship of trust and tangible outcomes that needs to precede their support (I4), a situation that is paralleled with many groups across the ORM.

7.7 SUGGESTIONS ON NEXT STEPS

Interviewees indicate a desire (I1, I2, I3) on the part of Moraine organisations and conservation authorities to continuously promote the importance of the Moraine through a variety of channels and education opportunities will make this possible (I1, I2, I3; Participant Observation – Oak Ridges Greenbelt Biosphere Reserve Committee meeting, Greenbelt Council meeting, Ministry of Municipal Affairs and Housing meeting). Water was one of the highlighted topics, including wellhead and watershed protection, clean streams building clean water and healthier cattle, and the significance of groundwater. Interviewees also believe air quality is a good channel, linking clean air to healthy environments and communities (I2; Participant Observation – Peel Region Public Health meeting). Stewardship, agricultural enhancements, and health were also mentioned.

The second suggestion (I2, I3) is to increase community participation and action land-use, conservation and environmental programs and community mobilisation across the Moraine. Getting communities involved in monitoring programs like Monitoring the Moraine; catching people's attention with road signs, media ads, and newspaper ads; and knowledge exchange workshops are all recommended (I3) channels for communicating the purpose of the Moraine and the BR. Knowledge exchange provides (Kalling and Styhre 2003) an opportunity for those who don't know about the Moraine to learn more and for those who work on the Moraine to evaluate the success of their efforts. Interviewees also suggest outreaching to more diverse communities to get more support for the Moraine and the potential BR.

Creating a stronger, more consistent communications strategy to improve mobilisation on the Moraine is a common desire between all interviewees and reports (I2, I3). On top of reaching out to more and new people (including the urban areas and the GTA), a social media effort, and lawn sign campaign are suggested (I2, I3). In addition, like in the Georgian Bay Biosphere Reserve identifying local champions (Chetkovich and Kunreuther 2006); I4) for the BR and identifying the correct approach to various audiences can help reach the commonly agreed goal of making the Moraine a household name (I3). For example, the Moraine's water programs can be advertised to water advocates and community groups to engage their participation. Using flexible language (Clevenger 1966, Youga 1989, Patterson and Radtke 2009) to describe the BR and its

priorities, which can adapt to community needs and values are described to help this process.

Further suggestions (I4) include promoting sustainable development initiatives including environmental monitoring and conservation programs into communicating the purpose of the BR. The Georgian Bay BR created a Charter of Values that acts as a list of requirements for a business to be certified "sustainable." After meeting these criteria, the business is able to use the BR brand in any way they choose. This has allowed people to adapt the BR to their purpose and values to increase uptake of the brand. Campaigns for animal care and conservation also use the brand to label and advertise their efforts (I4; Georgian Bay Biosphere Reserve Annual Report 2011).

Recommended governance from municipal models, from municipal officials including Louise Aubin from Region of Peel Health Services, include incubating, fostering and spinning off networks (I4; Participant Observation – Peel Region Public Health meeting; Forsyth 1990), in particular for Biosphere Reserves (Dyer and Holland 1991). This involves a research network, a monitoring network and additional networks for which communities express a need. Building capacity and providing the necessary human, monetary and capital resources to do facilitate these networks is another role the governing body can fulfil (Francis 2004, Oepen and Hamaber 2006, Patterson and Radtke 2009). Interviewees suggest either the governing body raise these resources or coordinate groups that will. Evaluating the success of the Biosphere Reserve and its Moraine initiative is also suggested as a role the governing body can take on.

Other suggestions include inviting United Nations officials to come speak about Ontario's four Biosphere Reserves (Participant Observation – Greenbelt Council Meeting) and collaborating with Strategic Environmental Assessments in York Region (Participant Observation – Ministry of Municipal Affairs and Housing).

7.8 Communications CHANNELS

The data (I1, I2, I3, Moraine for Life Symposium: Stakeholder's Report. 2007) also identify a number of identified channels (groups, individuals and assets) that the BR can communicate through. Existing Moraine groups and individuals are channels in that they have already-established networks, contacts and audiences. Natural assets act as channels by providing a valued topic to use as a mould to shape the messaging used to communicate the ORGBR. They help filter the complex and multi-disciplinary nature of BRs and the ORGBR to extract the functions of a BR that would matter most to the ORM audience.   These include:

Ecospark

Monitoring the Moraine

Conservation Authorities

Municipalities (Halton, Durham, Peel, York, Hamilton, Toronto)

Natural assets:

Water and hydrology

Urban planning

Farms and agriculture

Natural boundaries for urbanisation and containing urban sprawl,

Sustainable development and economy

Chapter 8 Placing the ORMGBR in Strategic Communications

Placing the data collected from interviews, participant observation, professional reports and stakeholder assessments into the framework outlined in (Brock and Howell 1994, Oepen and Hamacher 2000, Cox 2006, Patterson and Radtke 2009) provides an indication of where the Oak Ridges Moraine is from a social movement perspective *[Chapter 5.2]* and how the BR can bring it forward. Understanding the position of the BR in the larger Oak Ridges Moraine context is important in determining and communicating its purpose and goals *[Chapter 9.2]* to garner public support. Through applying data gathered from the above research, I can identify priorities for future activities and strategies, acknowledging the efforts already completed (and should not be repeated) and what strategies were effective in the past and avoiding past mistakes.

As outlined in *Chapter 5.1.4*, the Participation phase of a social movement is best paired with the Formulation process of environmental communications strategies. Formulation involves the creation of a communications strategy to interact with those inside and outside of the movement. In strategic communications plans, this involves defining target audiences, analysing these groups and then developing message appropriate to each audience group. From a group dynamics perspective, social movements focus more on the accomplishments of the movement (i.e. their visible effect on public life and policy), while individuals, organisations and communities determine the roles, responsibilities and relationships that are established in order to achieve these successes. Below, I take the results presented in *Chapter 7* and apply them to the

activities suggested in environmental communications, strategic communications and group dynamics. Specifically, a KAP (Knowledge, Attitude and Practice) Analysis and Message Development are key exercises in identifying the audiences, their channels and their targeted messages for a strategic communications plan.

