

Stewardship as partnership:  
a comparative study of positive human-environment  
relationships in East Cree and suburban Montreal  
communities

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## DEDICATION

This document is a testament to the support and encouragement of my family,  
John, Erin and Greg and my friend Katherine Scott.

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## ABSTRACT

This study suggests that cultural acknowledgement of the integral partnership between a human community and the environment it inhabits is central to the development of positive human-environment relationships. The comparison of two community environmental projects illustrates cultural implications of human land occupancy through comparisons of their governing land use institutions as well as social and individual experiences. In the *Paakumshumwaau*-Wemindji project environmental responsibility is strongly motivated by the interaction of shared cosmological understandings with direct experience in the landscape. The creation of Edgewater Park in suburban Pointe Claire is a clear indication of community environmental responsibility working its way towards new partnerships with lakeshore ecological communities. The fundamental difference in these partnerships inheres however in the distinct ways the two human communities understand the voice of the non-human elements within the partnership.

## ABSTRAIT

Cette étude suggère que la reconnaissance culturelle du partenariat intégrale entre la communauté humaine et son environnement est au coeur du développement des relations positives entre l'humain et son environnement. La comparaison de deux projets environnementaux dans deux communautés démarque les implications culturelles de l'occupation de territoire par l'humain en passant par une comparaison des institutions gouvernantes, et aussi en comparant les expériences sociales des personnes qui l'habitent. On découvre dans le projet du *Paakumshumwaau-Wemindji* que la responsabilité environnementale est fortement encouragée par l'interaction des croyances cosmologiques des cris et les expériences qu'ils vivent dans leur territoire. La création du parc Edgewater à Pointe-Claire démontre une responsabilité environnementale de la communauté qui lance un nouveau sens de partenariat entre les humains et les communautés écologiques de la berge du St-Laurent. Par contre, ces deux communautés culturelles se distinguent à travers leurs façons de comprendre les voix des éléments environnementaux non-humains dans leurs territoires.

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## Chapter 1 Introduction

This comparative study examines how the cultural contexts of suburban Montreal and the East Cree community of Wemindji give rise to positive human-environment relationships in the form of restorative and protective community projects such as Edgewater Park and *Paakumshumwaau*-Wemindji. In the course of this comparison, the following question arises: does the term environmental 'stewardship' capture the collaborative development of positive human environmental relationships evidenced in Wemindji and Pointe Claire?

The two communities' positive human-environment relationships are compared via their respective environmental projects. Engaged in the process of shoreline restoration, the City of Pointe Claire, located on the western portion of the Island of Montreal along the north shore of Lake St. Louis<sup>1</sup>, has created Edgewater Park. Faced with the remnants of three centuries of farming, industrial and human residential activities, this suburban Montreal community is engaged in a process of bringing the ecological health of the riverbank and the well-being of its human residents into a more tightly knit partnership. Likewise, the East Cree communities of James Bay Quebec have marked their landscape in their own ways, albeit less dramatically. In the watershed of *Paakumshumwaau* and the adjacent marine coastal area, terrestrial, aquatic, marine and human ecosystems remain tightly interconnected. The Cree Nation of Wemindji is considering the possibility of protecting this living landscape in a culturally appropriate manner, thereby ensuring its continued well-being for future generations.

How do these two communities' cultural perspectives inform the positive human-environment relationships evidenced in the two projects? Chapter 2 summarizes theoretical perspectives of relationships between humans and their

---

<sup>1</sup> Lake St. Louis is the name given to a wide lake like portion of the St. Lawrence River at the confluence of the Ottawa River to the south of the Island of Montreal, Quebec, Canada. (Fig. 7)

environments. While implications within these perspectives point to factors that determine human community responsibility for ecological well being the case remains to be made for a comparison of the practical experience of these two particular communities. The conceptual and procedural rationale grounding the comparative analysis of this study is set out in Chapter 3. In the following three chapters the comparison of Edgewater Park and *Paakumshumwaau*-Wemindji projects is developed in three stages.

The study title suggests that this comparison draws into question the very terminology used to describe positive human-environment relationships, that is relationships that bring human and ecological well being into a more tightly linked position. Are we benevolent managers of an essentially competitive environment or partners in a cooperative venture? To begin, Chapter 4 develops a comparison of the physical characteristics of the two community projects contrasting the cultural activity that shapes the two landscapes. Reflected through the physical shape of these two landscapes are two distinct community approaches to human-environment relationships: a competitive suburban scenario and a collaborative Cree life project. As the comparison demonstrates, differing notions of property and distinctive cultural links made between fact and value shift the position of human beings in relation to their landscape ecosystems giving rise to unique understandings of human responsibility towards ecological environments.

Secondly, Chapter 5 presents a discussion of the overarching social institutions determining human activity in these two Canadian landscapes by comparing the networks of regulation in which these two community projects are situated. This comparison shows how the retention of customary land tenure practice through the governing instrument of the James Bay and Northern Quebec Act helps maintain an active attitude of reciprocity in current human-environmental relationships in *Paakumshumwaau*. The experience of these two communities with policy and regulation in their respective landscape projects reveals the densely overlapping jurisdiction of social institutions. Perceptions of the human community's sense of responsibility toward the environment are

evident in the subsequent comparison of the interface between community and institution as the projects develop. Despite successes such as the Edgewater Park riverbank restoration, the overall failure of environmental stewardship initiatives to promote large scale environmental health in the North American landscape suggests that a change in perspective is required. Adopting a partnership ethic such as East Cree experience presents an alternate positioning of human beings within a landscape where collaborative effort is required to draw ecological and human well being into a closer alliance.

Thirdly, in Chapter 6 the challenges inherent in comparing two different cosmological perspectives (East Cree and suburban Montreal) are further addressed by examining a small group of individual environmental responses collected through conversations in each of the communities. Clustering individual responses around themes of environmental engagement (eg. physical activity, aesthetic appreciation, psychological response) helps clarify similarities in landscape experience, responses to it and personal engagement with it derived from different cultural perspectives. This comparison sharpens the distinctions between suburban Montreal understandings of competing interests in human-environment interactions and the cooperative working out of East Cree environment relationships.

The fact that environmental partnership appears possible within mainstream institutional organization strengthens the likelihood of Cree environmental partnership informing the creation of a culturally appropriate (i.e. ecologically collaborative) protected area at Wemindji in *Paakumshumwaa* and the adjacent marine coast. The comparison further suggests positive prospects for a renewed partnership ethic in mainstream human-environment relationships as evidenced in Edgewater Park experience in Pointe Claire. However, community perception of the non-human landscape elements as parties to an ecological partnership appears to be linked to the distinct ways in which these two communities come to know those partners. This sheds some doubt on the possibility of the transferability of Cree cooperative perspectives to suburban approaches.

## Chapter 2 Literature Review

Where does a comparative examination of positive human-environment relationships between an East Cree community of northern Quebec and a suburban community of southern Quebec situate itself within the ongoing quest for sustainable community solutions for living within the means of a healthy environment? Efforts towards environmental protection and suburban restoration ecology are directed at improving ecological productivity of landscapes that support human activity. As certain indigenous land protection projects have confirmed, the community action of environmental protection, taking community responsibility for the well being of the natural environment has positive cultural feedbacks, strengthening cultural ties with the landscape and increasing sustainability of this relationship (Nelson 1998; Slocombe 1998; Stevens 1997). Inuit examples and a Cree project at Waskaganish, QC, *Muskuuchii* further support these findings (Berg et al 1993; Ettenger 2002; Watson et al 2003). The current project to protect *Paakumshumwaau* in Wemindji makes study of this community's commitment to environmental stewardship especially pertinent (Benessaiah et al 2003).

In the suburban context there is a similar interest in restoration ecology. As residents of Pointe Claire clear away crumbling concrete retaining walls along the St. Lawrence riverbanks promoting the re-growth of riverside marshes, there is an awakening to cost effective practices that join the natural processes of the landscape to the life project of human suburban habitation (Licata and Tissot 2005). The literature points to connections between ecosystem health and human well being (Millennium Assessment 2004; Light 2003; Whiteman and Cooper 2000) through examples of community promotion of cultural and biological diversity through conservation (Hyndman 1994; Michelfelder 2003; Nelson 1998) suggesting that a project such as Pointe Claire's Edgewater Park might function in the same way.

The question of how a cultural framework drives a community sense of responsibility towards the environment must not ignore the way in which that

culture shapes the identity of the individuals comprising that community. Cultural perspectives speak to the ways in which a place or landscape shapes a community, and in turn is itself shaped by the community inhabiting it (Cronon 1996; Harvey 1996; Sack 1997; Tuan 1974; Unwin 1992). Ethical perspectives focus on how social community structures and institutions shape human behaviour towards the environment (Bjelland 2002; Fern 2002; Kahn 1999; Light 2003; Naess 1989; Rolston 1999; Schweitzer 1987; Taylor 1986), while psychological perspectives examine how personal identity relates to place (Clayton and Opatow 2003; Holmes 2003; Kahn 2003; Kempton and Holland 2003). Recent studies on emerging aboriginal identity draw on the importance of human interaction within spaces, rediscovering rites of passage and embracing traditional ways of knowing (Adelson 2000; Bastien 2003; Lertzman 2002; Parkhill 1997; Salmón 2000). Further, the literature devoted to how humans develop an ecological identity from within the human-environment relationship increases daily (Linneweber et al 2003; Michelfelder 2003; Opatow and Clayton 2003).

Conceptions of the environment or nature situate human beings with respect to the environment, establishing a perspective or set of perspectives from which human beings derive roles regarding their own responsibilities towards that environment. The cultural plurality of suburban communities is noted, as the legacy of various western perspectives resides in this diversity to varying degrees (Cronon 1996; Diamond 1997; Glacken 1967; Schama 1995). Four main environmental conceptions distinguish themselves in the literature: a wilderness, a natural resources, a garden and a dwelling perspective. Depending on the suburban context any one or several may be privileged in any given portrait of suburban human-environment activity.

## **2.1 Wilderness Conception**

A wilderness conception expresses ideas about nature that gathered momentum in the early 19th century and continue to the present (Di Chiro 1996;

Muir in Cronon 1996; Thoreau 1979)<sup>2</sup>. Free from human involvement, nature can be appreciated for its grandeur, power, and majesty as well as its ecologically fine tuned internal dynamic processes (Fern 2002). Further, the removal of the social networks of human activity stamps wilderness as inert, morally neutral space (Fern 2002). Persistent tendencies to romanticize wilderness landscapes are based on the misconception that pre-contact North American landscapes were actually un-modified by human beings, and serve to further separate human presence from ideas of 'natural' landscapes (Bjelland 2002).

The national parks movement<sup>3</sup> that grew from this environmental conception helps delineate, value and conserve wilderness landscapes. Retaining reverence and the reciprocity of spiritual experience, a wilderness conception of the environment is none the less underpinned by an idea that man is not integral to the landscape. This division, combined with increasing opportunity to experience wilderness via various media (e.g., writing, television, internet) serves to diminish direct engagement of human beings in the natural processes of the landscape (Harrison 1992; Leopold 1966; Merchant 2004). Removing human complicity from landscape evolution allows knowledge-building processes to don a cloak of objectivity promoting scientific environmental learning that continues to dominate environmental study (Leopold 1966; Merchant 2004). Understandings of human-

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<sup>2</sup> The United States Wilderness Act of 1964 begins its definition of wilderness as follows: "A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain". University of Montana. College of Forestry and Conservation. Wilderness Institute. Wilderness.net. *Wilderness Legislation: The Wilderness Act of 1964, Definition of Wilderness, Section 2 (c)*. 24 Feb. 2006. <<http://www.wilderness.net/index.cfm?fuse=NWPS&sec=legisAct#2>>.

<sup>3</sup> While Yosemite (1864) was the "first wildland park" deeded by the United States government, in 1872 "Yellowstone became the first true national park" (Cronon 1996 p 72). In 1885 "Banff National Park, Canada's first national park and the world's third" was established. (Canada. Parks Canada. *Banff National Park of Canada*. 31 Jan. 2006. <[http://www.pc.gc.ca/pn-np/ab/banff/index\\_e.asp](http://www.pc.gc.ca/pn-np/ab/banff/index_e.asp)>.)

free ecology have contributed to increasing confidence in human beings' environmental managerial skills (Merchant 2004).

## 2.2 Natural Resource Conception

From within a natural resource conception of the environment, human activity is shaped by the imperative of technology made possible by a managerial perspective where the apparent capacity of human beings to control nature is ever increasing (Merchant 2004). Conceptions of property and the domination of capitalism in the marketplace focus value on global trade in the production of market products, diminishing if not completely camouflaging ecological values (Brown 2001, Merchant 2004; Rynard 2001). The resulting environmental degradation from intense industrial activity fed by so called 'natural resources' contributes to trans global pollution affecting the ecological health of the entire planet, e.g. global climate change, desertification and deforestation (Brown 2001, Merchant 2004; Rynard 2001).

The literature is rich and growing daily testifying to the environmental degradation accompanying natural resource extraction processes. This study restricts the field to two areas of concern: the flooding of the James Bay area to create hydroelectric installations and the polluting of Lake St. Louis. Widespread flooding incurred from the diversion of water flow in the East Main River (south of Wemindji) to flow northward to the La Grande River dam sites created a system of reservoirs in the Wemindji territory (Sakami, Opinica and Boyd Lakes, Fig. 4). Despite efforts to amend terrestrial habitat loss through the James Bay and Northern Quebec Agreement (JBNQA)<sup>4</sup>, vast regional environmental change continues to affect Cree-land relationships (e.g. game migration changes, mercury poisoning of fresh water species, landscape changes and use related to road building in the area, development of a cash based economy) (Benessaiah et al 2003; Field notes 2004; Niezen 1998).

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<sup>4</sup> James Bay and Northern Quebec Agreement (JBNQA). Text references to this act can be found here: Grand Council of the Crees. *James Bay and Northern Quebec Agreement*. 21 Nov. 05. <<http://www.gcc.ca/pdf/LEG000000006.pdf>>.

### 2.2.1 St. Lawrence River

Located at the confluence of the Ottawa and St. Lawrence Rivers, Lake St. Louis is a repository and filter for all the activities happening in the two rivers' watersheds. Effluent from logging and paper processing activities along the Ottawa River intensifying in the 19<sup>th</sup> century (and continuing well into the 20<sup>th</sup> century) (Matthews, B. 1985) swirled together with the residual sediment of unregulated industrialization in the Great Lakes during the first half of the 20<sup>th</sup> century.<sup>5</sup> Increased shipping activity into the second half of the 20<sup>th</sup> century brought its own special brand of contamination of the river ecosystems including water level controls, ice break up management and uninvited exotic aquatic species. Furthermore, human community activities along the riverbank have aided and abetted natural erosion of the shoreline and increased organic pollutant levels in the watercourse beyond aquatic ecosystems' abilities to adapt.

### 2.2.2 James Bay Hydroelectric Development

In the 1970's the Quebec provincial government's hydroelectric project and the subsequently signed JBNQA changed the landscape and economy of northern Quebec Cree communities of which Wemindji is one. The JBNQA addresses mitigation of hydrological changes to subarctic hunting grounds with social institutions shaped by East Cree tradition and southern economic resources, both structural and monetary (La Rusic 1979). East Crees' engagement with the landscape is experienced through respectful relationships with all elements of the environment: animate and inanimate, material and ethereal (Berkes 1999; Feit 1992; Morantz 1983; Scott 1996). These practices arise from alliances bound together in reciprocal relationships of respect between humans and the elements of the environment that support their mutual survival. This covenant of respect is reflected in the land-tenure regime provided for in the JBNQA. Land is not

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<sup>5</sup> Comprehensive historical information regarding the health of the St. River Ecosystems can be found at the St. Lawrence Vision 2000 website: Quebec. St. Lawrence Vision 2000. 24 Feb. 2006. <[http://www.slv2000.qc.ca/index\\_a.htm](http://www.slv2000.qc.ca/index_a.htm)>.

owned per se, rather, kin-based subsistence activity, that is hunting, trapping, or fishing, is conducted in delineated territories throughout the region under the management of individual *uuchimaauch*, hunting leaders, known in English as tallymen (Berkes 1989; Feit 1989; Scott 1988). The management of Cree landscapes via customary land-tenure is a powerful example of a Cree cultural solution that is embedded in the land-use governance instrument for James Bay.

The advent of a cash based market economy in Cree communities accompanied the implementation of the JBNQA (Benessaiah et al 2003). Formerly, imported technologies (such as motors or guns) had been used to continue the traditional project of life; currently, technology (and access to it through hourly wage income) is driving daily activity, shifting the path of the project of life (Benessaiah et al 2003; Feit 2004; James 2001). While hunting, trapping and fishing activities continue, the growing importance of cash is providing access to new community services: food, shelter, goods, transportation (Wenzel 2001). Settled community space and energy resources are limited; the health of the increasing population living in municipal conditions is of concern (Adelson 2000; James 2001). Yet community well being, *miyupimaatisiun* ('being alive well') is still conceived of in the landscape (Adelson 2000).