8.1 Knowledge, Attitude and Practice Analysis

KAP Analysis is the process through which I take the results of audience analysis and define audience groups and key messaging (Patterson and Radtke 2009; Oepen and Hamacher 2006). The results of the interviews, workshop and symposium reports, and meetings with Moraine organisations, governments and conservation authorities provide the insight into the values, priorities and opinions of stakeholders across the landscape that can be used to facilitate the KAP Analysis process. Below are the results of this analysis.

Define target audiences
Interviews, focus group reports, asset mapping workshops and other methods as outlined above, reveal a few trends in community values, priorities and opinions. These can be applied to developing messages and narratives the BR can use to further the Moraine social movement, its influence and visibility (Clevenger 1966, Youga 1989, Patterson and Radtke 2009). In addition, looking at study participants and their affiliations allows us to connect specific values and concerns to certain groups. These connections provide criteria to segment the larger ORM audience and together with messaging shaped by

group priorities, lay out the guidelines for a communications strategy.

Participants in asset mapping workshops done in 2008 in five municipalities geographically dispersed (from east to west) across the ORM identified "natural" assets as their most valued, followed shortly by "social" assets. Within this category, however, specifics ranged greatly: from water to trails to natural habitat to health (A Community Perspective on the Assets, Resources and Threats of the Oak Ridges Moraine, 2009). In the workshop at Willow Springs, agriculture was the top identified asset. Though some participants considered it to be part of the "natural" asset group, there are intrinsic differences between agriculture and other natural assets like water, trails and natural habitat. For example, agriculture is often also identified as a livelihood and economic asset (A Community Perspective on the Assets, Resources and Threats of the Oak Ridges Moraine, 2009), while the others are more conservation oriented.

Participants also outlined what they perceive to be the main threats to these assets and values. Primarily, these threats include poor government regimes and regulation (or lack thereof all together), inconsistent funding, urban sprawl and development, and high turnover in human resources (A Community Perspective on the Assets, Resources and Threats of the Oak Ridges Moraine, 2009). Addressing these concerns using the high priority assets listed above to mold and shape communications messaging and channels mentioned above is an excellent way to accessing community motivation (Cox 2006). For example, demonstrating to communities how the BR can improve governance or

volunteerism towards land stewardship and water conservation on the Moraine is an effective way to communicate the BR's purpose *[Chapter 3]* (Francis 2004).

In addition, the strategies that research participants suggested to overcome these challenges should be integrated into ways the BR can use to communicate and clearly define its role. These are methods interviewees, participants and community members believe the Moraine can continue to build its history and further the mandate they desire (Appendix C: SUGGESTIONS ON NEXT STEPS). Combining these recommendations with the assets and threats identified at the asset mapping workshops and Moraine symposiums can help segment audience groups and the appropriate messaging for each (A Community Perspective on the Assets, Resources and Threats of the Oak Ridges Moraine, 2009).

Looking for consistencies and repetition amongst all the research documents reveals key audience groups. Individuals and communities tend to organise around these assets and mobilise to protect them because they perceive value in the Moraine's water, land and livelihoods. Consequently, shaping the BR around these assets can harness the community will and motivations typically used in addressing local issues and use them to support the ORMGBR. In light of the similarities within the data (Appendix C), the audience groups, message categories and suggestions best fall into the following categories:

Water

Water is a commonly identified priority on the ORM (almost all data reports and interviewees mentioned water). The asset mapping workshops in 2008 and the ORM Symposium report from 2009 reflect the concerns of the community over water quality and quantity, headwaters, and groundwater (A Community Perspective on the Assets, Resources and Threats of the Oak Ridges Moraine, 2009). Interviewees (I1, I2) also stress the importance of water on the Moraine, for example, one interview responded that the

"Walkerton [incident] had a big push on the creation of the Oak Ridges Moraine Conservation Act/Plan. People were concerned about their drinking water, people were concerned about the contamination of that drinking water" (I2).

Furthermore, the science monitoring programs that currently exist on the Moraine, such as Check Your Watershed Day (Monitoring the Moraine), and the work of Conservation Authorities across the region all focus on the natural asset of water. The most recent example of how this value promotes action is the "It's About Water" campaign in Millbrook, Ontario *[Chapter 11.1.3. Speak Out Cavan-Monaghan]*.

The "It's About Water" campaign, including Campbellford, Millbrook and Northumberland residents led by Jane Zednik, opposed a water diversion away from Millbrook towards Fraserville, Ontario *[Chapter 11.1.3. Speak Out Cavan-Monaghan]*. Citizens and communities were concerned about how a water supply pipe to a large

development about 12 km away would affect the quantity of water locally (Speak Out Cavan-Monaghan, http://www.socm.ca/). Specifically, how a decreased in water levels would affect their quality of life and livelihoods. The campaign organised around this cause featured petitions and letter writing, rallies in front of legislation buildings (Queen's Park) and other lobbying efforts to challenge the diversion proposal. These actions parallel the Step It Up climate change rallies held across Texas and other states in the USA (Feldpausch-Park *et al.* 2009). Eventually, council voted against the diversion. Demonstrations like this are living, present examples of how water concerns motivate communities on the Moraine.

This campaign is one example of how the value of water can motivates communities to support and mobilise for a movement on the Moraine. The collective action taken in to protect this natural asset is indicative how powerful the message of need to act to protect clean and plentiful water is for this audience. Acknowledging this dynamic and strength, the ORMGBR should demonstrate and communicate its ability to help conserve this natural asset and coordinate efforts around the protection of water.

Agriculture
Agriculture is a natural asset highlighted by much of the data (workshop reports, interviews; (Fuller and Zhang, 2009) and its importance is also stressed by legislation like Ontario's Greenbelt (Greenbelt Act, 2005). Specifically, the Food and Farming pillar of the Greenbelt acknowledges agriculture as a "vital part of Ontario's heritage and future prosperity" (The Friends of the Greenbelt Foundation 2011). Other examples promoting

this natural asset include, buy local initiatives of the Farmers of Ontario Associations and the Foodland Ontario brand, and support from community farmer's markets and local food restaurants. From a social movement framework, the higher-level legitimization of the importance of agriculture through law and its uptake in communities recognises these values and priorities have impact and effect.

On the Moraine, agriculture is seen as a natural asset because of the landscape's key growing conditions, new and willing farmers and its proximity to urban area markets (Fuller and Zhang, 2009). The soil, water, air and climate across the landscape create a fertile environment and positive conditions for crops. An emerging generation of farmers, combined with access to land and capital also indicates a future of agriculture on the ORM. Lastly, urban centres south of Moraine provide a consistent demand for these foods, generating a local economy and agriculture market. These natural, human and economic perceptions of agriculture provide a strong narrative to help communicate the importance of the Moraine (Fuller and Zhang, 2009).

However, the threats (A Community Perspective on the Assets, Resources and Threats of the Oak Ridges Moraine, 2009; I1, I2) of uncontrolled development, a lack of awareness about the Moraine and financial challenges of organisations also burden the efforts to maintain agriculture across the landscape (BARRIERS) *[Chapter 7.4]*. SUGGESTIONS *[Chapter 7.9]* to rectify these challenges include creating networks for knowledge transfer, providing economic and monetary incentives and the promoting of local, small-scale agriculture.

Natural habitat/landscape

The natural habitat/landscape is valued not only by workshop and interview participant and reports, but also by a number of organisations across the landscape (Fuller and Zhang, 2009). For example, conservation authorities across the area prioritise land and habitat conservation in their programming through initiatives such as the Toronto Region Area Conservation Authority's Planning and Permits consulting and the Ganaraska Conservation Authority's Forest Centre. Furthermore, legacy organizations including the Oak Ridges Land Trust dedicate their time and resources to raise money and purchase land or receive donations of property.

Previously, government organizations such as the Geological Survey of Canada and province of Ontario saw enough value in the landscape to study it, and non-government organisations organised around the ORM's importance to maintaining healthy watersheds and conserving natural heritage. The Oak Ridges Moraine Conservation Plan furthered this interest by recognising the importance of natural habitat through its natural core and natural linkage areas, and institutionally protecting these areas by law. From a social movement perspective, such pieces of legislation provide efforts to protect this natural asset legitimacy. Artists and hobbyist also show interest in habitat and landscape through participating in annual Moraine photo contests and photo-centric publications (e.g. coffee table books, nature guides, etc.).

Most of the identified resources available to these values are the communities, groups, and organisations already involved. Strategies suggest that these groups share their knowledge, data and assessments with municipalities and communities/individuals that are not usually involved in conservation efforts. These resources can also push for strong legislation and enforced regulation to maintain the integrity of the landscape. As common to other identified values, a lack of knowledge, uncontrolled development, and gaps in funding threaten the continuation of these efforts.

Health and Community

Health on the Moraine is mostly concerned with the environment and its effect on public health. For example, the Region of Peel expressed particular concern with air quality and vector borne diseases (Participant Observation – Peel Region Public Health meeting). In our meeting with them, the Peel health department representatives noted that these issues are directly linked to the quality of regional land-use planning, built heritage, transpiration, energy-use and other big questions about environmental quality (Participant Observation – Peel Region Public Health meeting). They promote evidence-based decision-making and use empirical research data to create policy and recommendations.

Messaging shaping

After defining the audience groups above, I can also define messages and activities that can communicate the purpose of the BR through the lens of these natural assets. Shaping the BR's messages to these values allows the BR to access the motivations behind

community mobilisation, protest and action. This is done using the natural asset resources (e.g. channels and groups mentioned in *Chapter 7.8*) and acknowledging the challenges identified in the data to create a strategy. Demonstrating to communities how the BR can improve and connect these resources to solve the problems that threaten their values effectively displays the importance and purpose of the ORGBR.

Water

Communicating to groups and audiences concerned about water involves acknowledging their challenges and providing solutions, opportunities and methods the BR can provide to help address them. Management and education are identified as key resources in protecting water on the Moraine with development, climate change and human activity being the major threats. The BR can link to these key resources and either execute them directly or play a large role in networking these activities.

With on-going water monitoring networks linking non-government organisations, government and conservation authorities, launching a completely new program could be redundant. Instead, the BR could try to network these organizations, or provide a labelling initiative similar to that provided by the Georgian Bay BR (I4). The labelling initiative would help unify these programs under one name, while maintaining autonomy within the organizations. This brand can also be used to advertise the data provided by these water-monitoring programs.

Coordinating these efforts would help participating groups organise their knowledge and data, filling in gaps and examining where overlap have occurred. It would also provide a space for groups to discuss their goals and create a common vision for their collective efforts. Kalling and Styhre (2003) recognise this importance, stressing that knowledge sharing benefits from documentation and monitoring. Kalling and Styhre (2003) also explain that entities sharing knowledge should be in charge of their collective objectives and direction because this personalises their work and creates motivation.

Agriculture

As mentioned, there are already consistent campaigns for agriculture in Ontario. Legislation and institutional recognition of the importance of agriculture like Ontario's Greenbelt Act, 2005 and advertising campaigns for Ontario farmers and local food already put this natural asset into the spotlight. The BR should not duplicate these efforts, but rather highlight their relevance and how they can work within the Moraine framework. Ensuring that local farmers know of these brands, labels and laws is one method mimics some work the Georgian Bay BR has done: putting people and communities in contact with already established programs. Specific to agriculture, the recently held Georgian Bay Public forum provided attendees with food from local producers and farmers, creating a link between the work and the purpose of the BR to the region's residents and livelihoods (Georgian Bay Littoral Biosphere Reserve, 2009). An

ORGBR label, can supplement the existing brands across Ontario by letting consumers know exactly from which region their food and crops are grown.

Education is also stressed as an important resource for agriculture (Oak Ridges Greenbelt Biosphere Reserve Steering Committee). The BR can highlight its role in moving farming forward on the Moraine through co-ordinating efforts about the landscape's ideal agricultural conditions, providing a stage for groups that do or simply linking interested individuals to these educators. For example, ORIAS *[Chapter 7.6]* could offer a series of "Biosphere Reserve agriculture" workshops in partnership with experienced farmers and farming communities to facilitate knowledge sharing and promote awareness. Furthermore, networking with nearby universities that specialize in agricultural studies like the University of Guelph (Ontario Agricultural College, http://www.oac.uoguelph.ca/) or Seneca College (Environmental Landscape Management, http://www.senecac.on.ca/fulltime/EVLC.html) can help increase the knowledge base and outreach of BR.