### 2.3 Garden Conception

Ineffective maintenance of ecological health (Brown 2001; Merchant 2004; Thoreau 1979), inequitable global distribution of Earth's bounty (Di Chiro 1996), or the lack of acknowledgement of the depth of human connection to the planetary environment (Brown 2001; Leopold 1966; Merchant 2004) are some of the criticisms leveled at human activity undertaken from within perspectives that impose a clear distinction between the realms of human and non-human activity. The Cartesian roots of the human-environment dichotomy, '*cogito, ergo sum*' (I think therefore I am) place human beings, and the minds inside each of them before and apart from everything else (Crang 1998 p 109). Objections to this conception continue throughout the 20th century (Brown 2001; Cronon 1996; Heidegger and Satre in Crang 1998; Leopold 1966; Merchant 2004). Cronon, Schama and Harrison explore the links that hold Western culture and nature

together, recognizing the depths and extent to which human culture is shaped by the landscape it has itself shaped.

In an effort to place human activity within the sphere of ecological activity Western notions of a garden-gardener relationship have become appealing. A conception of the environment that resembles a garden clearly places human beings within the community of landscape systems as cultivators and co-producers. A producer-cultivator role for human beings retains utilitarian and instrumental sensibilities within a concept of ecological community values. While the possibility to recapture attitudes of respect or reverence for natural systems such as evidenced in the wilderness perspective is attendant, the identity that humans take on as co-workers in this environmental perspective does not wholly abandon a managerial role for human behaviour.

This perspective adopts somewhat the idea of Nature as mother and teacher (Thoreau 1966; Emerson and Muir in Merchant 2004) but it draws equally on social networks for learning and retains the scientific paradigm as the main framework for systematic knowledge building. Visions such as Leopold's of "man the biotic citizen" (Leopold 1966 p 260) and the Rio Declaration's definition of sustainable development<sup>6</sup> acknowledge finite limits to both human behaviour and ecological production that are characteristic of a garden perspective.<sup>7</sup>

Developing understandings of complex adaptive systems, such as the Gaia hypothesis (Lovelock 1979) further suggests the possibility of re-embedding humans in an ultimate extension of the garden conception (Merchant 2004). Complex adaptive management understandings of the resilience of systems, both

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<sup>6</sup> United Nations. 1992. *Report of the United Nations Conference on Environment and Development: Annex I - Rio Declaration on Environment and Development*. 22 Nov. 05. <<http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm>>.

<sup>7</sup> The Garden City movement that is visible in the early 20<sup>th</sup> century suburban development of Pointe Claire (Bowling Green, opposite Edgewater Park) is derived from this conception. (Matthews, B. 1985)

natural and social, attempt to model relationships between humans and ecosystems in a more holistic, contextual way, but again, within the scientific paradigm (Merchant 2004; Barabási 2003; Holling 2003). This however, does not necessarily address problems inherent in scientific knowledge production (inequities associated with increasing specialization of such knowledge, or within the objectification of natural systems as property) (Merchant 2004).

## 2.4 Dwelling Conception

Leopold's and Schweitzer's calls for an ethical relationship to the land, one in which love, respect, admiration and a high regard for its value are central to the proposition (Leopold 1966; Schweitzer 1987) is reflected in the home or dwelling conception of the environment. From this perspective the human-environment relationship is dynamic, integrated, embedded and cooperative (Cronon 1996; Ingold 1993; Lovelock 1979; Merchant 2004, Schama 1995) capturing infinite understandings of both the physical and metaphysical from within the finite dimensions of a living landscape (Callicott in Naess 1989; Ingold 1993; Schweitzer 1987). But is a repositioning (that is, a demoting) of the scientific knowledge paradigm possible? Naess would say yes: just as organisms and habitats are interconnected so our "values are linked together" but it is not the job or capability of scientific enquiry to derive value through ecology (Naess 1989 pp 40-41). Merchant concurs, believing that a new narrative is required. It is here that the literature regarding East Cree land relationships suggests such possibilities.

North American indigenous cultures "make reference to the complex flow of life with which they and their ancestors have lived interdependently for centuries." (Salmón 2000) This understanding of the world is built in the course of experiencing relationships, "in the mind, body, emotion and spirit" (Cajete in Kimmerer 2002). In this way facts about things are not separated necessarily into physical and metaphysical categories; likewise, the barriers between human and animal relationships are permeable (Brody 2000). 'Being-alive-well' for humans in the East Cree context is "fully understood within the context of the connections between land, health and identity," (Adelson 2000 p 60) -- connections that form

a dense web of relational networks linking landscape communities one to another both in and through time (Feit 2004; Salmón 2000).

The hunter-gatherer life project is not directed towards landscape modification, but rather towards “knowing how to find, use and sustain what is already there” (Brody 2000 p 86). This cooperative role is governed by rules of respect and conservation (Adelson 2000; Berkes 1999; Feit 2004; Niezen 1998; Preston 2002; Scott 1996). For example, the role of respectful hunter requires humility and a willingness to learn and understand the will of the animals (Berkes 1999). In turn, reciprocity exists in the equal measure of respect animals hold for hunters and their need to eat, realized in the ultimate gift when an animal offers to be killed. The practical outcomes of such relationships in indigenous community experience have engendered some critique as to the intention of natural ecological practice: “we cannot assume that they always walked lightly on the earth” (Krech III 1999 p 98). In the case of the East Cree however, Krech III acknowledges the scholarship of Scott and Feit whose work argues the prudent land management skills of East Cree communities (Krech III 1999).

## **2.5 Human environmental responsibility: ethics and/or ecology?**

As human-environment relationships develop from where does human environmental responsibility arise: ethics and/or ecology? It seems evident that the respectful relationships and understandings of reciprocity that East Crees experience spring from a shared understanding of human interconnectedness to the full spectrum of the landscape community. The body of mainstream environmental ethics literature is in broad disagreement regarding the derivation of human responsibility in (non-indigenous) human-environment relationships. On the one hand, scientific paradigms are designed to answer the question ‘how’, not ‘why’ (Fern 2002 p 85; Lovelock 1979 p 137). Yet, Rolston holds that “with regard to environmental ethics in general, ‘an ought is not so much derived from an is as discovered simultaneously with it.’” (Rolston in Fern 2002 p 93)

In this same vein we hear Leopold’s call to ‘Think like a mountain’ (Leopold 1966 pp 137-141) and Schweitzer’s appeal to have ‘reverence for life’. But as Leopold describes it “the problem we face is the extension of the social

conscience from people to land.” (Leopold 1966 p 246) How can this come about? The ecological answer is to extend our intelligence, our ability to perceive, towards understanding the depth and breadth of ecological interconnectedness within our global systems (Leopold 1966; Lovelock 1979; Holling 2003). A second answer is proposed through a biocentric approach to ethics (Taylor 1986). Yet a third answer is proposed through spiritual transcendence (Naess 1989; Schweitzer 1987). The limitations of our being do not guarantee that a simple act of will or comprehension will produce individual impetus for the well being of a larger non-human community.

Schweitzer holds that “ethics are a living relationship to living life” and to achieve the ability to live ethically requires an inward/spiritual journey (Schweitzer 1987 pp 304, 315). It is only by the inner will, drawing on the imaginative ability of spirit to embrace a larger metaphysical understanding of both ourselves and our indivisible relationship with the larger community of the universe that we can transcend individual limitations (Naess 1989; Schweitzer 1987).

## **2.5 A failed narrative**

Merchant describes this lack of consensus in deriving an environmental ethic and the subsequent environmental degradation in 21<sup>st</sup> century North America as our failed attempts at re-inventing Eden. North American aboriginal communities experience their world in reverse: “Everything about the hunter-gatherer system is founded on the conviction that home is already Eden, and exile must be avoided.” (Brody 2000 p 113) “The assumption held deep within this point of view is that the place where a people lives is ideal: therefore change is for the worse.” (Brody 2000 p 113) This sets up an interesting apposition for a cultural comparison of Cree and suburban Montreal positive human-environment relationships.

Throughout this labyrinth of conceptions of human-environment relationships, we might do well to begin with Spirn’s description of landscapes “as both literal and figurative constructions of nature” and “appreciate that landscapes are shaped and that shaping expresses values and ideas for which

humans, as individuals and societies must take responsibility.” (Spirn 1996 p 448) What then will be the form of that responsibility, stewardship as directive management or stewardship as collaborative partnership? It is from this question that the following study departs, exploring a comparative analysis of two landscapes where positive human-environment relationships are developing within two landscapes, geographically and politically adjacent, but shaped by contrasting cultures. This study is designed to uncover links of human responsibility to landscape health as they arise within each of the landscape contexts. Are we stewards in the project of sustaining landscape health, applying “some art of management...to land” (Leopold 1966 p 293), or is our activity better described as an act of partnership which Merchant describes as “voluntary collaborations working toward a common objective”? (Merchant 2004 p 233)

The following research project is directed at increasing understanding of the social and institutional contexts of two communities that foster positive human-environment relationships. Wemindji’s quest for additional forms of environmental protection suggests that current shifts in Cree land occupancy throw new light on the importance of the direct experience of life lived on the land. Likewise, the concern about degraded landscapes in suburban communities and the quest for appropriate avenues to ecological restoration indicate a willingness to consider alternative perspectives of human beings’ roles vis-à-vis the environment. In East Cree there is a particular term: *aa-wiichaaautuwiihkw*, “coming together to walk together” (Benessaiah et al 2003 p 8), or as a Cree friend explains it, “coming together to help each other journey together for a while” (unpublished field notes). It is with this spirit that the following comparative study is undertaken.

## Chapter 3 Methodology

### 3.1 Conceptual Framework

This study is a comparative examination of ‘positive human-environment relationships’ occurring in the landscapes of two different cultural communities. In the context of this study positive human-environment relationships are understood to be relationships that acknowledge the tightly integrated networks of relationships connecting human and ecological activity. In this sense positive human-environment relationships include protection, conservation or restoration activities but are not limited to these activities. Throughout this study the terms environment, landscape, or in the Cree context, *Iyiyuuschii*<sup>8</sup>, all indicate outdoor space in which human community activity is taking place. The particular landscapes under consideration in this study are places where human community activity is integral to the respective outdoor spaces.

The question then follows, what does it mean to consider spaces where positive human-environment relationships are occurring? This study undertakes a qualitative assessment of the presence of human community activity that promotes landscapes that build on a collaborative interaction between human and ecological activity. For instance, this might entail human community action that privileges waterside ecosystems over the possibility of human community activity of a commercial income-generating nature. This does not preclude the possibility that activities could possibly be both protective or restorative of ecosystems and commercially attractive.

To explore the relative extent of the positive human-environment relationships exhibited the study begins with an introductory examination of the geographical context of the two communities’ particular landscape projects. This comparison considers how these landscapes are being treated in relation to other landscapes of a similar nature within each of the community’s territorial spaces.

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<sup>8</sup> *Iyiyuuschii* is the Cree homeland, literally ‘the peoples’ land (Benessaiah et al 2003 p 8).

Further evaluation reveals how, for example, ecosystems are being privileged over human centered activity. To place the initial geographical understandings of the two projects within their respective cultural contexts the comparison undertakes an exploration of the particular cultural landscapes through time (Brody 2000; Crang 1998; Harrison 1992; Schama 1995). Tracing major environmental changes through ecological and cultural modifications, this comparison leads into a comparative discussion of the respective environmental ethics arising from each of the cultural cosmologies that are informed by and in turn inform the study landscapes.

The second step in the comparative process addresses the following question: How are positive human-environment relationships being developed through community institutions? This assessment derives from a community perspective determining how the study landscapes are being cared for environmentally, including which community institutions are carrying out governance and instituting policy regarding activity in these places. This study also compares the ways in which positive human-environment relationships are developed through the interaction of community members within the social structures enveloping each of the landscapes.

The overall aim of this study is to uncover community strategies that enhance the development of positive human-environment relationships. To complete the portrait, an exploration of individual human perceptions from within the communities is included. There is little indication in current research of a direct causal link between individual commitment and community level activity promoting environmental health of community landscapes. The purpose here is rather to sample the diversity of individual comprehension underlying the commitment that is evidenced in the community cultural and institutional behaviour resulting in the exhibited positive human-environment relationships, providing further possibilities for the comparative analysis of the two communities.

A comparative study of positive human-environment relationships in two distinct communities can uncover both the shared understandings and

distinguishing characteristics of environmental stewardship (Crang 1998; Haller 2002; Handwerker and Wozniak 1997; Unwin 1992; van de Vijver and Leung 1997). However, the literature on cross-cultural study warns that comparison can fail as an explanatory tool: 1) when comparison communities are too similar and significant differences do not emerge to articulate the discussion, or 2) when comparison communities are too dissimilar and differences overtake the discussion, obliterating any common or shared ground from which to derive meaning from the differences. These two communities are distinct both culturally (i.e. worldview, local land management policies, demographic profiles) and environmentally (i.e. climate, land cover, surface area extent of community, land use pressures). However, at the continental scale, they are also two communities who share some common ground as geographic neighbours, sharing overarching political unity and exhibiting active community participation in land management policy designed to maintain the particular landscapes under study. Since both communities are currently actively promoting the health and maintenance of these particular landscapes, comparisons of the mechanics and human understandings underlying these positive human-environment relationships promotes meaningful discussion.

Both community examples of positive human-environment relationships recognize the implication of human activity in the operation of complex environmental systems. Cree existence is perceived from within the subarctic taiga landscape. Life lived in direct experience with the natural systems of this North American landscape, drawing sustenance from and caring for the land's resources, has produced a rich socially shared knowledge of the network of relationships binding all the elements of the environment together (Feit 2004; Scott 1996). In Cree worldview (though not uniquely), consciousness is not the sole possession of humans; moreover, knowledge is revealed through the relationships built through the processes of daily life (Feit 1992, 2004; Scott 2004). How is this different from suburban Montreal human-environment relationships?

The focus of mainstream scientific inquiry has introduced among other perceptions the “problematic view that there is such a thing as objective knowledge” (Bowers et al 2000). If knowledge is objective, it follows that knowledge possesses discreetly measurable, verifiable qualities. Yet, as environmental studies continually reveal, our world is composed of deeply interwoven systems, comprised of elements functioning simultaneously at multiple temporal and spatial scales. The more science reveals about our environment the less easily quantifiable it appears to be, even within the confines of one point in space at a given point in time. As new interconnections within natural systems are understood, the chain reaction produced by human action within the environment is amplified. At the same time, the more this network of relationships is perceived, the greater is the understanding that there may be many other interconnections as yet unperceived that are continually undergoing transformations (Barabási 2003). How can human understanding keep abreast of these intricately interwoven connections within the landscape in which humans move and interact daily? The magnitude of the problem suggests that there is an urgency to look beyond what we know about the world to how we know it.

If the subtext of this comparative study is examining how we know the world, the proceedings risk further confusion from the introduction of a third cultural perspective, that of the researcher (Crang 1998 p 185). Acknowledging this is at the very least a beginning to sorting it out; understanding how this bias may affect the comparison is the first and last challenge in the development of a sound methodology. As Crang points out, “our knowledge about places is not independent of how we go about getting it.” (Crang 1998 p 109) Heidegger and Relph articulate that levels of care in human relationships to natural environments are related to geographical knowledge that is closer to experience than abstraction (Heidegger and Relph in Crang 1998 p 110). In order to mitigate the obfuscating effects of theoretical discussions of abstract environmental concepts filtered through a single researcher’s cultural perspective, this study will pause intermittently to describe knowledge as object but return faithfully to examine the

life experience simultaneously arising out of and contributing to that knowledge (Crang 1998 p 110).

### 3.2 Research Design

The design of this study employs a “decentered approach” as defined by van de Vijver and Leung. It is an approach “in which a culturally diverse perspective is taken in the conceptualization and design of [the] study.” (van de Vijver and Leung 1997 p 13) With this approach a construct equivalence is necessary for effective comparative analysis; in this case it will be concrete examples of each community’s engagement in positive human-environment relationships that will serve as the point of equivalence or similarity between the two communities (van de Vijver and Leung 1997 p 8). The role of the two cultures in shaping the interpretation of the meaning of positive human-environment relationships within each community context is central to the articulation of an effective comparison. Hence, to support this decentered approach, data collected from cross-cultural documentary material and participant observer as well as semi-formal group interview field research techniques are used (van de Vijver and Leung 1997 p 13).

The community of Wemindji has entered into a research partnership with the academic community headed by Prof. Colin Scott, McGill University.<sup>9</sup> Conceptions of positive human-environment relationships are of great community interest as Wemindji considers the possibility of protecting the watershed of *Paakumshumwaau* and the adjacent marine coast. This area is the project focus of this study depicting Wemindji Cree community engagement in positive human-environmental relationships. Although *Paakumshumwaau* and the adjacent marine coastal area fall within several families’ hunting territories it is a region of historical importance to the entire community (Fig. 2). Prior to the late 1950's the

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<sup>9</sup> *Paakumshumwaau-Wemindji Protected Area Project. Resources: SSHRC CURA Project Description.* 2 May 2006.  
<[http://maps.strata360.com/website/mcgillweb/pdf/CURA\\_description\\_Final2.pdf](http://maps.strata360.com/website/mcgillweb/pdf/CURA_description_Final2.pdf)>.

community of Wemindji resided seasonally on the coastal islands at the estuary of *Paakumshumwaau*. *Paakumshumwaashtikw* (the Old Factory River) was a primary transportation route from interior hunting grounds to James Bay for summer fur trading (Benessaiah et al 2003 p 77). Today, the community gathers in *Paakumshumwaau* each summer to celebrate this connection (Benessaiah et al 2003 p 77). As well, during the spring and fall goose migration, community goose camps are set up along the coast in the marshy estuary (Benessaiah et al 2003 p 32).