Natural habitat/landscape

The Oak Ridges Moraine Land Trust, Oak Ridges Moraine Trail Association, Ontario Nature and the Nature Conservancy of Canada are all existing organizations whose mandate is to conserve landscapes and habitat and encourage communities and individuals to do so. These organizations are mature and well established, with long legacies, a large portfolio of work and robust member bases. Therefore, as in the messaging above, the BR should not try to replicate the messages and work of these

groups, but instead, act as a platform for these organisations. This method both recognises the existing resources that support natural habitat/landscape and helps increase education to reduce the threat posed by public lack of awareness.

The ORGBR is in a unique position because its borders are mostly defined by existing legislation that governs land-use. Regulations and bylaws (Oak Ridges Moraine Conservation Plan 2001, Ontario Greenbelt Act 2005) have been established to oversee which activities can happen in specific areas. This provides a framework the BR may choose to deliver its natural habitat/landscape conservation message. ORIAS may choose to build a land-use monitoring network or co-ordinate efforts between monitoring organisations to achieve a landscape-wide effort. These sorts of projects can help elevate the Moraine and push the social movement into its next phase.

Currently, Monitoring the Moraine currently provides status reports (Save the Oak Ridges Moraine 2006; 2007) on land-use issues (e.g. infrastructure development, ORMCP implementation) and the Oak Ridges Moraine Foundation is preparing a series of reports to measure the success of the ORMCP (Measure Success Project, http://www.moraineforlife.org/resources/measuringsuccess.php). Connecting these projects and encouraging them to share and integrate their resources makes their knowledge a strategic resource and gives groups a competitive advantage (Kalling and Styhre 2003).

Health and Community

The focus on research and knowledge to create effective health policy ties well into demonstrating the ability of the ORMGBR to create networks (Participant observation – Peel Region Public Health meeting). In this area, the BR should focus on communicating its logistics role bridging research in the academic and non-government sector with public health departments. This facilitates the linking between groups who can provide data on water and air quality and the governments that report on community health to reveal trends and causal relationships. For example, the Coalition Linking Action and Science for Prevention (CLASP) (Participant Observation – Peel Region Public Health meeting) is a network established to connect patterns in built form to the geographic incidence of chronic disease. These networks also allow collaborative efforts to develop public health policies, under the label of the ORMGBR to gain additional legitimacy. Peel Region Public health has already suggested working with the Greater Toronto Area Clear Air Council and the municipal governments of Toronto, York, Durham, Hamilton and Halton (Participant Observation – Peel Region Public Health meeting).

Summary

The messaging developed for the ORGBR focuses around the values of natural assets including water and natural habitat/landscape, health and community, and agriculture. Specifically, the messages acknowledge the stakeholders' desire to protect and conserve these values and revolve around how the BR can work to accomplish this work. For example, the ability of BRs to promote education and local sustainable food systems is one way the ORGBR can demonstrate its capacity to provide support for local values. The BR also should communicate itself as a coordinating body on the Moraine, in support of already existing organisations, projects and programs dedicated to

conservation, protection and sustainable livelihoods. By focusing on the similarities in values between the BR and Moraine stakeholders and the job of the BR as a networker, the ORGBR can be communicated to demonstrate how high-level BR theories function on a practical landscape level and to garner local support.

Chapter 9 Conclusions

9.1 Implications for the Biosphere Reserve Research and Communciatios Theory

The Oak Ridges Moraine landscape is filled with history, diversity and active communities (Whitelaw 2005, Moraine for Life Symposium Stakeholders' Report 2007). The Moraine domain speaks to people as a geological feature, a regulated entity and a place for communities to live, work and play. With consistent and strong efforts, community groups like Save the Oak Ridges Moraine Coalition and community mobilisation lobbied for, created and implemented the Oak Ridges Moraine Conservation Plan, based on provincial legislation designed to protect and conserve the Moraine (Oak Ridges Moraine Conversation Plan, 2001). However, many problems and challenges exist with this plan. A lack of awareness about the Moraine, continued urban sprawl and development and pollution of natural assets threaten the landscape.

Proponents of the Oak Ridges Moraine Greenbelt Biosphere Reserve believe a BR framework can help address these issues and continue to enhance the ORM. Clearly communicating the purpose of a BR on the ORM is highly important in garnering support for the acceptance of the designation by Moraine residents and stakeholders and in promoting the BR's mandate. The complexity of various roles a BR plays in a landscape, the clutter of green labels in Southern Ontario (Greenbelt, Niagara Escarpment, etc.), and community resistance to additional frameworks across the landscape require the BR to develop a strategic communications plan that acknowledges this complexity, and that is

specific to goals and values of the individuals, communities and organizations on the Moraine. In addition by creating and applying a customised plan, the ORGBR leaders can establish the designation as a uniting identity across the landscape with reduced friction and overcome the barriers mentioned in *Chapter 7.3*.

I started this process by placing the Oak Ridges Moraine in the context of a social movement to measure the level of organisation, effectiveness and changes that have occurred across the landscape. The framework (*Chapter 6.1*) used presents some metrics in this analysis combined typical social movement phases and environmental communications strategies. Narratives and trends harvested from interviews, workshop reports, meeting minutes and other documents provided information to classify the Moraine's history under the framework. From these results, I determine that the Moraine has created a reasonably strong identity, though with some fragmentation still, that fosters action and has acquired intuitional legitimacy through the Oak Ridges Moraine Conservation Plan.

However, the Moraine is challenged with a variety of issues. As mentioned, even with the plan in place, the Moraine is threatened by continued development and urban sprawl. Quarries, water diversions, and grandfathered applications all contribute to this threat (Fuller and Zhang, 2009). In addition, very diverse perceptions of the Moraine and landowner tensions over new legislation have made it difficult to create landscape-wide projects. Lastly, a recent Oak Ridges Moraine Foundation poll found that less than 50% of Moraine residents actually know they live on the ORM.

The ORMGBR, playing the typical BR roles of promoting conservation, logistics and sustainable development, can help address these challenges and further engrain the Moraine identity across the landscape. This can be communicated through a variety of messages (either verbal or through developing programming) that speak to the values, concerns and priorities of the communities that live, work and play on the ORM. The results of interviews, previous asset mapping workshops, symposia and other research provided insight needed to effectively communicate to this audience.

Using analysis of audience response to identify common concerns and values amongst the data, four key audience groups emerged: those concerned about water, agriculture and livelihoods, natural habitat and landscape, and health. Under each of these groups, the data identified what tools and resources are currently available to protect their valued natural asset and what are the key threats that might degrade these natural assets. Looking at examples from the Georgian Bay Biosphere Reserve and literature on group dynamics and knowledge sharing, I was able to combine these into recommendations on message shaping for the BR.