The Montreal suburb of Pointe Claire, QC occupies approximately 19 km<sup>2</sup> on the western portion of the Island of Montreal, along the north shore of the St. Lawrence River (Figs. 6 and 7). The river, reaching approximately 10 km across in the vicinity of Pointe Claire is known as Lac St. Louis and is the major geographical feature of the Pointe Claire landscape. The city has made initial steps towards a community goal of designating the entire shoreline as community space that will both contribute to the restoration of the riverine health of the St. Lawrence and promote the human community well being of Pointe-Claire (Licata and Tissot 2005). One publicly accessible landscape representative of positive human-environment relationships in Pointe Claire, QC is Edgewater Park. This site has recently undergone ecological restoration of its riverine environment and continues to invite the interaction of the general public within its landscape (Licata and Tissot 2005). Furthermore, its restorative landscape modifications are representative of St. Lawrence River shoreline concerns within the Greater Montreal region.

### 3.3 Data Sources

The researcher has been a resident of Pointe Claire for the past 10 years. Furthermore, the researcher has been engaged in research and academic writing about environmental issues surrounding the suburb of Pointe Claire and surrounding region of Montreal since 2001. Involved with the *Paakumshumwaau* -Wemindji Project since 2003 and a participant observer on two summer field trips of approximately one month duration each (2003 and 2005), the researcher has contributed to the development of the field note data collected over three

summers of field research (2003, 2004, 2005). Pertinent secondary documentary research was conducted throughout the 2004-2005 academic year.

### **3.4 Description, Comparison, Analysis and Discussion**

The comparison begins with a broad description of the current geographical character of the two study landscapes followed by a comparative examination of pertinent historical environmental changes describing the cultural context of the geography of the sites through time (Crang 1998; Harrison 1992; Schama 1995). This section concludes with a comparative analysis of cultural environmental perspectives arising from each community's geographical context. From here the study moves to the second comparative phase, the examination of the networks of social and political institutions governing the two landscapes followed by a comparison focusing on community level interaction with these institutions as positive human-environment relationships develop. This section concludes with a theoretically informed discussion questioning the appropriateness of the term 'stewardship' as 'partnership' to describe positive human-environment relationships in these two community contexts.

### **3.5 Individual Environmental Engagement**

#### **3.5.1 Theoretical Foundation**

Unwin describes two ways of examining landscape (p 191). The first approach draws human meaning from the form of the landscape and the symbols portrayed in its modifications. The first section of this study describes and compares the two landscapes in a similar way, looking for ecological, historical, demographic and technological evidence of human activity in the landscape. The second approach requires an examination of the "relationship between society and nature" (Unwin 1992 p 191), or in this case, two communities and their respective landscapes. The second section of this study compares social institutions and the human community interactions with them as they shape these two landscapes. The third section completes the meaningful and relational explorations with a comparison of individual perceptions of these environments. The exploration of individual environmental perceptions from within each of the communities is

included to complete the comparison. Though there is little evidence connecting the development of individual human-environment relationships directly to community acts of environmental stewardship (Linneweber et al 2003 p 230; Zavestoski 2003 p 288), increasingly environmental psychology research focuses on understanding individual environmental identities and the ways in which those identities mediate behaviour toward the natural world (Clayton and Opatow 2003 p. 2; Peet in Unwin 1992 p.191; Zavestoski 2003 p 301).

The first three sections of the comparison explore how two distinct cultural perspectives, in particular geographic contexts, framed by their own sets of institutional arrangements work together to care for the landscape. At the same time, those landscapes, cultural perspectives and community institutions also shape individual identity (Unwin 1992 p 191). A comparison of individual anecdotes generated in response to pictures of these landscapes sheds light on individual understandings underlying the community commitment evidenced in the two examples of positive human-environment relationships.

### **3.5.2 Methodological Foundation**

Because “culture is a variable that is beyond experimental control”, cross-cultural studies such as this one fall into the category of quasi-experiments (Cook & Campbell in van de Vijver and Leung 1997 p 3). While human-environment relationships may modify the landscape at community or cultural scales it is equally the actions, understandings, values and attitudes of individual community members that ultimately shape these relationships (Clayton 2003; Dakin 2003; Krech III 1999 p 97). Yet, problems arise in the use of individual commentary “because it has been considered idiosyncratic, individualistic and subjective” (Zube in Dakin 2003). This research concurs with the strengthening theoretical voice of environmental psychology (Clayton 2003; Holmes 2003) and emerging evidence from landscape assessment research (Dakin 2003): to move towards articulation of our understandings of landscape meaning and our relationship to it requires “a holistic account of human-environment interaction” (Dakin 2003). Consequently, the following research is designed to collect individual responses to the study landscapes and analyze them through a comparative process that is

conceived within the framework of qualitative landscape analysis informed by cross-cultural experimental protocol.

### 3.5.3 Group Conversations

Conversational responses regarding personal engagement in human-environment relationships connected to these research sites were collected through voice recorded group conversations precipitated via a shared viewing of a set of ten landscape photographs (Figs. 20-29). Research subjects were recruited at large via personal acquaintances of the researcher from the two communities: Cree Nation of Wemindji, James Bay; and, Pointe Claire, QC. For each conversation session in each of the communities, groups of 2-6 individuals were invited to gather together in conversation with the researcher. Additional members of the Wemindji community were engaged to facilitate oral communication between the researcher and the research subjects. Audio recordings of ensuing conversation were captured from a central microphone. The research participants viewed the same set of 10 landscape photographs in an informal, comfortable setting: five depicting Wemindji territory (*Paakumshumwaau*); and, five depicting Pointe Claire, QC green spaces (Edgewater and Terra Cotta Natural Park). Participants were invited to respond verbally to the pictures and one another's comments in an informal manner in order to develop a conversation around the theme of peoples' personal relationships with natural environments.

### 3.5.4 Confronting Research Bias

Human beings were purposefully absent from the photos in order to avoid biasing possible conversations regarding preferred activities within a particular landscape. On the other hand, most of the photos portray evidence of human activity, whether it is obvious, as in the pier at Edgewater park (Fig. 24) or less so, as in the cutaway area of trees guiding migratory geese flight over the feeding grounds at the estuary of *Paakumshumwaashtikw* (Fig. 20). As well, the photos were chosen so that residents would readily recognize photos of their own community landscapes. Since it was important that the photos stimulate

conversation, the photographs are illustrative of somewhat similar landscapes (e.g. shorelines and forests). It was hoped that the viewers (both resident and non-resident) would sense some level of familiarity with all of the portrayed landscapes, thereby promoting comments related to personal experience rather than constraining or even stifling conversation (van de Vijver and Leung 1997 p 33).

The intent of the research, to capture characteristics of individual perceptions of human-environment relationships, is most heavily dependent on a comfortable conversation developing. Consequently, the researcher acknowledges inherent bias (gender, age, interest in human-environment relationships etc.) in the choosing of subjects in exchange for group assembly that will promote effective conversation (van de Vijver and Leung 1997 p 3). In the Wemindji context this is more acutely evident given cultural constraints such as language, the nature of organizing such interactions in the field, or the cultural nature of conversation (a preference for narrative over expository articulation of ideas) (van de Vijver and Leung 1997 pp 27, 34-42). No attempt will be made to match the sample to demographic characteristics (van de Vijver and Leung 1997 p 30). However, it is intended that what is lost in statistical representation is more than compensated for by the depth, nuance and dimensionality of working closely with a limited number of informants.

To help standardize the production of conversation a loosely constructed question framework and a consistent ordering in the presentation of photographs was followed in all interviews. However, in order to capture the individuality of responses, the preference is that the interviewer answer respondents' questions rather than pose her own. In this way, participants' environmental interests arise quickly (within the first two or three photos) and subsequent conversation can be directed by the interviewer towards exploration of the initial concerns (van de Vijver and Leung 1997 pp 33-34).

### **3.5.5 Theoretical foundations supporting analysis**

Place theory explores the importance of location (physical, natural, built, imagined or symbolic) to the formation of both personal and social identity in

human beings (Holmes p 30; Sack in Holmes p 30). The links between identity, ethics and action however remain suggestive (Clayton 2003 p 60; Zavestoski 2003 p 297). Yet, “[f]or many, a sense of personal relationship to nature or place evokes an ethical commitment to practical action to protect and care for the natural environment” (Holmes 2003 p 31). Zavestoski perceives environmental or “ecological identity as that part of the self that allows individuals to anticipate the reactions of the environment to their behavior” (Zavestoski 2003 p 299). In Zavestoski’s conception, it is the link between our ecological identity and social identities within a particular cultural context that stimulates a sense of responsibility towards our natural environments (Zavestoski 2003 pp 300-301). The importance of direct experience in natural environments in the formation of ecological identity cannot be ignored (Searles in Holmes 2003 p 28; Linneweber et al 2003 p 230). It is from the perception of individuals’ experience in these outdoor environments (*Paakumshumwaau* and Edgewater Park) that this study hopes to complete a comparative exploration of cultural links between environmental attitudes and behaviour.

The inclusion of individual engagement with the environment situates this comparative study “in the more participatory, locally responsive emerging paradigm for environmental resource management” (Dakin 2003) of which urban ecological restoration is a subset. “In the new paradigm, management goals, actions and decisions result from participation and empowerment of local people—those who inhabit places and create meaning in landscapes.” (Dakin 2003) For Dakin an experiential methodology will acknowledge and in fact embrace subjectivity, subjectivity that engenders modes of “sensory experience in addition to vision”. Extending across a broad range of landscape values the methodology should also acknowledge the sometimes ‘taken for granted’ landscapes of daily life as it captures an ‘insider’ perspective, as different from an ‘outsider’ perspective. Finally, the research activity should “encourage a reflective stance for thinking about landscape, for analysis and for the act of assessing.” (Dakin 2003) The proposed methodology of group conversations precipitated by photos of everyday landscapes within the two community groups

is an attempt to capture the intent of Dakin's experiential methodology. While subjectivity, 'insider' perspectives and limited occasion for reflective thinking are preserved, the breadth of landscape values encountered and the opportunity to capture more than visionary experience are more constrained by the limitations of conversations physically removed from the actual landscapes under consideration. However, it is the hope of this researcher, that resulting analysis of the conversations and the layer of comparative perspectives it will add to the overall study will encourage continued research efforts in this direction.

### **3.5.6 Grounded Theory and Framework Analysis**

The conversations of individual engagement in the community environments are analysed via Dakin's method of Framework Analysis drawn on principles of Strauss and Corbin's grounded theory (Strauss in Baszanger 1998; Strauss and Corbin in Gebhard et al 2003 p 94). As conversations are transcribed the process begins by a rough encoding of comments out of which prominent themes are summarized and clustered together. From here the researcher proceeds to an in depth analysis of selected veins of conversation eventually leading to the development of relevant theoretical categories. (Strauss and Corbin in Gebhard et al 2003 p 94). Dakin's adaptation of this methodological approach to landscape assessment requires developing a thematic framework of the categories, topics, and ideas of landscape experience from the conversation data. The analysis of the conversation data proceeds in three initial steps for each community's conversations: 1) what is important to community members in these landscapes; 2) how do these experiences make individuals feel; and 3) why are those things significant to individuals. A second stage of analysis follows comparing the findings of each community to one another. The analysis of these group conversations concludes with a discussion linking individual human-environment relationship understandings as revealed through the group conversations to the preceding cultural geographic comparison.

### 3.6 Drawing conclusions from a comparative study

“[A]ll cross-cultural researchers have to deal with a set of similar problems such as the (in)equality of the meaning of the phenomena that they study across cultural groups” (van de Vijver and Leung 1997 p xii). Layered on top of this is the fact that what we learn about places is not independent of the way we learn about them (Crang 1998 p 109). “This concern for the process of shaping and transmitting knowledge suggests that one way of thinking of cultural geography is as ‘a translation’, a making of connections between different ways of seeing the world.” (Crang 1998 p 185) It is from this perspective that this study considers in what ways the development of two culturally distinct examples of positive human-environment relationships are linked. It is hoped that locating such points of connection will enable transferability of cultural perspectives that promote community engagement in the continued development of positive human-environment relationships.

## Chapter 4 Landscape Comparison

The Cree Nation of Wemindji is a Cree community occupying the territory bounded by latitudes 52°30'N and 53°30'N and longitudes 78°00'W and 79°00'W along the mid-eastern coast of James Bay in the Canadian province of Quebec<sup>10</sup> (Figs. 1 and 2). Some 1200 km to the south<sup>11</sup> is located the suburban community of Pointe-Claire, occupying approximately 19 km<sup>2</sup> along the north shore of the St. Lawrence River on the Island of Montreal within the province of Quebec, Canada (Licata and Tissot 2005). The subarctic taiga surrounds the community of Wemindji while the town site is situated on a small northeast portion of the Wemindji territory. On the other hand, the town site of Pointe Claire stretches over the entire landscape of the suburb. Furthermore, Pointe Claire is surrounded on three sides by the Island of Montreal 498 km<sup>2</sup> of urban and suburban landscape (Figs. 7 and 8).<sup>12</sup>

With a short summer growing season and several months of snow and ice (Dionne 1980), the environmental portrait of a James Bay Lowlands subarctic community is quite different from the suburban community of Pointe-Claire, located in the agriculturally productive St. Lawrence Lowlands (Fig. 1). Despite these climatic differences, both communities do share large bodies of water as major geographical features shaping land use. The disparity in population densities of Wemindji and Pointe Claire is an influential geographic characteristic distinguishing land use in these two communities. Increased human activity that accompanies population density increase is a catalyst for land use and landscape transformation. Although the subarctic taiga of Wemindji territory remains largely unencumbered by human activity it is impacted by such things as

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<sup>10</sup> Wemindji Exploration Company. *Welcome*. 20 Feb. 2006.  
<<http://www.wemex.ca/>>.

<sup>11</sup> Quebec. Cree Nation of Wemindji. *Wemindji Our Roots & History*. 20 Feb. 2006. <<http://www.wemindji-nation.qc.ca/roots.html>>.

<sup>12</sup> Quebec. Institute de la statistique. *Profils des régions et des MRC: Montréal 2005*. 1 Nov. 2005.  
<[http://www.stat.gouv.qc.ca/regions/profils/region\\_06/region\\_06\\_00.htm](http://www.stat.gouv.qc.ca/regions/profils/region_06/region_06_00.htm)>.

hydroelectric development, town site building networks and road development (Benessaiah et al 2003). The human population density of Pointe Claire has affected land use and landscape transformation to a much greater extent. Municipal networks of roads, railways and airways; water and wastewater works; electricity, natural gas, telephone and cable lines interconnect the subterranean, aqueous, terrestrial and aerial components of the entire suburban landscape.

#### 4.1 *Paakumshumwaau*

*Paakumshumwaashtikw* (the Old Factory River) flows approximately 90 km eastward over the subarctic taiga draining waters from Old Factory Lake and smaller tributaries into James Bay (Fig. 3). Its watershed covers an area of approximately 3000 km<sup>2</sup> within Wemindji territory (Benessaiah et al 2003 p 58). The estuary is characterized by long low tidal flats and includes an archipelago of islands (Benessaiah 2003 p 67). Described within the Quebec hydroelectric context as a river of intermediate flow, the river has a low gradient and moderate sinuosity (Benessaiah et al 2003 p 66); as such it is an unexpected target for hydroelectric development (Benessaiah et al 2003 p 75). *Paakumshumwaashtikw* sits in a unique position between the East Main River to the south, impacted by flow diversion northward to the La Grande River, itself impacted by a series of hydroelectric impoundments (Benessaiah et al 2003 p 54) (Fig. 4).

The river is home to a full complement of subarctic aquatic, amphibious, terrestrial and avian species (Benessaiah et al 2003; Berryman et al 2004; Chu et al 2005). River fish populations include brook trout, walleye and pike while beavers are active in most of the tributaries along the river (Berryman et al 2004; Field notes 2004). Migratory waterfowl breed along the banks of *Paakumshumwaashtikw* each summer (Field notes 2003). Moose too ply the waters of the river moving to and from choice browsing grounds (Chu et al 2005; Field notes 2005). Humans travel the river, by canoe in summer, and snow-machine in winter for fishing, trapping and hunting (Benessaiah et al 2003; Field notes 2003). Annual community visits create occasions for community members to experience the subarctic Cree landscape (Berryman et al 2004 p 20; Field notes 2003, 2004, 2005). Travelers follow ancient trails and portages around rushing

rapids and surging chutes, stopping over in long established campsites (Field notes 2003, 2004, 2005).

#### 4.2 Edgewater Park

Edgewater Park is located in Pointe Claire on the north shore of the St. Lawrence River at the confluence of the Ottawa River in the widening of the river known as Lake St. Louis (Fig. 7). It describes a slight point and concave embayment of the river, capturing a section of water of low current and sheltered exposure to the prevalent westerly winds of the area (Licata and Tissot 2005) (Fig. 10). The terrestrial plateau of the park is grass covered punctuated with specimen tree plantings, and paved area for vehicle parking (Licata and Tissot 2005). The riverbank is 275 linear meters long incorporating annual cycles of water level change (Licata and Tissot 2005). Basal remnants of a former reinforced concrete retaining wall remain on the extreme south western stretch of the park's waterfront. Elsewhere, the riverbank is stabilized using blocks of cut stone and plants whose root systems hold soil materials (Licata and Tissot 2005). As noted in Fig. 10 native plant species were used in the reconstruction of this shoreline.

Native aquatic grass and reed plantings are colonizing the riverbed sheltering summer nesting mallards (Tissot 2005). The increasing return of herons to the area attests to the regenerating habitat suitable for fish (personal observation). A cut stone footpath is seamlessly incorporated into the sinuous riverbank re-construction, providing pedestrian access with a minimum of shoreline impact (Tissot 2005). A pier is erected towards the east at the point, jutting out approximately 10 meters over the river surface. The reinforced concrete piers topped with pressure treated lumber are designed to withstand winter ice pressures and afford lakeside access to the suburban human population (Tissot 2005). Delicate footprints in the snow display evidence of nocturnal riverside visitors, such as raccoons and skunks (personal observation). The annual May fly populations (known locally as shad flies), emerging from larval states in the river water in spring provide food for swallows diving over the river's edge (personal observation).

### 4.3 Water and People

Waterways describe the principle geographic features of each of these two landscapes. At the close of the 20<sup>th</sup> century a third of the Wemindji settlement community continued to live a subsistence lifestyle, outside of the town, on the land.<sup>13</sup> This activity includes establishing fishing camps in the summer months, setting up beaver traps in the fall for winter harvesting and the biennial goose hunt during the spring and fall migrations (Benessaiah et al 2003). Hunting, trapping and fishing activity establishes an engagement between Cree human activity, the subarctic animals and their habitat that can best be described as a partnership (Feit 2004). Fishing, trapping beaver and hunting geese all require the hunter to understand the role of water, a principle feature in the habitat of these animals. The Cree hunter is acutely aware of the environmental context in which he hunts, the dynamics of water, its presence or absence as well as its quality, all key factors in the success of the hunt (Preston 2002 p 69).

The east coast of James Bay is an area of isostatic uplift.<sup>14</sup> This dynamic process results in exposure of new shoreline along the tidal flats of the east coast of James Bay at a rate of 0.9 to 1.2 meters every hundred years (Bussi res 2005 p 41). Cree activity along the Bay shores and up the rivers of its drainage basin has necessitated coping with this significant water dynamic that makes itself apparent within a single person's lifetime (Bussi res 2005 p 42). Shoreline changes and subsequent vegetation community fluctuations due to isostatic uplift are not easily predictable as they are not expressed with spatial or temporal uniformity on a year-to-year basis (Dionne 1980). But settlement locations as well as hunting camps have had to change place following this dynamic.

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<sup>13</sup> As opportunity for hourly wage employment in the community settlement increases, this percentage is currently in decline (Benessaiah et al).

<sup>14</sup> Isostatic uplift is a geomorphological term for the process of land uplift that occurs after the recession of glaciers. The glacial ice fields exert extreme downward pressure on the land masses which they cover, compressing them in a downward direction. Subsequent to the retreat of ice fields, the land rebounds to a less compressed state, lifting up out of the water. (Dionne 1980)

From pre-colonial times, the St. Lawrence River has played a similarly central role in attracting human activity to the area now known as Pointe Claire. Having long ago relinquished its role in hunting, trapping and fishing, the St. Lawrence River remains a central artery for transportation<sup>15</sup> and recreation, shaping human activity in Pointe Claire<sup>16</sup>. Earlier in the 20<sup>th</sup> century, as Montreal grew, the exodus of city workers taking refuge along the shores of Lake St. Louis established residential communities (Matthews, B. 1985). When the St. Lawrence Seaway opened in 1959, rail transport activity emanating from Montreal was severely curtailed as ships bypassed the City for destinations up river (Kresl and Proulx 2000). Subsequent reduction in economic activity in the 1970's resulted in the departure of financial institution head offices from Montreal (Kresl and Proulx 2000). Dropping pressure for real estate in the West Island followed a subsequent exodus of workers chasing the job market up river (Ley and Tutchener 1999 p 12). As a consequence the communities emerging from a buyers market have maintained a relatively low building density in the prime sites along the lakeshore (Fig. 12). In Pointe Claire the reality of suppressed land prices has also meant a greater opportunity for the City to successfully follow its strategy to repatriate the lakeshore by exercising its 'rights of first refusal' policy on lake frontage coming onto the market (Fig. 13). Consequently, two-thirds of the 7 km of lakeshore property available is publicly owned (Licata and Tissot 2005). This gives the shoreline in Pointe Claire a contiguous visual appearance along several stretches of the shore of Lake St. Louis exposing two environmental realities: 1) a visual understanding of the community situation as an embankment of the St. Lawrence River; and, 2) a frank vision of the diminished ecological quality of the river's edge.

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<sup>15</sup> Quebec. St. Lawrence Vision 2000. *Welcome to the St. Lawrence Vision 2000 Web site*. 25 Nov. 05. <<http://www.slv2000.qc.ca/>>.

<sup>16</sup> Ville de Pointe Claire. 14 Feb. 2006. <<http://www.ville.pointe-claire.qc.ca/En/Intro/Intro.asp>>.

As human population density increases within a given environmental space the intensity of human activity on that environment also increases. In Wemindji the density of humans per km<sup>2</sup> of land surface area is much lower than the human population density of Pointe Claire (Figs. 1 and 8). From this we could infer that the impact from human activity in Wemindji territory will be significantly less than that experienced in Pointe Claire. While this may be true, it does not really help draw meaning from a comparison of the two communities' experiences. It is rather, the dispersal of human population throughout the landscape that might point towards a meaningful comparison with Pointe Claire.

Today as wage employment obligations require residency in the town of Wemindji, time on the land is often restricted to extended weekend trips (Field notes 2005). This new type of land occupancy has of course exerted negative impacts on the town environment necessitating the adoption of many technological solutions present in southern Canadian communities, including water delivery and wastewater treatment systems, an incinerator for refuse disposal, paved roadways and lawns to reduce atmospheric dust, continuous updating of heating and housing equipment, an electricity network and increased use of internal combustion engine power for transportation (cars, all terrain vehicles, boats, snow machines, etc.) (Field notes 2003, 2004, and 2005). These adaptations exert their own pressures on natural environmental systems, often compromising ecosystems' ability to recover or adapt at the same rate as the imposition of change is made.

In Pointe-Claire, waves of population density increases in the past century have sculpted their own marks on the suburban environmental landscape, e.g. suburban lot designation and buildings, underground pipe networks, surface road and rail lines, as well as overhead airways. Arguably the most notable of landscape modifications has occurred along the St. Lawrence riverbank. Crumbling blocks of reinforced concrete punctuated by chain-link encased construction rubble line most of the Pointe-Claire riverfront (Fig. 14). Their prominent positions, securely buttressed, jutting out into the running water, speak volumes of the aesthetic and recreational value Pointe Claire community members

place on visual and physical proximity to the waters of Lake St. Louis. The water filtration plant, located meters to the west of Edgewater Park stands sentinel over many gallons of drinking water pumped from the river each day.

How can we begin to compare two such radically different community projects? The first step will be to explore historical environmental dynamics as they have shaped and continue to shape both landscapes.

#### 4.4 Landscape shaping culture shaping landscape

From the initial description of the research sites it is evident that the cultural activity of humans within the two study landscapes shaped those places in particular ways. Human activity along the shoreline of Lake St. Louis has transformed the riverbank to adapt to transportation and recreational access while providing security from natural processes, pollution and other immanent dangers associated with a large body of water. Likewise *Paakumshumwaau* has been modified over past centuries as community activity adapted to geomorphological and ecological cycles of change: "Histories are part of both hunting and the processes of landscape making" (Feit 2004 p 95).

Western notions of the relationship between culture and landscape modification move through a broad spectrum from the ecological to the cultural. Lovelock's proposal of the life project Gaia embeds human cultural activity deep within the functions of the biosphere. From this perspective human landscape modification is ultimately (and not necessarily knowingly) limited by the capacity of planetary systems to embrace such changes. At the other end of the spectrum myth, memory and cultural practices indelibly mark our landscapes drawing on the human memory to construct meaning in the landscape (Harrison 1992; Schama 1995). The failure of such cultural constructions to maintain healthy human environment relationships in the Western mainstream context (Merchant 2004) gives rise to this study.

##### 4.4.1 Reading the landscape

Hunting, trapping, fishing and gathering foods in the subarctic landscape produces a fluid pattern of human land occupancy. Kin-based mobile groups of

*Iiyuuuch*<sup>17</sup> move seasonally throughout the land known to them as *Iiyuuschii*<sup>18</sup> (Scott 1998). Before motorized travel, inland winter camps were abandoned when rivers began to flow carrying people to the seacoast where seal, waterfowl, fish and summer berries could be found (Field notes 2003, 2004, 2005; unpublished narratives). With the beginning of European contact in the late 1600's in *Paakumshumwaau* early summer trips concluded in the sale of winter furs and the purchase of valued European market goods (e.g. shot, flour, sugar, tea, cloth) (Denton 2001). In this way *Paakumshumwaashtikw* became a local travel route or highway, to and from European posts at the coast (Benessaiah et al 2003 p 77). Traditional camps sites, portage trails, and stone fishing weirs are stamped onto the watershed landscape speaking of *Iiyuuuch* travel over hundreds of years (Berryman et al 2004 pp104-5). At the coast are the most recent remains of the Hudson's Bay Trading Post settlement area abandoned in 1958 when the town of Wemindji was established at the Maquatua River site.

Burial grounds, camp sites, white washed fences, crumbling frame houses and brick chimneys are in the process of being reclaimed by the boreal vegetation (Fig. 5). These are obvious landscape modifications; however, *Iiyuuuch* mark their landscape in other ways that may be less obvious to the untrained human eye, but are quite evident to other members of the subarctic landscape. An example of this can be seen along the horizon in *Paakumshumwaau* where the line described by the spruce trees further down the coast is cut away in a dipping manner (Fig. 20). These channels were created by Cree people to be respectful to migrating geese by providing a visual corridor leading the geese to their preferred feeding grounds (Field notes 2005).

Looking west from Edgewater Park to the point of land from which Pointe Claire derives its name, the silhouette of St. Joachim church cuts a striking shape

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<sup>17</sup> *Iiyuuuch* is an Eastern Cree word meaning 'living beings' (Denton 2001 p 57). I am using it, as do Eastern Cree communities, to refer to the Cree people of Northern Quebec. The singular, *Iiyuu* refers to one Cree person, male or female.

<sup>18</sup> *Iiyuuschii* 'the people's land' (Denton 2001 p 57)

against the horizon. An architectural feature of the 19<sup>th</sup> century it sits on the foundation of several previous Christian buildings lost to fires over the 400 year history of Roman Catholic presence on this point of land (Matthews, B. 1985). A trip around the point by water reveals another artifact of human occupancy, the Pointe Claire windmill telling of agricultural activities of another era, impossible now to imagine, encompassing the present day built landscape of the suburb. Clearly, the life project shifts of the cultural communities living in Pointe Claire over the past 400 hundred years reveal the wide variety of human-environment relationships that have reshaped and taken their toll on the riverbank landscape.

A walk overland from the windmill back to Edgewater Park leads across another major landscape modification, the Alexandre Bourgeault Park. Originally this area was an embayment of Lake St. Louis stretching back to the point at Edgewater Park (Fig. 9). In the mid 1800's, quarrying activity in Pointe Claire for the piers of the Victoria railway bridge in downtown Montreal required a loading dock for steam ships carrying stone from Pointe Claire to the bridge sight down river (Milne 1965). A boulder filled dock and rail spur were constructed out into the Lake along the east side of the present Alexandre Bourgeault Park (Milne 1965). Too massive to be deconstructed by men or river current action, the pier remained as a local fishing, bathing and boating access point. In fact, it officially became land later in the century when the current yacht club building was constructed there (Milne 1965). As the 20<sup>th</sup> century ran its course, industrial activities throughout the St. Lawrence watershed intensified. Pointe Claire, originally a place of escape from Montreal city pollution in the 19<sup>th</sup> century became a choice place of permanent residence adding its own human impact diminishing the quality of river water and embankments (Matthews, B. 1985). No longer a safe place for public bathing the bay was filled in by the City of Pointe Claire to create Alexandre Bourgeault Park, maintaining a public link with Lake St. Louis (Licata and Tissot 2005).

#### **4.5 Human Environment-Relationships: Competitive or Collaborative**

Despite the multi-faceted cultural reality of a suburb like Pointe Claire, the understanding that describes most of the evident landscape modifications is a

relationship of utilitarianism between human community needs and the 'natural resources' available from the river environment. These 'natural resources' take the form of ecosystem services provided by running fresh water for human consumption and disposal, transportation and recreation needs. The first occupancy of this landscape by European communities occurred because of the proximity to travel routes via the river. The land along the river was gradually cleared in order to produce food and shelter for growing human communities. (Matthews, B. 1985)

As alternate land transportation became established on the Island of Montreal, secondary residences began to displace riverside farms. While a recreational relationship with the environment might also fit the wilderness notion of environment, enhancing modifications made to the riverside landscape reveal an instrumental attitude toward the river environment. In the 19<sup>th</sup> century barges carrying sand from the Oka beaches on the north shores of Lake of Two Mountains, the confluence of the Ottawa River and Rivière des Prairies, were moved through the narrows at Ste. Anne de Bellevue and dumped onto the riverbank areas destined to become beaches. Because the northern shoreline of Lake St. Louis is not a natural depository of sandy sediment, this sand would wash away each year requiring annual replacement. (Milne 1965)

In this competitive model of human environment relationship, both parties are losers. As the intensity of human activity both upstream and along the shores of Lake St. Louis increased, so did water quality decrease. By the 1960's it was evident that recreational activity in the water was no longer possible. Technology provided answers for filtering and cleaning the water for human consumption however. And over the years, technology has also provided answers to the polluting effects of human effluent. The standoff represented by the buttressing of shoreline with backfill, over time has provided an acute reminder to residents: "look but don't touch". Unable to stem the tide of Merchant's unholy trio, science, technology and capitalism, the community is struggling once more in a competitive relationship to 'balance' ecological health and human activity.

Cree human-environment relationships present a cooperative model. Speaking of hunter-gatherer societies, Brody remarks that “knowledge and food are stored by sharing” (Brody 2000 p 185). Sharing in the hunt, the food and the continual maintenance of the landscape describes the Cree project of life, both with each other and with the landscape community. Knowledge of Cree life experiences is further shared through narrative and the Cree language itself. The structure of Cree language reflects the interconnected relational quality of the *Iyiyuuschii* life experience. One distinctive quality of Algonkian languages (of which Eastern Cree is one) is its polysynthetic characteristic; producing words comprised of clusterings of concepts reveals and cements particular relationships in conceptual unity (Preston 2002 p 75). In this way the land is referred to through terms that describe either the character of a particular environment or what is going on there. In fact, there is no word that discreetly isolates the notion of landscape or environment. The closest single term, *aschii*, covers several concepts of environment: the close ground underfoot, that is, one’s own hunting territory; one’s country (in the sense of land rather than political nation); the earth itself; and it can stretch even further to embrace the notion of the whole world or universe in which humans find themselves<sup>19</sup>. It is through the linguistic clustering process that *aschii* and *Iyiyuuch* are conjoined to construct the term *Iyiyuuschii* and imbue it with a rich co-operational meaning.

A second Cree term of particular interest to the development of collaborative human-environment relationships is *miyupimaatisiun*. This word, most often associated with health issues means ‘being alive well’ (Adelson 2000 p 61). It is derived from *miyu*, meaning ‘well’ and the verb *pimaatisiun* captured here as ‘being alive’ but elsewhere noted to carry also the sense of a “continuous birthing of the world” (Scott 2006). The connection of personal well being to both the landscape and its health reveals the reticulate nature of Cree-environment relationships. In this case, healthful living is experienced only through

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<sup>19</sup> Carleton University. Eastcree.org. *Eastern James Bay Cree Dictionary on the Web, aschii*. 1 May 2006. < <http://www.carleton.ca/ecree/lex/index.php>>.

cooperative efforts to maintain appropriate relationships with the subarctic environment.