A few common themes from this messaging shaping exercise apply to all ORGBR audience groups. Primarily, there are already efforts concerned with protecting these natural assets. Secondly, these groups are experiencing difficulty self-coordinating and accessing funding. Lastly, they all desire more visibility and education about these natural assets to people on and surrounding the Moraine. As consistent themes across all

the audience groups, these key principles of using existing natural assets, improving co-ordination and education set the foundation of ORGBR messaging. This falls in line with the logistics role typical of BRs around the world (Francis 2004).

In response to these themes, possible communications strategies include communicating the BR's ability to coordinate and network groups through creating researching networks and monitoring networks like the Moraine Research Coalition. The organisation and documentation such a coalition provides improves the quality of knowledge sharing and allows the collective network created to be more strategic and effective. Many channels and prospective groups were identified in the data across all audience groups, including municipalities, non-government organizations, academic institutions and conservation authorities. These channels already have existing media to reach out to audiences groups that value water (conservation authorities), agriculture (NGOs and municipalities), natural heritage/landscapes (NGOs and conservation authorities) and health and community (academic institutions and municipalities). Examples of these media include land conservation and water monitoring project and programming, informational brochures and pamphlets like the Citizen's Guide to the Moraine (Monitoring the Moraine 2011) and public engagement events involving consultation sessions, symposia and workshops. Instead of developing expending resources on developing new channels and media that Moraine stakeholders are unfamiliar with, messaging through these existing vectors not only saves resources, but also communicates through institutions that have a legacy with the ORM community.

Following this is the disseminating and recognising the importance of research and data on the Moraine. Through its efforts to coordinate and organize networks, the BR can also act as a platform to compile research and ensure that it is matched to the needs of the landscape. This process allows researchers to fill in each other's gaps and equips communities with the information necessary to push for change. The review of the Oak Ridges Moraine Conservation Plan Review in 2015 is a key opportunity for the BR to communicate itself as a coordinating body.

Another suggestion is the creation of an ORMGBR label, similar to the brand that the Georgian Bay Biosphere Reserve has created. This label allows stakeholders (from communities to businesses) to find their identity within the Biosphere Reserve and use it to help advertise their projects, products and priorities. It is a good method to facilitate flexibility in the BR title and opens to the door to more participation from those not involved in the BR's original inception. However, the ORMGBR will have to set out a similar charter of values and criteria that define how and when the label can be used.

Taking on these tasks are recommended ways the ORMGBR and its coordinating organization can communicate its purpose on the landscape and what how the BR can help its communities promote their priorities. With a rich history of local participation and mobilisation, the Moraine is not necessary short of people with motivation; rather, lack of direction and coordination appears to be the commonly identified challenge. The BR, through its work in conservation, logistics and sustainable development, can address these barriers in particular focusing on the natural assets valued by Moraine stakeholders.

These strategies can work to access the motivations that have historically pushed for change and channel them towards support the ORMGBR. In return, the BR can provide the tools, resources and networking necessary to help further the identity of the Moraine and the protection of its natural assets and communities.

9.2 Directions for Further Research

The findings of this research provide mainly broad strategic direction for the development of a communications strategy for the ORGBR. They provide overarching audience groups and suggestions on messaging to these groups, but the specifics need to be further defined. There are a number of future research topics and opportunities for future study that can help apply the findings of thesis.

One direction for research is to take a closer look at group dynamics, group mobilisation and grassroots organising to understanding the resources and organisation capacity that would be needed to implement the strategy and its messages effectively. Additionally, these requirements should be compared to recent SWOT analyses and resource analyses of existing ORGBR and ORGBR-proponent organisations to identify any differences and gaps in capacity. Then, providing recommendations on how to address these gaps and build the resources and capacity to meet researched requirements would provide direction and goals for the ORGBR.

Following this, another direction is to investigate how political opportunity, shifting political landscapes and changes in government affect the implementation of this

strategy. With a change in government may come a shift in the direction, priorities and funding in ministries, regulatory bodies and legislation. Understanding how these changes can affect the availability of human, political and monetary resources to the ORGBR and the steps that can be taken to mitigate any harmful impacts would build the resilience of the communications strategy. Similarly, acknowledging the ways an increase in resources can help this communications strategy facilitates the planning for future scenarios.

Oh a higher level, these research objectives that look towards the future can be combined with the history of the ORM in an adaptive/anarchy cycle study. This perspective would facilitate an understanding how the social movement across the ORM landscape has self-organised, grown, conserved itself and eventually collapsed over its history. Furthermore, this study would also identify whether the ORM domain presently is at collapse or is about to collapse, opening up a space for reorganisation and innovation.

9.3 Implications for the ORGBR Commmunications Strategy

Extending these conclusions, the findings of this thesis provide further insight into the study of Biosphere Reserve designation implementations, grassroots and community-based environmental communications strategies, and the work of small-scale environmental non-government groups/organisations (ENGOs). Creating a framework with key literatures involved in studying these subjects including social movements, group dynamics, strategic communications and environmental communications disciplines provides a new lens with which to examine community organising and mobilisation across landscapes. It presents a comprehensive package of insights that outline the socio-political indicators of progress in environmental movements, the communications needed to reach these indicators and the human resources and relationships to carry out these tasks. Overall, the framework acknowledges the complex nature of these organisations and movements and looks for synergies between and among these bodies of literature.

For Biosphere Reserves, the resources and capacity for strategic communications, disseminating the values and function of a BR and co-ordinating groups across a landscape are often lacking, leaving this work to volunteers or unfinished (Pollock 2004, 2009). The framework created and the methods used in this thesis can provide a preparatory foundation for future BR communications strategies and also provide some best practices for creating these strategies. In addition some of the results, while specific to the ORGBR, also provide insight into the possible difficulties of implementing a BR

reserve designation. In particular, the complications that arise from NIMBYism, interlacing the designation over existing legislation and the stakeholder values of natural assets and public health may be consistent across a variety of landscapes, allowing similar messaging and channels to be used.

I believe such a framework, while developed in the context of an ORGBR, can be applied to a variety of community-based environmental organisations. The push for environmentally-conscious social and legislative change extends beyond the ORGBR and BRs in general. These organisations all share a common interest in understanding their internal group capacity and external audience environment to address their goals and mission. They also require a framework to reflect on the work they have done and what new tasks required to successful push their mandate forward. A framework that integrates the studies of these interests can provide a new and efficient way for ENGOs to approach their campaigns and projects.

The results of this thesis contribute positively to the strategic communications plan of the ORGBR and provide another tool to use in its designation across the ORM landscape. It provides suggestions on possible messaging to use in communicating the purpose, roles and responsibilities of the ORGBR and the channels to use in their dissemination. Furthermore other BRs, who experience similar peri-urban environments, landownership issues and conservation-minded audiences, may find that these messages adequate, or at least provide an established foundation for further adjusted communications. The framework that was developed ensures that these solutions

acknowledge the specifics and complexities of environmental social movements and their local landscape. Consequently, these results can also extend to ENGOs on a broader scale as they often function in complex systems, pushing for social and political changes through local and grassroots movements. While the findings of this thesis were originally intended to provide recommendations and advice to the ORGBR implementation across the ORM, the implications can extend beyond this landscape and BRs, adding another piece to non-government organisation communications strategies.

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Appendix A: Interview Questions

Interview Questions Interviewees 1, 2 and 3

1. From your perspective what have been the key events that led to the evolution and creation of the Oak Ridges Moraine? Why are these events significant or why do you see them as milestones?
   a. Includes key people, places, times and events
   b. Do you still see the legacy of these events today, do people still refer to them today as key

2. When do you think the Moraine identity was formed, when was it more widely accepted and what work do you see needing to be done next?
   a. When was the term first used? Which communities adopted it?
   b. Do you believe it is common-speak now?
   c. Are there areas where you'd like to see the visibility improve?

3. Who were the key actors / groups / organizations / agencies involved in these events?
   a. Who has taken the lead in communications, or is everyone doing it in their own way?

4. What lessons did you and CAMC learn about the values of stakeholders on the Moraine? In other words, what seemed to motivate people to participate and get involved?
   a. Was it easy accessing "values" of individuals; was it a direct survey or more observational through activities on the Moraine?
   b. Do many come to help the Moraine, or do they participate in the landscape under different guises?

5. What are your experiences outreaching to community members and delivering clarity for information. Which methods were more effective than others?
   a. What are some examples of direct and indirect communications? Which do you find the most effective given the community-based model?

6. Who else should I speak to?

7. What are the key documents I should read?

8. Is there anything else you would like to discuss?

Interview Questions Interviewee 4:

1. From your perspective what have been the key events that led to the evolution and creation of the Georgian Bay Biosphere Reserve? When do you think the identity was formed, when was it or has it more widely accepted? What work do you see needing to be done next?

2. Why are these events significant or why do you see them as milestones?

3. What lessons did you learn about implementing the Biosphere? More specifically, what were you experiences harvesting values and priorities of stakeholders and reacting to those?

4. What seemed to motivate people to participate and get involved?

5. What are your experiences outreaching to community members and delivering clarity for information. Which methods were more effective than others?

6. Who else should I speak to?

7. What are the key documents I should read?

8. Is there anything else you would like to discuss?

Appendix B:
Codebook

Code	Brief Definition	Full Definition	Inclusion	Exclusion
KEY EVENT	Statements about an event that is identified to be important by the interviewer	Statements about an event that is identified to be important by the interviewer; identified by qualifiers like "key", "big","stick out"	Reports, meetings, political events	Unidentified events that do not have a time, name or location placed to them
CATALYST	Describes a change of state	Describes a change of state; identified by verbs like "crystallized", "was a catalyst", "causes", "results in"	Events, people or meetings that result in a large impact change	Unidentified events that do not have a time, name or location placed to them
BARRIER	Describes an event or condition that prevents or blocks action/change	Describes an event or condition that prevents or blocks action/change; often identified by the interviewer as a problem, something they dislike, something negative; must be indication of what the BARRIER is preventing	Events, people or occurances that prevent progress, actions or desired outcomes	Unidentified events that do not have a time, name or location placed to them
IMPROVEMENT	Decribes a positive developmnet or a preferred outcome/change	Decribes a positive developmnet or a preferred outcome/change; often following a CATALYST or KEY EVENT; usually invovles increase conservation, co-operation or visibility of Moraine issues	Increases in Moraine visibliity, more co-operation, improved qualityk; should be backed by reports/evidence or common-speak	Personal perceptions of positive developments; things not backed by nunbers or reports
DECREASE	Decribes a negative developmnet or a undesirable outcome/change	Decribes a negative developmnet or a undesirable outcome/change; often following a BARRIER or KEY EVENT; usually invovles weakening of Moraine policies, unfavourable fragmentation, or misinformation and poor communciation	Deceases in Moraine visibliity, less co-operation, increaesd difficulty in doing work; should be backed by reports/evidence or common-speak	Personal perceptions of negative developments; things not backed by nunbers or reports

ASSESSMENT: SITUATION	A interpretation, made by the interviewee, about the current social, economic or political environment	A interpretation, made by the interviewee, about the current social, economic or political environment; this is a personal statement, often preceded by "I think", "I guess", etc.	Personal statements about the current processes, institutions and systems	KEY EVENTS and CATALYST statements which are more factual than personal
ASSESSMENT: PEOPLE	A interpretation, made by the interviewee, about those who live, work and play on the Moraine	A interpretation, made by the interviewee, about those who live, work and play on the Moraine; this is a personal statement, often preceded by "I think", "I guess", etc.	Personal statements about how those who live, work and play on the Moraine, their opinions, perceptions and values	KEY EVENTS and CATALYST statements which are more factual than personal
FEELING	Statement about personal emotions and how events affect one's emotions	Statement about personal emotions; "I feel that", " This makes me"	Statements about personal emotion and feeling	Statements about how the interviewee feels about the environment or people around them; these are not personalised statements (e.g. I feel the political climate is tense) and are considered ASSESSMENT statements
SUGGEST	Suggestions about how to focus communications, future activities on the Moraine, and places for improvement	Suggestions about how to focus communications, future activities on the Moraine, and places for improvement	Suggestions about where to focus our communications efforts, tips on different areas we can focus on, userful exercises for the Biosphere Committee	Suggestions about who else I should speak with for the purposes of this study; this is recorded separately
FUNC	Statement about the function of a Biosphere Reserve	Statement about the function of a Biosphere Reserve; includes examples from other Biosphere Reserves or what a BR is supposed to do in theory	Includes comments about how Biosphere Reserves function on the ground in other examples; theories about the roles of BR	Suggested functions that are not followed by an explanation or other evidence
VECTOR	Possible Biosphere Reserve links into other departments/groups/studies/organisations	Possible Biosphere Reserve links into other departments/groups/studies/organisations; whether it be participating in research, messaging, support, etc.	Interviewee identifies channels about how the Biosphere Reserve can communicate itself or work through another channel to satisfy its functions	Suggestions without specific groups or names identified; these go under SUGGEST code