From the perspective of land as a community of beings Cree understand their relationship to the land to be a reciprocal one involving one principle quality, respect (Feit 2004). The relationship of humans to the larger land community is governed by reciprocity based on a cooperative respectful understanding that all beings sharing life in the landscape together possess agency (Berkes 1999; Feit 2004; Scott 1988). Although humans have to eat some of those beings, those beings understand that it is fitting and proper for humans to eat them. The health of the various landscape populations is governed by the respectful interchange of the gift of life: humans are only capable of taking what is offered to them when a relationship of respect exists between humans and the animals. (Berkes 1999 p 80)

In the Cree context the word for hunting, *nitao*, reveals many of the qualities necessary to maintain this perspective of collaboration. *Nitao* is usually translated as "hunting, fishing and trapping in the bush" (Feit 1986 p 173), however it carries other meanings such as 'looking for', or 'seeking' an animal, implying an uncertainty in finding it that evokes humility. Other times, rather than indicating that an animal has been 'caught' *nitao* can be used to convey the gratitude inherent in having received the animal. It can also be used to mean that a hunter is continuing to grow in understanding, knowledge or ability (Feit 1986). This usage is especially telling of the dynamic nature of Cree collaborative human-environment relationships.

Relationship building occurs throughout the human experience in *Iyiyuuschii*. A contemporary example of this is the biennial community goose camps. From an ecological point of view, Cree goose hunting practices do not threaten waterfowl sustainability (Benessaiah et al 2003 p 76). Moreover, a deeper experience of land community is expressed as family camps are established in coastal estuaries such as *Paakumshumwaaau*. Everyone has a role to play to ensure that the geese will understand that their ways have been respected: for example, trampling of the feeding grounds to stimulate the growth of new

shoots, preparation of the dwellings (*miichiwaahp*) and cooking fires, patient clean kill hunting practices, use of as much of the goose as possible, apportioning of the meat according to custom (certain parts of the goose are understood to be more appropriate for men or women) or ceremonial burning of bones (Benessaiah et al 2003 p 32; Field notes 2005). The geese in turn will acknowledge their reciprocal respect by giving up their lives to be food for the people.

Such a conception of environment as home interconnects social community and the world of nourishment, both physical and metaphysical, in a collaborative life project where dreams and so-called 'objective reality' are in conversation with one another in the daily processes of relationship building. This conception is built on the idea that *Iyiyuuschii* is home, here and now. Cree life projects involve getting to know the world while the 'the land gets to know a person' (Berkes, unpublished field notes quoted in Davidson-Hunt and Berkes 2003a). As Merchant observes, this is antithetical to the western paradigm, caught in the misunderstood struggle to recover Eden, the original home of human beings. The mainstream western life project requires modification and manipulation of the Earth in connection with preconceived, or ill-conceived, human conceptions of home. While humans may learn from ecological processes, this knowledge is instrumental and produces conceptions of ecological services at the disposal of human enterprise. Such a perspective understands human needs and planetary functions to be at odds with one another. Further, it proposes that through scientific learning, and technical application, human beings will achieve an appropriate balance between their needs and productive functioning of the planet.

It is Merchant's contention that this competitive perspective, fed by the economic machine of capitalism is at the root of our broken human-environment relationships that continue to harm the Earth's ecosystems at unprecedented rates. Earlier in the 20<sup>th</sup> century Leopold recognized that to adopt a land community perspective required moving from a competitive to a cooperative stance (Leopold 1966 pp 238-239): "We abuse land because we regard it as a commodity belonging to us." (Leopold 1966 p xviii). From a mainstream western perspective

a “‘piece of land’ is presumed to be a culture-neutral concept” (Drummond 2001 p 48); this contrasts starkly with the Cree perspective of an animate landscape described as a community of living beings (Feit 2004). As a result, the definitions of the environment (to which human beings are in relation) arising within these two distinct community contexts are themselves distinct.

Suburban environments are specifically bounded areas of land, or land-water interfaces, the human relation to which is apportioned through a process of property ownership. Cree environments are deemed such by virtue of Cree understandings of occupancy, the spatial extent of which is understood through the fluid movement of Cree and other *Iyiyuuschii* community members. The collaborative nature of Cree-environment relationships inheres in this property-less conception, while the competitive nature of mainstream western human-environment relationships is given a playing field through the designation of environment as property.

#### 4.6 Notions of property: organizing human activity within the landscape

Property is defined as something that is ‘owned’.<sup>20</sup> But as attention to environmental development and remediation projects increases, and especially as transboundary cases reveal, it is difficult to legislate exactly what is meant by ownership of ‘land’. There is air above ‘land’ that contains precipitates and gases that directly affect the ‘land’. There are entities below the surface of the ‘land’ that may be construed to have value, and not necessarily belong to the ‘landowner’. Or, what about transitory entities, like water, migratory wildlife? Moving away from a pejorative sense of ownership as absolute control leads to a notion that human beings may own parts of a landscape; bundles of rights along with attendant responsibilities become attached to occupancy of or access to that

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<sup>20</sup> Oxford University. Oxford English Dictionary. *Property*, n. 30 Jan. 2006. <[http://dictionary.oed.com/cgi/entry/50190147?query\\_type=word&queryword=property&first=1&max\\_to\\_show=10&sort\\_type=alpha&result\\_place=1&search\\_id=tRx9-oswykJ-11242&hilite=50190147](http://dictionary.oed.com/cgi/entry/50190147?query_type=word&queryword=property&first=1&max_to_show=10&sort_type=alpha&result_place=1&search_id=tRx9-oswykJ-11242&hilite=50190147)>.

'land'. From this perspective ownership attempts to describe a relationship between people and landscape.

Schlager and Ostrom outline a scale of property-rights describing activities within a landscape that range from authorized user through to owner (Table 1). In the case of Pointe Claire's Edgewater Park, the City of Pointe-Claire is the owner. As such, it is the right of the City to dispose of the property as it sees fit, determine who may have access to it, manage it and describe what may be accessed, when, how and what (if anything) may be withdrawn from the park. The individual community members become the authorized users. Problems arise however, if we try to fit this model to *Paakumshumwaaau*. "In Cree there is no substantive category either equivalent or similar to 'property', and no verb 'to own'." (Scott 1988 p 37) Crees' relationships with the landscape are derived from their place as members within the landscape community. The sense of proprietorship in relation to the landscape is connected to one's reciprocal responsibilities incurred in the development of human-land relationships. In fact, property can only arise in the active development of the social-ecological relationship (Scott 1988 p 35).

The establishment of traplines in the James Bay and Northern Quebec Agreement (JBNQA) is an attempt to reflect this conception.<sup>21</sup> The Act provides for the role of *uuchimaau*, hunting leader or owner of each territory whose role is inherited, usually by a closely related family member (Scott 1988 p 39); this process is confirmed by the local Band Council (Field notes 2005). It is the right of the *uuchimaau* to ensure that subsistence activity within his allotted territory remains viable. Despite the division of landscape into traplines defining specific spatial extent, some fluidity of dynamic landscape occupation remains. Access to a trapline is extended through a kin network and may include "as few as two or as many as a dozen households" (Scott 1988 p 39). Participation in activities across

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<sup>21</sup> Grand Council of the Crees. *James Bay and Northern Quebec Agreement: Section 8. Schedule 4. 2.0 Reorganization of the Traplines*. 1 Nov. 05. <<http://www.gcc.ca/pdf/LEG0000000006.pdf>>.

traplines can also vary as seasonal hunting, trapping or fishing efforts may dictate (Scott 1988 p 39).

Referring to Schlager and Ostrom's chart, (Table 1) could customary land tenure arrangements in *Paakumshumwaaau* be described this way? The *uuchimaaau* would be the owner possessing the following rights: to reallocate ownership of the trapline; designate access; manage the landscape; and finally, determine the distribution of the ultimate harvest. In this quick translation from customary land tenure to a property management framework, relationships have become one-sided and the Cree sense of the human-land relationship, *Iyiyuuschii*, has been lost. Retrieving the sense of relationship, an essential ingredient of Cree land occupancy, requires the reciprocal responsibilities of each right to be acknowledged: the right to hand over the trapline to a capable legatee; the wisdom to provide access to the landscape in the most equitable way to the people of the community to whom it is connected; the right to use his knowledge to manage the landscape in accordance with his ecological understanding; and finally the right to judiciously allocate the resources within his trapline.

#### 4.7 Human responsibility in relation to environmental health

As Scott points out, it is essential that a prospective *uuchimaaau* be "ready in terms of knowledge and developed relationships, to assume the role." (Scott 1988 p 39) The Cree verb that describes the actions of an *uuchimaaau* in relation to his territory is *tapaiitam*. Scott offers several glosses for this word, "he decides', 'controls' or 'is in charge of it'" (Scott 1988 p 39). The literal translation is "he matches it to his thinking" (Scott 1988 p 39). Because we do not find whole scale modification of the subarctic taiga, we could say that it is not his mind that will impose unconstrained change upon the land. But neither is it the land that will totally impose its structure upon him. It is rather that the land and he will get to know one another in a dynamic learning process that will lead toward matching the land to his thinking.

It is this learning process, building a relationship predicated on respect that creates *Iyiyuuschii*. There is no parallel for this process in the cultural plurality of a suburb such as Pointe Claire. North America has struggled to separate cultural

prejudice from civic institutions, striving for moral neutrality in an effort to find projects to which people of diverse perspectives can adhere (Levy and Wissenberg 2004). As a result, the attendant responsibilities to which Schlager and Ostrom refer must be written into policy and regulation in order to describe the parameters of the rights to which a property owner is entitled.

Referring once again to Schlager and Ostrom's table (Table 1), as the owner of Edgewater Park, the City of Pointe Claire has the right to sell or lease the property. However, the City also has a responsibility to not sell or lease this particular piece of land pursuant to its own waterfront development policy: the city will not proceed with resale of any waterfront property (Licata and Tissot 2005). The second type of rights, rights to exclude specific users, is equally constrained as the objective of City owned green space is to provide the citizens at large, 'the public', general access.<sup>22</sup> The third and fourth bundle of rights are concerned with management of the site and determination and/or limitation of resource withdrawal. As owner of the property, the City of Pointe Claire has a clear mandate to determine the parameters of use within Edgewater Park. National and provincial environmental policy and regulation attends any actions Pointe Claire might consider constraining development of the property pursuant to the City's perceived environmental responsibilities.

In Schlager and Ostrom's model the role of authorized user is entitled to only one bundle of rights that includes access and/or withdrawal. From an environmental standpoint this is the point where impact will make or break the landscape. All the regulations in the world will not help if the authorized users' rights are not exercised with responsibility. Recalling Hardin's perspective in "The Tragedy of the Commons" it would seem that humans' overwhelming sense of self-preservation will inevitably lead to exhaustion of resources and degradation of a commonly used landscape. This reasoning has led to much

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<sup>22</sup> Article 1.3 Section d) of the Pointe-Claire Planning Programme (1989) states: the City will "pursue the policy of acquiring and improving the shores of Lake St. Louis to facilitate access by citizens of Pointe-Claire to the lake".

debate regarding the preferable institution of private property, where environmental degradation is felt by the owner who is also the authorized user perpetrating the impact (Schlager and Ostrom 1992). Yet, as this study also confirms, research and example continue to refute Hardin's tragedy scenario in common property regimes (Schlager and Ostrom 1992).

In *Paakumshumwaa* it is tempting to dismiss the notion of Cree stewardship in favour of a view of the low human population density across the subarctic taiga as a major factor in reducing environmental impact from human activity. However, the literature describing the strength of environmentally sound Cree resource management affirms the presence of deeply embedded cultural practice that constrains detrimental impact of human activity (Berkes 1999; Feit 2004; Davidson-Hunt and Berkes 2003a; Scott 1996). Niezen quotes a Cree trapper:

"Another elder recalls the advice that was given to him when he accepted stewardship of a territory: 'It is up to you to protect, preserve, make rules where necessary and enforce good hunting practices. You will look after it as I have shown you in the past. You will also look after your people and share what you have on the land if they are willing to practice their way of life.'"<sup>23</sup>

This description of *uuchimaau* rights and responsibilities embraces the complementary sense of managerial rights constrained by the responsibility to not only care for, but also share with. It also explains clearly the foundation of reciprocity contained in the relationship between *uuchimaau* and the community with whom he will share his territory. It is the obligation of the authorized user to engage in the building of respectful relationships within the hunting territory.

In the Edgewater Park setting, the authorized user has an array of instruments working on his behalf to ensure the outcome of responsible use. A regulatory regime establishes the parameters of use -- the do's and don'ts. For instance, shoreline recreational bathing is prohibited in the City of Pointe Claire (Matthews, B. 1985) or, parks are closed overnight (although they do not have

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<sup>23</sup> 1989. *Cree Trappers Speak*. Chisasibi. James Bay Cree Cultural Education Centre. Quoted in Niezen 1998 p. 17.

barriers to access)<sup>24</sup>. Security forces help ensure conforming to the regulation (Neighbourhood Public Security Officers as well as a Police force).<sup>25</sup> Complementing these two approaches is the encouragement for responsible use that is engendered by the actual set up of the park site. This could be as straightforward as posting use regulations and ecological interpretation panels, or as simple as placing refuse bins in strategic locations. Edgewater Park employs an interesting strategy that embeds desired responsible use strategies in the ecological design of the shoreline restoration. As the restored shoreline location was reinforced from beneath to meet the demands of circulating water and ice and constructed in a multi-level way so as to contend with seasonal fluctuations in water level, a design at ground level was employed that connects the different altitudes of the riverbank reconstruction in a seamless entwined network resembling footpaths (Fig. 10). The vegetation is planted between the serpentine lines of the stones, hiding the pathways from view until one is in the immediate vicinity. The native shoreline vegetation has a low growth habit permitting walking humans to view the near shore and water while providing sufficient cover for nesting waterfowl.

This approach invites the authorized users to enter the landscape and participate responsibly, albeit in a somewhat limited way. The presence of measures to enforce or encourage responsible use does not mean that a sense of environmental responsibility is absent in suburban communities. After all, it would be obvious to a Pointe Claire resident that hidden duck eggs are not to be plundered for a tasty snack. But the reality of suburban life is that the diversity of understanding and recognition of ecological life under and over foot is broad. Woven through this diversity of environmental understanding is a consequent

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<sup>24</sup> City of Pointe Claire. Citizen Services. Public Safety. *Municipal by-laws application, BL 1613, Article 3 – Concerning parks and public places*. 22 Feb. 2006.

<<http://pointecaire.ville.montreal.qc.ca/En/services/PubSafe/Application/BL1613.asp>>.

<sup>25</sup> *Ibid.*

diversity of perception of one's responsibility towards reducing human impact in one's public environments.

A collaborative sense of environmental responsibility arises in *Paakumshumwaa* from within life projects such as hunting, fishing and trapping on the land. Give and take, learning and adapting, thinking and matching it to a landscape, are all dynamic cooperative processes that produce *Iyiyuuschi*. In Pointe Claire, a less collaborative community response to responsibility is found in the structural support of governing frameworks. Responsibility is something that is counterposed with rights in order to guide community activity in a way that achieves a preconceived balance between human activity and productive ecological systems reflecting community values. Although the outcome, positive human-environment relationships, is born of compromise, the struggle to find the appropriate balance between right and responsibility is more often adversarial than cooperative. While the multitude of frameworks and their overlapping natures reveal that the process is dynamic, adaptation within the context of an environmental restoration project is the result of a constant battle between fact and value.

#### 4.7.1 Fact and Value

Cree environmental understanding concedes that human beings need to survive, as do all the other environmental entities. The procuring of food from living communities, with agency of their own requires that their needs be attended to, learned, and above all respected. Sacrificing one's own needs for the group (in the act of sharing food, for example) or the ecosystem (in restraining harvest) is not negotiable. No fact exists separately from its value; it is only a fact because it has value. In Pointe Claire there is general community understanding that certain environmental conditions are needed to survive, a primary one being access to clean water. This is considered a fact. Other facts are also readily stipulated: an ecosystem such as the St. Lawrence River has its own need to remain healthy, for instance. The importance to humans of helping the river remain healthy, in this case, would be the value it provides the human community in its provision of clean water. Problems arise however; as our knowledge of ecological facts

grows, it soon outweighs our willingness (if not ability) to accommodate these facts with a reciprocal value.

From the Cree perspective a cooperative attitude is inevitable. From within *Iyiyuuschii* where fact and value are indistinguishable the building of many relationships requires learning what to value and why, that is the life project. There is no neutral ground because the interaction is occurring within the system; one's presence within the landscape simultaneously changes one as the landscape itself is changed. On the other hand, in the Pointe Claire suburban context, the competition between fact and value arises from an outside perspective looking in on the system or network of relationships. Compromise occurs here when value priorities can be aligned with agreed upon facts. From this competitive viewpoint, trying to establish a neutral ground from which to draw normative environmental responsibilities continues to prove elusive (Levy and Wissenberg 2004).

#### 4.7.2 Ecosystemic approaches

Solutions to ecological restoration projects arise in the midst of institutional arrangements derived from diverse conceptions of healthy human-ecological interactions. Wemindji's challenge to find a successful way to match institutional arrangements to the cooperative Cree project of *Iyiyuuschii* might well enhance future suburban prospects for the development of a cooperative perspective of human activity within the landscape.