Appendix C: Codes

Code	Dave	Kim	Joyce	Becky
KEY EVENT	– 1991 provincial study – 1994 YPD region study – OMB hearings in Richmond Hill – Debbe Crandall and Dave Burnett joining the Citizens' Advisory Committee – NGOs getting people on the ground to knock on doors and raise awareness – Conservation Authorities working on reforestation, watershed studies and fisheries work – CAMC – Key people: Debbe Crandall and STORM, David Crombie, Rob Canter, Fred Johnson	– Walkerton; people concerned over contamination of drinking water – Urban sprawl in the GTA – Geological Survey of Canada doing all sorts of mapping work and studying the ORM features; putting together science to justify protection of landscape	– Site level issues (e.g. Ganaraska Watershed)	– Great Lakes Conference with Georgian Bay Association, Pat Northy and George Francis – Getting local champions from Perry Sound in addition to cottagers – Key decision makers present –
CATALYST	– Key events crystallised need for stronger planning on the ORM – Attention from many groups (public, private, citizen, government) put Moraine on the map – Development in Richmond	– Suburbia gobbling up green space lead to the need for land protection – Individuals concerned about what was happening across landscape and communities, wanted to protect this resource	– Water was a big thing in Ganaraska – Citizenship participation in the public hearings – A combination of local trusted hubs and postings in the paper are effective in mobilising people	– Local cells meeting cottagers, local media presence, local economic development sealed the deal for the BR

	Hill caused York Region to direct planning commission to look at a Moraine strategy – Three region study created momentum and concern about the Moraine – Richmond Hill hearing crystallised efforts and the province put a moratorium on Moraine development – NIMBY drives people to get involved today – There are a few number of hooks that can keep the Moraine – Signs and casts can remind people – People and groups drove action on the Moraine – Water causes action because people want to protect headwaters, landforms, wetlands etc. – Landowners want to take care of their own property	– Walkerton and the media pushed the public to get more concerned and take action		
BARRIER	– Study was completed between 1994 and 1999, but nothing happened – 50% of those who live on the Moraine, don't know the	– Most people aren't aware of the Moraine – High percentage of population that isn't aware they live on the ORM	– Moraine is not common speak amongst the residents on the Moraine – There hasn't been a lot of work engaging the	– The process took seven years – Have to build a coalition of support, secure letters from many scales; a big

live on the Moraine – Getting same old people to Moraine initiatives – Urban sprawl, water issues and grassroots are no longer key motivations on the Moraine	– People don't know why Moraine is important – Unless people choose to learn more, they won't – Money and funding issues – Face-to-face best communications, but can only target a small portion of people – A number of landowners discontented with ORMCP – People see BR designation as yet another level of government legislation – Lack of money prevents the continuation of work – Individuals who work on ORM, work for other organisations full-time and this limits their time	diverse communities across the Moraine – A lot of groups along the 401 haven't been the focus of outreach – No one is taking the lead on consistent branding (in Caring) on the Moraine – Isn't a strong lead or history of clear communications on the Moraine – Not easy to ask new groups (youth or bikers) for advice on communications; need to build a relationship and trust – There is no consistent picture of the Moraine across everyone because it is so many things at once to everyone	effort – Difficult to define sustainable development with so many different stakeholders present – Hard to develop communications and marketing plan; what is a BR? – People don't know that they live in a BR – People characterise BR supporters as tree-huggers – How to measure impact of organisation? – All Georgian Bay groups are competing for the same funding sources – Hard to do work and monitor successes at the same time – Conflict in what people perceive as appropriate activities in the BR – Hesitant about going on social media – Need to give communities room to

				grow, but want to protect and conserve at the same time
IMPROVE	– Studies to assess the Moraine's water, natural heritage and functions, aggregate resources, cultural heritage, views and vistas – Moraine has been placed on the map – Developed regional strategy for the Moraine – The process to develop the ORMCP	– Walkerton and water contamination lead to increased awareness and significance of the ORM – Greenbelt great at protecting buffer areas	– There was some consistency in terms of a logo with Caring for the Moraine –	– The movement of the BR idea from bringing everyone together – Merger of different concepts – Sense of place motivated the nomination, people could see the international recognition – Building presence through media presence – Frontenac Arch really raising the bar for sustainable businesses – Coordiantion reduced competition between Georgian Bay groups, worked together for funding – Coastal wetlands strategy developed – Found that on-the-ground examples (like bald eagles nests) are more effective and engaging to explain a

				BR than the "three pillars of sustainability" approach
DECREASE	– People are only involve in issues that affect them, not so much the Moraine – NIMBY is the only way to get action – Moraine is now out of sight, out of mind	– People are forgetting about the Moraine – People don't know why the legislation occurred in the first place – Less connection to roots that triggered creation of the Moraine – Branding of Caring could be done much better	–	–
ASSESS: SITUATION	– The peak of the ORM movement was when the plan was being developed	– Legislation alone doesn't protect he Moraine, you need to have community and stakeholder engagement – So many people on the ORM that in order to have impact, you must be aggressive – Most positive feedback from one-on-one experiences – Over 30 partners working in Caring, worked together, didn't duplicate efforts and shared resources – Caring not successful until	– Communications has been weak on the Moraine and there has been little work done on it – Most of the Moraine is site-level grassroots – Usually people come to Moraine for a specific event or issue; this is	– There is a lot of money flowing through the Georgian Bay area – People are joined together by the landscape and the "Georgian Bay" feeling; this is the common-point whether cottager or resident – Identity of the GBBR is still being formed – There was a vacuum of coordination, the GBBR filled that gap – Trying to create a brand, and awareness and pride