Cree activity in the subarctic environment, including landscape modification, is deeply interconnected with the healthy functioning of natural systems. Such a positive integration of natural processes and human activity within landscapes is the principle aim of the environmental projects under examination in this study. Endeavours like these require an ecosystem perspective: a shared understanding of the complexity of interconnections between cultural and natural systems (Luka and Lister 2000). The need to be explicit is especially evident in a culturally diverse community such as Pointe-Claire, whereas, in Cree communities, ecosystem knowledge may be implicit. However, evaluating specific instruments of land management coming from a

removed context (e.g. provincial land protection mechanisms) necessitates making explicit community understandings of human-land relationships.

Articulating the multiple environmental perspectives of a community is no small challenge. Once articulated, determining the desired balance between competing interests brings cultural bias into clear focus. Watercourses such as the St. Lawrence River or *Paakumshumwaaushtikw*, present particularly difficult scenarios: how are priorities established between such diverse utilities as navigational servitude, human consumption, waterfowl habitat and human aesthetics? (Sproule-Jones 2005) As both communities ask themselves what constitutes an environmentally viable river, they must each establish the elements that comprise the sustainable vitality of the river within their community landscape. Establishing the balance of elements contained in each portrait of a healthy river requires a further articulation of environmental values.

Principle 3 of the United Nations "Rio Declaration on Environment and Development" affirmed the right for nations to pursue development. But this right is contingent upon meeting the criterion of sustainability: "The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations."<sup>26</sup> This maxim, to maintain a healthy landscape that can support both current and future generations, has met with much criticism for its ability to be construed in myriad ways depending on the landscape features and species generations being taken under consideration (Levy and Wissenburg 2004). At its most basic interpretation, all can perhaps agree that a sustainable planetary environment will make a better life for all (humans and other species) (Levy and Wissenburg 2004). But at the same time, sustaining the planetary environment imposes benefits and burdens on

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<sup>26</sup> United Nations. 1992. *Report of the United Nations Conference on Environment and Development: Annex I - Rio Declaration on Environment and Development*. 22 Nov. 05.  
<<http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm>>.

different communities. The distribution of these benefits and burdens describes the arena in which disagreement arises (Levy and Wissenburg 2004).

In the environmental decision-making process, identifying alternatives is a common approach to sifting through different patterns of distribution of the benefits and burdens associated with each alternative (Merrick and Garcia 2004). This strategy masks acknowledging the underlying values that are driving the desired outcomes for the landscape (Keeney in Merrick and Garcia 2004). Solutions come easier to hand for instance, in matters of perceived threat to human health since human health is a commonly held social value (Layzer 2002). Once on the table, the challenge then becomes how to integrate values into the environmental decision-making process (McKinney and Harmon 2002).

Levy and Wissenburg propose thinking of conceptions of sustainability as falling along a scale of values created by complete naturalness at one extreme and complete development (that is, total dedication of the landscape for human utilitarian purposes) at the other. "The difference between every two conceptions of sustainability, then, is the degree of naturalness they stand for in relation to the level and kinds of growth they allow for" (Levy and Wissenburg 2004). This comparative strategy relies on the assumption that there is an objective 'critical point' necessary for continued ecological health (i.e. production and reproduction within the environment) (Levy and Wissenburg 2004). While we might be able to imagine that such a point exists, it is less apparent in the complexity of the real world environment exactly where that point may appear.

The work of C.S. Holling, and in particular the development of social-ecological systems concepts, offers an alternative way of looking at this 'critical point' (Walker et al 2004). Key principles of ecologically sound systems are resilience, adaptability and transformability. Resilience describes the robustness of a system that allows it to keep going, through its normal cycle of change. Adaptation refers to the ability of a system to adapt to perturbations, natural or human-induced. If a system can adapt to particular changes then it may continue to be resilient. When a system is challenged by change that it can no longer adapt to it crashes. Transformability is the characteristic of a system that can reorganize

after such a dramatic change, and become once again resilient, but in a substantially new form. How we as human communities manage the resilience of the ecosystems in which we live is a measure of the resilience of our own human-environment relationships. (Davidson-Hunt and Berkes 2003b)

Ecological restoration or protection projects create solutions in the midst of institutional arrangements derived from such diverse conceptions of healthy human-ecological interactions. Can the search for a workable balance between competing interests shift towards a cooperatively based understanding where conflict is realigned as self-evident collaborative compromise?

## Chapter 5: Institutional Comparison

### 5.1 Edgewater Park: re-placing humans in the environment

Riverbank restoration in a suburban setting poses the enormous challenge of re-establishing a healthy relationship between the river and its terrestrial banks while consequently redefining the relationship between humans and the river. Interaction zones between watercourses and terrestrial neighbours play an important role in the health of a river (Licata and Tissot 2005). The Edgewater Park project restoration addresses these challenges head on, without losing site of the prime social objective, to encourage human engagement with the landscape (Licata and Tissot 2005).

A first step was undertaken to sift through current policy and literature to clarify the understanding of the role of the riverbank in the larger hydrological processes of the Pointe Claire landscape and recreate an environment within the context of the Edgewater Park riverbank that responded to this understanding (Licata and Tissot 2005). That task required a patient, perseverant and iterative approach, remodeling the design to accommodate the many fact and value laden constraints regulating the viability of the project (Tissot 2005). Economic considerations never entirely disappear from the agenda of such projects; and, the final realization of the Edgewater Park was constrained by funding limitations (Tissot 2005). For example, the western portion of the riverbank retained a sawn off concrete wall because of high costs associated with removal of the structure (Tissot 2005). Also, the third phase of the project, a community amphitheatre, was abandoned due to lack of funds (Tissot 2005) (Fig. 11). Ecological regulations added further considerations to modifications of the design. Among these concessions to such things as waterfowl habitat or land run-off excesses, the reconfigured riverbank had to maintain its integrity at a variety of water levels as the river water volume fluctuates seasonally (Licata and Tissot 2005).

In an environmental perspective that understands humans and ecosystems to have competitive interests, striking a balance is a challenge. Further, in an environmental framework involving multiple institutions the challenge intensifies.

In this case both the provincial and municipal institutional perspectives were focused on human recreational access. However, these two perspectives did not share a similar vision for the park. The appearance of the pier on the final plans was a direct concession to a provincial mandate for citizen access to waterways (Tissot 2005). The pier is probably the first, and maybe sometimes the only visual shape that visitors perceive in the park. It is solidly sunk in the riverbed to respond to water and ice activity in the river. It is well lit, in deference to public safety, but in contradiction to ecological principals, as this alters nocturnal conditions. Among other concessions to its suburban setting is the extent of paved parking lot and grassed lawn. Traffic hazards would be incurred on the adjacent Lakeshore Drive without the accommodation for vehicular parking. As well, river views are highly valued by the community so the vegetative plan for the riverbank only employs native plantings of low vertical height (i.e. only a scattering of trees near the paved area) (Licata and Tissot 2005).

## **5.2 *Paakumshumwaau*: bringing two perspectives together**

In *Paakumshumwaau* centuries of environmental stewardship have arisen out of a cultural conviction that there is a respectful way to direct oneself within the landscape; not with battle but with a cooperative effort. Today, while the obligations of *uuchimaauch* to their particular traplines have remained largely unchanged (Niezen 1998 p 16), the formalization of a community settlement apart from these territories, has modified the function of landscape as home for many community members. As patterns of direct experience within the landscape change there is vital concern for the continued production of land-based knowledge (Davidson-Hunt and Berkes 2003a; Field notes 2003, 2005).

This is the climate in which the protection for *Paakumshumwaau* is being considered as a means to maintain the cultural-ecological landscape intact. Such protection might include constraints on possible natural resource extraction activities (Benessaiah et al 2003 pp 51-54) while permitting improved community control over recreational enterprises (e.g. sport hunting) (Benessaiah et al 2003 pp 46-47). As a protected area *Paakumshumwaau*, a contiguous territory of profound human-land community relationships could embrace the location of

former community residence locations, the places where many relationships were produced (Field notes 2003, 2004, 2005). Currently an annual weeklong cultural gathering is held on an island in the estuary of *Paakumshumwaashtikw* (Berryman et al 2004 p 24). It is also hoped that the creation of a protected area would provide increased possibility for community members to experience the landscape in community activities like the annual Youth Expedition, a weeklong canoe trip down *Paakumshumwaashtikw* (Berryman et al 2004 p 24). The development of a protected area might also provide opportunities to learn more about the historical human activity within the landscape.<sup>27</sup>

The research partnership involved in the development of a possible protected area can provide a context for increasing scientific and technical understanding of protected area research for community members.<sup>28</sup> Conversely, this also creates the complementary value of providing a context for sharing Cree land relationships with the academic community, further ensuring continuity of Cree based activity in the landscape.<sup>29</sup> Above all, however, the project sets the ultimate challenge of matching the thinking of *Iyiyuuschii* with a state based regulatory framework of environmental protection -- a regime that requires a balancing of fact and value, that has difficulty embedding human activity within the landscape and that among other incongruencies, distinguishes in policy and procedure between land and sea, a distinction that is not evident to the human eye six months of the year in *Paakumshumwaau*.

### 5.3 Promoting environmental health in the Canadian landscape

Both Wemindji and Pointe Claire communities are governed by Canadian federal and Quebec provincial legislation and policy. Local land-use decisions are consequently shaped by environmental regulation and policy deriving from

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<sup>27</sup> *Paakumshumwaau-Wemindji Protected Area Project. Resources: SSHRC CURA Project Description. 2 May 2006.*  
[http://maps.strata360.com/website/mcgillweb/pdf/CURA\\_description\\_Final2.pdf](http://maps.strata360.com/website/mcgillweb/pdf/CURA_description_Final2.pdf)

<sup>28</sup> *Ibid.*

<sup>29</sup> *Ibid.*

the same two institutions. Significant differences in land management however arise in the Wemindji case due to the nature of land management as instituted by distinctive cultural practice through the James Bay and Northern Quebec Agreement (JBNQA)<sup>30</sup> (Fig 15). The Canadian environmental outlook has been characterized as “one of a closed stable system of resource management in the midst of, at very best, a very slow transition toward a more open system of sustainability.” (Hessing et al 2005 p 261) Federal activity begins with formulation of environmental policy and follows through with administrative process “including standard setting, compliance and enforcement” (Hessing et al 2005 p 223). Regulatory powers that devolve to the provincial level include establishing environmental standards or objectives, providing a variety of incentives designed to achieve compliance (Hessing et al 2005 p 224). The relationship of our two landscapes to Canadian federal jurisdiction is found in three key areas: 1) environmental strategies; 2) jurisdiction over federal waterways and oceans (the St. Lawrence River and James Bay respectively); and, 3) aboriginal peoples’ initiatives.<sup>31</sup> Several federal acts establish the parameters of these three areas of governance (Fig. 16).

The Canadian Environmental Protection Act (1999)<sup>32</sup> is the primary legislation describing environmental protection of the Canadian landscape. This act is intended to combat environmental degradation by protecting the environment, human life and health. It does so by: a) establishing structures that devolve responsibility to provincial and aboriginal governments; b) providing

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<sup>30</sup> Unless otherwise noted, textual reference to the James Bay and Northern Quebec Agreement (JBNQA) was obtained from the following on-line text: Grand Council of the Crees. *James Bay and Northern Quebec Agreement*. 1 Nov. 05. <<http://www.gcc.ca/pdf/LEG000000006.pdf>>.

<sup>31</sup> The increasing emergence of co-management and resource-sharing agreements involving First Nations is deepening the engagement of these communities in federal and provincial environmental governing processes (Hessing et al p. 186).

<sup>32</sup> Canada. Environment Canada. *Environmental Acts and Regulations. Acts Administered by the Minister of the Environment: Canadian Environmental Protection Act (1999) (C-15.31)*. 1 Nov. 2005. <<http://www.ec.gc.ca/EnviroRegs/Eng/SearchDetail.cfm?intAct=1001>>.

mechanisms for public participation; and c) instituting environmental monitoring protocol. The Canada Water Act<sup>33</sup> is most important to federal-provincial water resource agreements. The St. Lawrence River and James Bay fall under federal jurisdiction interests including: navigation, marine life, and water quality.

A trio of acts, the Canadian Wildlife Act<sup>34</sup>, the Migratory Birds Convention Act<sup>35</sup>, and the most recent Species at Risk Act (2002)<sup>36</sup> include, respectively, frameworks for establishing Marine Protected Areas, protecting migrating birds from indiscriminate harvesting and destruction and establishing responses to protect habitat. It is pertinent to note that the Species at Risk Act includes a key component of stewardship, drawing together diverse constituents in the pursuit of a common environmental goal.

The Canadian Environmental Assessment Act<sup>37</sup> establishes the requirement of environmental assessments for all federal government department and agency projects, all crown corporation activities as well as projects receiving federal funding, licensing etc. As Hessing et al make clear, environmental assessment protocols have experienced great difficulties in ensuring

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<sup>33</sup> Canada. Environment Canada. Environmental Acts and Regulations. *Acts Administered by the Minister of the Environment: Canada Water Act (C-11)*. 1 Nov. 2005.

<<http://www.ec.gc.ca/EnviroRegs/Eng/SearchDetail.cfm?intAct=1003>>.

<sup>34</sup> Canada. Environment Canada. Environmental Acts and Regulations. *Acts Administered by the Minister of the Environment: Canada Wildlife Act (W-9)*. 1 Nov. 05. <<http://www.ec.gc.ca/EnviroRegs/Eng/SearchDetail.cfm?intAct=1004>>.

<sup>35</sup> Canada. Environment Canada. Environmental Acts and Regulations. *Acts Administered by the Minister of the Environment: Migratory Birds Convention Act (M-7.01)*. 1 Nov. 05.

<<http://www.ec.gc.ca/EnviroRegs/Eng/SearchDetail.cfm?intAct=1010>>.

<sup>36</sup> Canada. Environment Canada. Environmental Acts and Regulations. *Acts Administered by the Minister of the Environment: Species at Risk Act (2002) (C-29)*. 1 Nov. 05.

<<http://www.ec.gc.ca/EnviroRegs/Eng/SearchDetail.cfm?intAct=1049>>.

<sup>37</sup> Canada. Environment Canada. Environmental Acts and Regulations. *Acts Administered by the Minister of the Environment: Canadian Environmental Assessment Act (C-15.2)*. 1 Nov. 05.

<<http://www.ec.gc.ca/EnviroRegs/Eng/SearchDetail.cfm?intAct=1000>>.

environmental improvement. Many of the problems are associated with baseline environmental data required for impact assessments. None of these data were collected before significant impacts of industrial, urban and natural resource extraction activities were occurring in the Canadian landscape. Further, data integrity is compromised by biases associated with interest group data providers. (Hessing et al 2005 pp 223-225)

#### 5.4 Promoting positive environmental management in Quebec

The territory of Wemindji is governed through the JBNQA. Nevertheless, there are still common provincial themes governing environmental considerations in land-use management in both Wemindji and Pointe Claire (Fig. 17). In Quebec it is currently the Ministry of Sustainable Development, Environment and Parks that governs environmental policy legislation.<sup>38</sup> In its mission statement, the ministry “aims to keep the environment healthy within the confines of economic development and social progress”<sup>39</sup>. The ultimate responsibility of the ministry is to ensure the health of the environment and protect the health of the citizenry. The ministry will in short provide comprehensive assistance for any project involving environmental change including “financial support”<sup>40</sup>. To further expedite its duties, the ministry has also formed two agencies<sup>41</sup> (Centre d’expertise en analyse environnementale du Québec, and the Centre d’expertise hydrique du Québec).

The administrative overlap of environmental interests within other ministerial portfolios is addressed in Quebec through a network of governmental partnerships.<sup>42</sup> Of special note to this study are two of these partnerships, found at the regional level, with the James Bay Municipality and with the metropolitan

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<sup>38</sup> Quebec. Développement durable, Environnement et Parcs. *Overview*. 1 Nov. 05. <[http://www.mddep.gouv.qc.ca/ministere/inter\\_en.htm](http://www.mddep.gouv.qc.ca/ministere/inter_en.htm)>.

<sup>39</sup> *Ibid*

<sup>40</sup> *Ibid.*

<sup>41</sup> *Ibid.*

<sup>42</sup> *Ibid.*

municipality to which Pointe Claire belongs, the Community of Metropolitan Montreal.

## 5.5 Distinguishing regional administrative design

### 5.5.1 Pointe Claire

Just as the city of Pointe Claire is intricately connected to regional ecosystems such as the St. Lawrence River and the Island of Montreal, the city is also interconnected with the larger Montreal municipal region (Fig. 18). Known as the Communauté Métropolitaine de Montréal (CMM), this institution oversees shared regional institutions, such as public transit systems, and water treatment services.<sup>43</sup> However, the Pointe Claire does operate under its own urban plan which in turn has been conceived within the over arching guidelines and goals of both the provincial Ministry of Sustainable Development, Environment and Parks and the Canadian Ministry of the Environment.<sup>44</sup>

The condition of the Pointe Claire shoreline (totaling approximately 7 km) reflects changes that suburban development has influenced over the past century. In the 1970's the city enacted a by-law entitling it to 'rights of first refusal' for shoreline property coming up for sale.<sup>45</sup> As shoreline lots came into public hands, City policy regarding the environmental promotion of the riverbank began to impose itself on the landscape. For example, on the approximately 4.5 km linear (but not contiguous) length of shoreline property owned by the City of Pointe Claire (2006), river views are maintained without buildings or obstructing vegetation characterized by a 'hands off' approach to the naturalization of riverbank modifications (Licata and Tissot 2005). Edgewater Park comprises 275

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<sup>43</sup> Quebec. Communauté Métropolitaine de Montréal. *Institutions*. 2 May 2006. <<http://www.cmm.qc.ca/profil/institution/index.php>>.

<sup>44</sup> Quebec. Municipality of Pointe Claire. 1989. *City of Pointe-Claire Planning Programme*.

<sup>45</sup> 'Rights of first refusal' means that the city has the first opportunity to either purchase or refuse the purchase of shoreline property as it comes up for sale. The by-law was put into effect May 15, 1978 (Licata and Tissot 2005). For fuller account of Pointe Claire's waterfront property policy see Fig. 14.

continuous linear meters of restored riverbank within this shoreline (Licata and Tissot 2005).

### 5.5.2 Wemindji

Subsequent to 1973 hydroelectric development activity of the Quebec provincial government in James Bay, a new partnership was drawn up between the Grand Council of the Crees<sup>46</sup>, the Quebec provincial government and the Canadian federal government<sup>47</sup>. The James Bay and Northern Quebec Agreement (JBNQA) redrew the territorial parameters of Cree occupation of the east coast of James Bay. In exchange for a transformation of land entitlement, the Crees agreed to a new regime of land management including monetary compensation for environmental change incurred through hydroelectric project works (JBNQA Section 2.1). The land area was divided into nine Cree communities of which Wemindji is one.

Within each of these community territories were declared lands of 3 categorical management characteristics. Category I lands were set aside for “exclusive use” of Cree communities (JBNQA Section 5.1.2). Crees exercise exclusive hunting, fishing and trapping rights on Category II lands while on remaining lands Category III, Crees retain certain preferential harvest rights (Bussi res 2005 p 55). Further, within each community division of territorial lands is formalized according to customary land tenure practice (Niezen 1998 p 16). Called traplines, these divisions are under the managerial control of local,

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<sup>46</sup> “The Grand Council of the Crees is the political body that represents the approximately (2003) 14,000 Crees or “Eeyouch” (“Eenouch” – Mistissini dialect), as they call themselves, of eastern James Bay and Southern Hudson Bay in Northern Quebec.” (Grand Council of the Crees. *Grand Council of the Crees (Eeyou Istchee)*. 1 Nov. 05. <<http://www.gcc.ca/gcc/whogcc.htm>>.)

<sup>47</sup> The James Bay and Northern Quebec Agreement was signed on November 11, 1975. The JBNQA is an agreement between the Canadian federal and Quebec provincial government and the Cree, Inuit and Naskapi communities of northern Quebec. Subsequently, the Paix des Braves agreement (2002) was signed, amending the original agreement in certain respects, and affirming terms for revenue-sharing from resource development for 50 years into the future.

kin-based hunting groups, headed by an *uuchimaau*, variously known as the tallyman, hunting boss and steward (Niezen 1998 p 16).

Two environmental advisory committees representing First Nations, provincial and federal interests were created by the JBNQA: one for the region south of the 55<sup>th</sup> parallel (JABCE) and one for the area north of the 55<sup>th</sup> parallel (JBNQA Sections 22.3 and 23.3). These advisory committees perform both a consultative and supervisory role in administering the environmental protection regimes of the JBNQA.<sup>48</sup> In addition, two environmental assessment bodies were created to “evaluate and review development projects south of the 55th parallel”<sup>49</sup>. Final decision-making capacity is assigned to the Administrator, a revolving designation. Depending on the nature of the project, this might be the provincial Minister of Sustainable Development, Environment, and Parks, or the chairman of the federal Environmental Assessment Review Office or the administrator of the appropriate Cree Band Council (if Category I lands are involved).<sup>50</sup>

#### 5.6 Complex governing structures: support possibilities

Dietz et al reaffirm what may be an obvious connection, that the way we organize ourselves through our institutions has a direct affect on the resilience of our environment. While this is not a study of the effectiveness of governing institutions to maintain sustainable natural environments, it is a study of how governing institutions have contributed to positive human-environment relationships in two particular environments. If one accepts that “people do not experience the world from the point of view of living within the domain of a territorial monopolist” (Wagner 2005), then one may begin to approach the

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<sup>48</sup> Quebec. Développement durable, Environnement et Parcs. *Environmental Assessment of Northern Projects: Two Regimes; one concern*. 1 Nov. 05. <<http://www.mddep.gouv.qc.ca/evaluations/mil-nordique/index-en.htm#regimes>>.

<sup>49</sup> The Evaluating Committee (COMEV) composed of representatives of the Quebec (provincial), Canadian (federal) and Cree communities, and the Review committee (COMEX) composed of Cree and Quebec community representatives. *Ibid.*

<sup>50</sup> *Ibid.*

complexity of environmental administration from a positive standpoint. Rather than providing an example of failed hierarchical structure, the extent of structural fragmentation in both jurisdictional and regulatory arenas (Hessing et al 2005) exhibited in our complex of environmental institutions might be better understood via a nested or even polycentric model (Ostrom in Wagner 2005). From this standpoint what positive environment-supporting possibilities arise?

First let us look at the mix this complex affords. Regulatory frameworks occur at multiple axes in our set of governing institutions, offering coercive pressures at multiple source points (Wagner 2005). A blend of jurisdictional policy and regulation is more effective than a system of hierarchical fixed rules (Dietz et al 2003). As the resilience conception of social-ecological systems asserts: "systems that guard against the low probability, high consequence possibilities and allow for change may be suboptimal in the short run but prove wiser in the long run" (Dietz et al 2003). The layered mixing of, for example, navigational protocol, health requirements for water quality and aquatic ecosystem resilience, responds to multiple aspects of landscape function. If we are willing to concede that complexity could render the institutional arrangements more adaptable to the complexities of environment systems themselves, the question then becomes: how to navigate the system and find the jurisdictions or regulations that relate most effectively to the environmental issue(s) at hand? (Oates in Wagner 2005)

Speaking about global approaches to environmental governance, Sproule-Jones articulates this very problem. The permeability of boundaries of jurisdiction requires a clear network of the complementarities hidden within policy in order to promote cooperation rather than defeat environmental action. Indeed, the research of Hessing et al leads to the conclusion that "approaches [in Canada] tend to focus on resolving political disputes over resources, rather than on fostering an effective strategy for long-term sustainability." (p 59) Yet, the subject matter of this study stands as a concrete example of institutional policy contributing to sustainable environmental improvement. This is perhaps possible due to a shift in municipal jurisdiction in Canada.

The end of the 20<sup>th</sup> century in Canada has seen a transfer of national responsibilities to the municipal level (Kresl and Proulx 2000). National- and provincial-municipal networking has been augmented through the activities of such organizations as the Federation of Canadian Municipalities, l'Union des municipalités du Québec, l'Union des municipalités régionales de comté et des municipalités locales du Québec (Kresl and Proulx 2000). Consequently, "cities have become much more engaged in 'municipal diplomacy', in strategic planning and in joint problem discussion and solving" (Kresl and Proulx 2000). Kresl and Proulx suggest that the principle motivator for this rise in municipal leadership is economics. While economic factors remain perhaps the ultimate bottom line in much of our civic decision-making, it is tempered by the many other values we share as community, as this study illustrates.

### **5.7 Civic governance: at the official-citizen interface**

The interface where official government representation interacts with citizens is the critical arena where facts and values meet, strategies and substantial agreements are forged, and policy is transformed into practice. The mission of environmental governance requires the marrying of diverse interests, perspectives, and often, fundamental philosophical differences. To be effective this process must come about in much the same way as building a partnership, by fostering trust in an atmosphere of open communication (Dietz et al 2003).

Inter-institutional collaboration, however well intentioned, does not guarantee ideal solutions; it should be clearly acknowledged that tradeoffs are the hallmark of environmental governance (Dietz et al 2003). Nevertheless, achieving a robust ecological array of responses is possible when collaborative institutional partnerships are cultivated (Levy and Wissenburg 2004). Levy and Wissenburg describe the fertile ground in which such collaboration may flourish. While the moral convictions and visions of appropriate solutions coming from diverse interest groups may vary widely, there must be some commonality within the collaborative structure, namely: 1) power equality; 2) agreement on issue definition and broader community goals; and, 3) a decidedly political attitude toward negotiation (Levy and Wissenburg 2004).

The perception of equality of power amongst interest groups is formed not only through the structure of the collaborative process, but stems also from pre-existing community relationships. Both the willingness and ability of parties to engage in “collaborative processes are colored by the history of relationships with other stakeholders, which are often characterized by mistrust and misunderstanding” (McKinney and Harmon 2002). Offering consistent, frequent, structured opportunities for agencies and public interest groups to communicate with one another promotes the development of dense social networks, increasing the active memory association of both individuals and groups while inhibiting disconnection or disengagement from the community (Dietz et al 2003; McKinney and Harmon 2002).

Perception of the value of public participation is decidedly varied. While common sense dictates that the participation of community in community decision-making processes is essential, critical analysis supporting the effectiveness of public participation is scant (McKinney and Harmon 2002). McKinney and Harmon suggest that mutual learning is a key element in distributing a sense of empowerment amongst collaborators. When various interest groups bring their viewpoint to the table they must expect to learn of alternate perspectives as well as perceive evidence of learning on the part of other collaborators. Mutual learning promotes the perceived value of diverse perspectives, engendering an atmosphere of equality within diversity. The process must however move beyond this towards actual contribution to solutions for collaborators to feel a sense of power as partners.

Clarifying the parameters of environmental concern and relating them to broader pre-existing community goals provides a solid platform to which a debate of values and alternate visions may attach itself (McKinney and Harmon 2002). Merrick and Garcia reiterate Keeney’s approach to this debate: “that we start by considering what it is we want -- our values -- and then move to how we can get it -- our alternatives”. Levy and Wissenburg also stress the importance of defining values in order to make clearer the particular tradeoffs embedded in alternative solutions. Describing the emergence of solutions via acceptance of tradeoffs

suggests that cooperation is realized through consensus that is comprised of both strategic and substantial agreement (Levy and Wissenburg 2004). Substantial agreement is centered about an unwavering moral commitment to collaboration or some particular outcome, independent of other collaborators' positions. At the other end of the spectrum is strategic agreement: adopting a position dependent on anticipation of another's choice.

The delicate balance of compromise required to collaborate on solutions to problems of complex ecological and social implication is no small challenge. Collaborators' attitudes towards cooperation have a distinct bearing on the level of controversy to be overcome. Levy and Wissenburg suggest cultivating a political rather than moral attitude—complementing substantial with strategic agreement. In a social reality that is morally pluralistic, collaborating from a strictly moral standpoint will lead to diverse solutions. To converge towards a consensus, a political approach will acknowledge making tradeoffs in order to maximize actors' goals within the plurality of the larger group. For example, once actors have substantially agreed to cooperate, hard line environmental groups may coalesce around partially remedial solution. Despite a strong commitment to ecologically resilient solutions they may decide that ensuring support for a weaker solution avoids the risk of instituting an even worse scenario.

Hessing et al identify five areas of concern in the Canadian context of environmental administrative process and structures: “(1) information and data limitations, (2) the normative nature of risk assessment and standard setting, (3) the economic power of regulated groups, (4) the lack of public input into implementation, and (5) serious problems with enforcement mechanisms.” (p 223) These same problems arise at the ground level interface of the projects under discussion.

The first two areas involve the inadequacy of science to accurately describe environmental conditions. The collaborative table seeks to understand the facts of an environmental situation and, by applying the consideration of values associated with the same situation, describe appropriate action. The tension between fact and value often polarizes around the official representatives

and the public respectively. However, in any variety of environmental endeavours, the knowledge community may seat itself in the official and/or public realm. Likewise, the value-laden community may equally be represented by existing policy as by public or expert opinion. Articulating a clear division between fact and value, as well as the understood limitations of known facts, necessarily becomes the first order of business in assessing the possibility of proposed solutions.

The reality of unevenly distributed economic power is an unavoidable problem, often negating the possibility of achieving an equally powerful footing for collaborators (as described by Levy and Wissenburg above). The give and take between substantive and strategic agreement is heavily influenced by economic consideration (Hessing et al 2005 p 226). The historical approach to environmental policy in Canada has focused on the mitigation of environmental degradation due to industrial and economical resource activity. As a result the process of setting standards requires balancing community goals of environmental protection with competing economic and social interests (Hessing et al 2005 p 224). The complex nature of the administrative agencies combined with a "lack of formal procedural access" inhibits public participation in the Canadian environment process (Hessing et al 2005 p 227).

The fourth and fifth areas are concerned with the execution of collaboratively constructed solutions. While augmenting enforcement might more evenly distribute adherence to policy within a community, it creates a responsive habit of action rather than a self-motivated one. Addressing the fourth area (lack of public participation in implementation) may be a more efficacious solution. When actors are excluded from the implementation phase, ownership in the process outcomes is dramatically reduced. This can be exhibited in a lack of cooperation in regulatory frameworks (Durant et al p 198).

Devising ways to sustain the earth's ability to support diverse life, including a reasonable quality of life for humans, involves making tough decisions under uncertainty, complexity, and substantial biophysical constraints as well as conflicting human values and interests." (Dietz et al 2003) Collaborative

approaches to public decision-making, especially in the environmental arena, emerge from this premise: the rich diversity interest groups comprising our human communities can collaborate in actions that promote a healthy integration of human activity in our environmental systems (McKinney and Harmon 2002).

### **5.8 Community networks: Pointe Claire and Wemindji**

Certainly the community of Pointe Claire is representative of a greater cultural and hence moral diversity than the Cree community of Wemindji. Nonetheless, both communities share multiple views of community development. In Wemindji, with a relatively small cohesive community comprised of dense social networks stemming from historical and kin relationships, fora for public communication and deliberation capture a greater cross section of the population. Pointe Claire offers City Council meetings as the main platform for official-public conversations to develop. Meetings of special address to projects of particular public concern arise as necessary. Both communities offer regular printed communications to constituents<sup>51</sup>.

The role of the media in framing public attitude toward environmental concerns cannot be underestimated in either of the two communities. Quality is often lacking in the type of public commentary found in popular newspapers, radio and television broadcasts. For the most part, economic incentives of broadcasters and publishers are too often perceived to arise from incidents focusing on conflict, dereliction of duty and unresolved degradation of the environment (McKinney and Harmon 2002). While it is not the purpose of this study to undermine the role of public media, lack of critical appraisal of the dauntingly complex task of governing and acting responsibly toward and within

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<sup>51</sup> Wemindji Band Council office offers printed matter of interest to community members (personal observation). Pointe Claire distributes a newsletters to residents 4 times yearly. Pointe Claire, Quebec. *Pointe Claire Newsletter Winter 2005*. 5.Jan. 06.  
<<http://pointeclair.ville.montreal.qc.ca/EN/INTRO/INTRO.ASP>>.

our environment exacerbates the difficulties of building consensus within our communities.

The community of Pointe Claire has been no stranger to citizen action groups over the past century. A recent group, Interaction Pointe Claire was instrumental in awakening public interest in shoreline restoration. Founded in 1985 by a group of residents led by Helen Matthews, the group's focus was to encourage City purchase of a parcel of land adjacent to a lakeside City property known as Stewart Hall (Matthews, H. 2005). Although economic interests prevailed and the group failed to convince the City to secure the property for public use, the interest, knowledge and momentum for action launched Interaction Pointe-Claire. They were subsequently successful in an appeal to use another recent City lakeside acquisition (The Maples) for an ecological shoreline restoration project that would function as public park space (Matthews, H. 2005). The Maples Park project (1993-94) fueled further concern over propositions being made for the parcel of land that had formerly housed the Edgewater Hotel. Interaction Pointe Claire's knowledge gathering of both ecological and governing systems helped bring a new shoreline restoration project for the Edgewater property within the peripheral vision of both the City and its citizens (Matthews, H. 2005).

The partnership building between the community of Wemindji and the academic research community headed by Prof. Colin Scott of McGill University is still in its infancy.<sup>52</sup> It proffers interesting possibilities for creating new social networks between clusters of interested actors in Wemindji that identify with particular research interests of the multi-disciplinary team. Offering regular and varied occasions of communication, the partnership goal of a culturally appropriate protected area speaks directly to the motivating power of

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<sup>52</sup> *Paakumshumwaau-Wemindji Protected Area Project. Resources: SSHRC CURA Project Description*. 2 May 2006.  
[http://maps.strata360.com/website/mcgillweb/pdf/CURA\\_description\\_Final2.pdf](http://maps.strata360.com/website/mcgillweb/pdf/CURA_description_Final2.pdf)  
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collaborating at both the design and implementation phases of an environmental project.