		– someone took coordinating role – ORM is a unique landscape like Niagara Escarpment and not competitive with Greenbelt – Greenbelt has done really good work with the agricultural sector and Moraine handles ecological and hydrological		in the brand; the BR is the people – The BR is the consciousness of the region – Role is to generate dialogue, not polarise issues – Not conflict management, stimulating dialogue –
ASSESS: PEOPLE	– People think the Moraine is saved – There was some afterglow after the Plan – Everyone would put their own spin on what the Moraine is	– There were once a lot of people who saw the importance of the Moraine prior to legislation, but have now forgotten – It takes a crisis for people to open their eyes – Some landowners thought the ORMCP had halted their ability to do things on their parcels of land	–	– First Nations want to build a relationship of trust and need to see tangible benefits
FEELING	– The key events stick to his mind – Hard to comment on non-planning things – When traffic and weather reports mention the Moraine, that touches him	–	–	–

SUGGEST	– Get more people into monitoring like Monitoring the Moraine – Use social media – Continuously promote the importance of the Moraine – Promote wellheads and watershed protection, stewardship and agricultural enhancements – Recapitalise the ORMF	– Maybe not lawn signs specifically, but people should know they live on the ORM – Getting road signs on the 400 series highways and regional roads – Continued education, remind people of the significance of groundwater – Continue to support Moraine groups and recapitalise the ORM – Show how people are benefitting from the Moraine – Clean streams = clean water, healthier cattle – Social, ecological benefit, healthy well-being, community of engagement; show the pros – Need a communications strategy – Should look at the urban population as well – Look at all audiences and look at the approach – Raise profile of ORM so	– It's important to start engaging with diverse communities as their numbers will increase on the Moraine – Go through community groups or community sparks or local champions for those already pro-environment – New people can be caught through newspaper ads, bigger ad distribution etc, – People who don't know about the Moraine can learn from those who do, those who know about the Moraine can see there is more communications to be done – There needs to be a larger communications scheme and communications source – Learn to target new people on the landscape	– Tourism branding, major economic driver – Promote sustainable DEVELOPMENT to prevent being seen as treehuggers – Message about integration and livelihoods as part of SD – Governance is looking at how to create more effective networks – Develop a "brand" of businesses that are labelled SD – Do a wide-spread survey of the population to measure awareness and effectiveness of communications – Create a research body to co-operate on work and funding – Keep track of news articles and archive them to build a narrative history – Incubate networks, but then spin them off so

		that voters would say something to their politicians – Enforce that you need to protect the Moraine to have a healthy ecosystem, clean water and clean air – Focus first on areas on Moraine and secondary, the GTA – Make the Moraine a household name; continued support with people financially supporting it		they have life of their own; can't get caught-up micro-managing – Use a charter of values of certification programmes to create some value behind these networks and BR programmes – Allow businesses and communities to use BR brand for their own purpose – Charter of values keeps its meaning and messaging consistent – Use an awareness campaign – Notify groups about programs they could participate in, if they don't know about it – Can do campaigns that are labelled with the BR, do training DVDs, hold workshops; centred about something people can actually do
FUNC				Becky
VECTOR	– Ecospark	– Conservation Authorities	–	– Great Lakes Conference

	– There are multiple hooks: water, urban planning, farms, natural boundaries for urbanisation and containing urban sprawl	– Use a hydrological POV, a social POV, an economy POV		with Georgian Bay Association, Pat Northy and George Francis – Getting local champions from Perry Sound in addition to cottagers – Key decision makers present –

Code	ORGBR Committee	Greenbelt Council Meeting	MMAH Meeting	Peel Region Public Health
KEY EVENT	– The committee views itself as a catalyst	–	–	–
CATALYST	–	–	–	–
BARRIER	–	– Worried about the layering of names across the landscape (NEC, GB, ORM, ORGBR)	–	–
IMPROVE	–	–	–	– CLASP (Coalition Linking Action and Science for Prevention) proposal to look at built form and its connection to chronic disease – Peel Public health has received Trillium Foundation funding for chronic disease research

				project
DECREASE	–	–	–	–
ASSESS: SITUATION	– Projects on BRs tend to be tagged to a specific sector with a particular interest group – provides connections for funding because they are attached to a specific need –	– Contains some pristine areas but only under recent peri-urban designations – ORM is the ecological core of things, but humans have many linkages that extend beyond this core area – More than agricultural opportunities for economic development in non-Class I areas; these opportunities are specific to areas and different lands	– The creation of ORIAS allows STORM to continue its advocacy work – ORIAS was created to disseminate knowledge and research linked to the socio-ecological system; linking academics to on the ground community groups and provide a bridge – ORIAS is also the incubator for Biosphere Reserve governance – BR also provides a neutral logistics body; leeting know people know where things are going on, who should talk to whom – There is a lot of rural agitation –	–
ASSESS: PEOPLE	–	–	–	–
FEELING	–	–	–	–
SUGGEST	– Involve tourism sector	– Try to get support from the	– Collaborate with the	–

	– Involve equine sector – Monitoring and evaluation should be another part of the roles of the BR Committee (and BR) – Use the words community and priorities to take the co-operation plan into action – Need flexibility in the statements so that whichever project gets funded can take priority – Identify long-hanging fruit, where are those groups that want to be part of the BR – Start growing local networks (teleconferencing works) – Get local artists involved	UN; bring in someone since the NEC and ORM will cover all of the GB – Try to create a socio-ecological system that bring in new way of looking of it	Strategic Environmental Assessment in York Region – Collaborate or build collaboration for the 2015 Review – Develop best practices	
FUNC				
VECTOR	–	–	–	– Peel Region Public Health research is focused on the perception of environmental risk to children's health (i.e., do families feel in control over environmental exposure) – Ontario Public Health

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				association has industry advisory panels on air quality and use evidence-informed practise and research
				– Peel health started in the anti-tobacco lobby, but has now moved over to air quality, environmental health
				– They see health has being linked to built form, planning, transportation, walkability, energy-use and all the big questions
				– Peel Public Health is working with Mississauga and Brampton
				– Looking at vector born diseases (e.g. Lyme's disease, West Nile virus)
				– Climate change work with area municipalities and conservation authorities to make climate adaptation and mitigation plans for the

				region
				− Working with GTA Clear Air Council and cities including Toronto, Peel, York, Durham, Hamilton and Halton
				− Ontario Public Health Association observe new and emerging issues about environmental health