## **5.9 Navigating instruments of environmental governance**

From the water level up it may seem an insurmountable task to navigate the network of instruments governing environmental change. But that is the task before communities undertaking ecologically restorative projects. Land, unchallenged for any new uses, left to its own devices often falls outside of the purview of environmental regulations. Yet, when we choose to purposefully remediate landscape we come abreast of the tangled net of environmental policy, strategy and regulation emanating from each governing institution having judicial interests in the landscape.

### **5.9.1 Edgewater Park: Pointe-Claire, QC**

Restoring a natural configuration to the shoreline requires proposing a plan for the new landscape that depends on removal or transformation of the previous one. Describing the most promising configuration of stable riverbank requires an understanding of the particular landscape to be restored. The Edgewater Park riverbank contains the water of Lake St. Louis, part of the St. Lawrence River. The St. Lawrence River is a major artery connecting the largest freshwater aquatic habitat in North America (the Great Lakes) to the waters of the Atlantic Ocean. It not only carries along and deposits traces of all activities within its watershed, but it is a major shipping route transporting goods to and from the heart of North America. Further, for much of its length it forms a natural boundary between two principal political entities in North America, The United States of America and Canada. Consequently, activities within its waters and along its riverbanks are governed by diverse political interests.

The plurality of jurisdiction and ecological complexity of the St. Lawrence River system is addressed through the joint Canadian and Quebec governing

instrument known as the St. Lawrence River Action Plan.<sup>53</sup> “[D]evoted entirely to the St. Lawrence River”<sup>54</sup>, Vision St. Lawrence 2000 maintains a website through which information regarding the Plan is communicated. When it became apparent that the aquatic system of the St. Lawrence River could no longer support recreational activities or healthy biotic communities funding was directed towards scientific investigation of the River and its deteriorating water quality. The formation of the St. Lawrence Action Plan in 1988 was the result of burgeoning concern for the health of the River and riverside dwellers.<sup>55</sup> It has since grown to encompass environmental governance of agriculture, biodiversity, navigation, community involvement, industrial and urban activity and human health of regions draining into the River.<sup>56</sup> The environmental scope of the Edgewater Park site encompasses all of the above components, with the exception of agriculture (Table 2).

The complex overlay of environmental policy, strategy and regulation represented by the above partnership is navigated through the help of an Advisory Committee (Other Organizations column). This committee was created in 1996 by Environment Canada and the Quebec Ministry of Environment and Fauna (currently the Ministry of Sustainable Development, Environment and Parks)<sup>57</sup>. Its mandate is to facilitate the collaboration of the larger partnership in three ways: 1) to “provide opinions on the direction, the approaches and the new networking required between the various partners”; 2) to bring forward “knowledge of the concerns of society, in general”; 3) to suggest future actions.<sup>58</sup>

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<sup>53</sup> Quebec. St. Lawrence Vision 2000. *Welcome to the St. Lawrence Vision 2000 Web site*. 25 Nov. 05. <<http://www.slv2000.qc.ca/>>.

<sup>54</sup> *Ibid.*

<sup>55</sup> Quebec. St. Lawrence Vision 2000. *20 Years of Action*. 25 Nov. 05. <[http://www.slv2000.qc.ca/20\\_ans/accueil\\_a.htm](http://www.slv2000.qc.ca/20_ans/accueil_a.htm)>.

<sup>56</sup> Quebec. St. Lawrence Vision 2000. *Components*. 25 Nov. 05. <[http://www.slv2000.qc.ca/index\\_a.htm](http://www.slv2000.qc.ca/index_a.htm)>.

<sup>57</sup> Quebec. St. Lawrence Vision 2000. *Advisory Committee*. 25 Nov. 05. <[http://www.slv2000.qc.ca/collectivites/comite\\_consultatif\\_a.htm](http://www.slv2000.qc.ca/collectivites/comite_consultatif_a.htm)>.

<sup>58</sup> *Ibid.*

The St. Lawrence Action Plan has developed a network of 14 zones through which riverside communities can develop projects of river remediation<sup>59</sup> (Fig. 19). The mission statement of the 'zone intervention prioritaire' or ZIP Ville-Marie<sup>60</sup> indicates how it seeks to encompass and mobilize community support towards the promotion of the environmental health of the River. Interested residents are invited to become members of the committee via the website. Current projects of the committee include a mandate to "clean up the waterfront of the six boroughs" (this includes Pointe Claire).<sup>61</sup> Each ZIP is mandated with carrying out public consultation in order to create an Ecological Rehabilitation and Action Plan (ERAP); ZIP Ville-Marie developed their plan in 1999 (Table 3).

This type of comprehensive approach to environmental remediation of the shoreline, that includes identifying and gathering pertinent scientific information, articulating social concerns and desires, and negotiating complex funding schemes cannot avoid navigating the multi-layered jurisdiction of policy, strategy and regulation governing the St. Lawrence River. To answer this need, Stratégies Saint-Laurent became a partner in the St. Lawrence Action Plan in 1993.<sup>62</sup> Stratégies Saint-Laurent is a non-governmental organization whose mandate is to further enhance the protection, restoration and value of the St. Lawrence River by

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<sup>59</sup> Quebec. St. Lawrence Vision 2000. *ZIP Committees*. 25 Nov. 05. <[http://www.slv2000.qc.ca/zip/comites\\_a.htm](http://www.slv2000.qc.ca/zip/comites_a.htm)>. The Saint Lawrence Action Plan also provides for the Community Interaction Program promoting and assisting community based projects proposed by citizens rather than organized municipalities or boroughs. Quebec. See: St. Lawrence Vision 2000. *Community Interaction Program*. 25 Nov. 05.

<[http://www.slv2000.qc.ca/plan\\_action/phase3/implication\\_communautaire/programme\\_interactions/accueil\\_a.htm](http://www.slv2000.qc.ca/plan_action/phase3/implication_communautaire/programme_interactions/accueil_a.htm)>.

<sup>60</sup> *Ibid.* ZIP Ville-Marie encompasses the north shore of Lake St. Louis.

<sup>61</sup> Quebec. Comité zone intervention prioritaire (ZIP) Ville-Marie. *Projects planned for 2006*. 25 Nov. 05. <<http://www.zipvillemarie.org/en/408pro.htm>>.

<sup>62</sup> Stratégies Saint-Laurent. *Historique*. 25 Nov 05. <<http://www.strategiessl.qc.ca/strate.fra.html>>.

facilitating the activities of the ZIP Committees.<sup>63</sup> This will happen by fulfilling the role of liaison: participating in regular communications with the ZIP Committees, establishing direct lines of communications with the other partners in the St. Lawrence Plan of Action and keeping ZIP Committees apprised of St. Lawrence River ecosystem developments.<sup>64</sup> Further, Stratégies Saint-Laurent is charged: to support ZIP Committees in the scientific and technical aspects of their projects, and, to consult regularly with ZIP Committees regarding, among other issues, the development of an integrated management of the St. Lawrence River.

This is the complex network through which Pointe Claire had to navigate in order to establish the viability of their riverbank restoration project at Edgewater Park. The iterative process of proposal and revision is long and requires perseverance (Matthews, H. 2005; Tissot 2005); the property was secure in the hands of the City in 1985 and the project became a reality in 2002 (Licata and Tissot 2005). In 1985, St. Lawrence River related projects had to meet the objectives of the now defunct provincial Project Archipel (Duhaime 1997). A first attempt to integrate multiple user interests with provincial river management agendas, the project addressed three main areas of concern: improvement of the management of the River water; the production of hydroelectricity; and aquatic recreation (Duhaime 1997; Poitras and Dagenais 2005). It was the hope of program enthusiasts that social consensus would emerge from the Project Archipel (Poitras and Dagenais 2005).<sup>65</sup> The ensuing public consultation process involved provincial ministries and agencies, municipal and inter-municipal groups as well as citizen associations of the Montreal region. It was under this regime that Interaction Pointe Claire arose under the leadership of Helen Matthews (Matthews, H. 2005). Interaction Pointe Claire's focus on public responsibility

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<sup>63</sup> Stratégies Saint-Laurent. *Notre mission*. 25 Nov. 05.  
<<http://www.strategiessl.qc.ca/strate.fra.html>>.

<sup>64</sup> *Ibid.* Stratégies Saint-Laurent. *Notre mission*. 25 Nov. 05.  
<<http://www.strategiessl.qc.ca/strate.fra.html>>.

<sup>65</sup> In 1984 the Project Archipel was transformed into the Parc National de l'Archipel (Poitras and Dagenais 2005).

and shoreline rehabilitation over a ten-year period from 1985-1995 brought ecological information and public awareness together in a platform that played an important role in the establishment of the current Edgewater Park (Matthews, H. 2005).

An initial proposal for the Edgewater property was made public by the City of Pointe Claire in 1995. Despite the fact that Interaction Pointe-Claire had been actively consulting with the City, the project did not satisfy a key element of Interaction Pointe-Claire's vision of a restoration project, that no buildings be incorporated in the project (Kramberger 2000; Matthews, H. 2005). In this case, public consultation of the citizenry at large consisted of presenting a proposal for public approbation; the 9.4 million dollar plan was rejected summarily by hundreds of citizens (Kramberger 2000).

Questioned regarding the lack of public consultation during the planning process, Mayor McMurchie responded that it is the City's policy to ask for feedback once a concrete plan is being proposed (Kramberger 2000). As Helen Matthews confirms, gathering the pertinent ecological and regulatory information demands perseverance; the subsequent sifting through data integrating social and ecological desires and necessities into a plan is a monumental task. Hence, attempting to include broad based public consultation in the planning phase proved ill advised from the City's point of view. Returning to the drawing board, the City continued to consult with local interest groups such as Interaction Pointe-Claire (Matthews, H. 2005), municipal directives such as the Parc National de l'Archipel, and regional-provincial-federal alliances provided for through St. Lawrence Vision 2000 (Tissot 2005). In January 2000, the City of Pointe Claire announced a second Edgewater Park plan. Described by councilor Diane Noel as a "contemplation park with access to offshore fishing" (Kramberger 2000), the accepted proposal included shoreline restoration plans and an outdoor amphitheatre to be completed in 3 phases for a budget of 18 million dollars (Kramberger 2000) (Fig. 11).

In 2003 Edgewater Park received the Palme d'or from the City of Montreal's Réseau de suivi du milieu aquatique (the agency monitoring water

quality in the greater Montreal region).<sup>66</sup> Today (2006), the first two phases of the park have been completed; due to lack of funds, the third phase amphitheatre has been replaced with grass, trees and paved parking. Since 1987, \$1,965,000 has been spent (Licata and Tissot 2005). Funding is another complex network connected to the relationships between local, regional and federal political and non-governmental agencies. In this case, the majority of funding was secured through the City itself and the Fonds d'Action Québécois pour le Développement Durable.<sup>67</sup> Associating a dollar value with ecological and social values of place and landscape adds another complex dynamic to the planning and executing processes involved in such a project.

### 5.9.2 *Paakumshumwaau*, Wemindji, QC

In the Wemindji case it may once again seem a daunting task to consider the web of overlapping jurisdiction within instruments designed to protect Canadian environments. As we have seen above, the journey towards environmental remediation requires tenacity. So too, no small measure of perseverance is required to protect the environmental and cultural integrity of a landscape. This is the task before the Cree community of Wemindji: to create a culturally appropriate protected area in *Paakumshumwaau* and the adjacent marine coastal area.

When considering environmental protection, questions arise immediately: where? to what extent? why? The word protection implies that some force is opposing the continued existence of, in this case, a landscape. We are tempted to think of isolating a landscape in a desired static state in order to protect it from the perceived threat. While some of these reactions help motivate environmental protection, a deeper examination of the value and integrity of a landscape can reveal ways to achieve resilient, culturally integrated solutions.

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<sup>66</sup> Quebec. Ville de Montréal. Réseau de suivi du milieu aquatique. Qualité de l'eau en rive. 2003: *Deux réalisations concrètes vers la réappropriation des usages*. 28 Nov. 05. <<http://www.rsma.qc.ca/>>.

<sup>67</sup> *Ibid.*

It might well seem that Cree landscapes in Northern Quebec are already culturally protected. The retention of customary land tenure arrangements means that land is being managed in a manner consistent with Cree cultural practice. However, the particular regime incorporating a system of three Categories of lands stretching across the subarctic landscape (JBNQA Section 5)<sup>68</sup> adds a contextual layer that often times creates distance between the intention of Cree land management and actual practice. The landscape being considered for protection includes territory from several Cree family traplines (Fig. 2). Further, the landscape represents both Category II and Category III land. The JBNQ provides extensive institutional support for environmental considerations of landscape change, but no particular regime for landscape protection.<sup>69</sup> Moving further away from the cultural setting of East James Bay Cree territory, there exist a variety of provincial and federal protection frameworks that might suggest themselves as appropriate models for subarctic landscape protection in this cultural context. Moreover the adjacent marine aquatic area falls under the direction of the Oceans Act and its provision for Marine Protected Areas<sup>70</sup>, administered by the Canadian federal government Department of Fisheries and Oceans.

As in Pointe Claire, here we are faced by a wide and deep array of instruments vying for a position in the management of this area -- most

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<sup>68</sup> Grand Council of the Crees. *James Bay and Northern Quebec Agreement*. 1 Nov. 05. <<http://www.gcc.ca/pdf/LEG000000006.pdf>>.

<sup>69</sup> Interestingly, the JBNQ provides for Cree conservation officers who would augment the authority of *uchimaauch*.<sup>69</sup> These officers would be an additional presence in the land, upholding environmental policies governing the lands (e.g. Migratory Birds Convention Act, Fisheries Act, or the Wildlife Conservation Act). Their training would make it possible to ensure Cree style land management without the heavy hand of threatening enforcement. Unfortunately this provision has not been acted upon weakening the connection between environmental governing instruments and the experience in the Cree landscape (Field notes 2005).

<sup>70</sup> Canada. Department of Justice. *Oceans Act 1996. c.31 Section 35*. Nov. 28 05. <<http://laws.justice.gc.ca/en/O-2.4/89758.html#rid-89767>>.

immediately connected to the cultural consideration of *Paakumshumwaau* is each *uuchimaau* of the traplines overlapping the watershed. The intimate knowledge that an *uuchimaau* possesses and employs in his or her management of these lands is evidenced in the environmental vitality of the region (Berryman et al 2004 p 25). Furthermore, the Cree Trappers' Association was incorporated in March 1978 to support traditional hunting, trapping and fishing activities of Cree in their land. This broad mandate includes ensuring the economic viability of the harvesting of animals as well as the responsibility for preserving "the traditional wildlife and trapline management expertise of the tallymen" that will assure "the future of this resource base".<sup>71</sup> As such, the Cree Trappers' Association has developed a linking relationship between hunters, trappers and fishers and the regulatory regimes encompassing the conservation and well being of wildlife and their habitat.<sup>72</sup> The Cree Regional Authority: Department of the Environment (part of the administrative arm of the Grand Council of the Crees) also plays a linking role between activity in the landscape and environmental governance provided by the JBNQA.<sup>73</sup> The department provides expertise to the Cree representatives participating on the environmental and wildlife committees instituted by the JBNQA.<sup>74</sup>

Looking out from the *Paakumshumwaau* landscape through the kaleidoscope of protection regimes offered from provincial, federal and international governments, the network is once again dense. The province of

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<sup>71</sup> Cree Trappers' Association. 29 Nov. 05. <<http://collections.ic.gc.ca/trappers/>>.

<sup>72</sup> Cree Trappers' Association. *Cree Trappers' Association: General Information* 29 Nov. 05. <<http://collections.ic.gc.ca/trappers/general.htm>>.

<sup>73</sup> Grand Council of the Crees. *Cree Regional Authority: Department of the Environment*. 29 Nov. 05. <<http://www.gcc.ca/cra/environment.php>>.

<sup>74</sup> Ibid. The Department supports: "The James Bay Advisory Committee on the Environment, The Evaluating Committee, The Federal Review Panel and The Provincial Review Committee [Section 22, JBNQA] as well as the Hunting Fishing and Trapping Coordinating Committee [Setion 24, JBNQA]."

Quebec has established a goal of preserving 8% of its total surface area.<sup>75</sup> To achieve this “17 different judicial or administrative designations”<sup>76</sup> have been instituted preserving a group of landscapes that are representative of Quebec’s natural regions (Table 4).<sup>77</sup> Canada manages protected area strategies through Environment Canada, the Parks Canada Agency, and Fisheries and Oceans Canada (Table 5).<sup>78</sup> The Canadian government also supports partnerships with international protected area programs “including UNESCO Biosphere Reserves, UNESCO World Heritage sites, and Ramsar wetlands sites”.<sup>79</sup> Developing a framework for culturally appropriate protection in *Paakumshumwaau* and the adjacent marine coastal area requires an approach of double perspective. Examining instruments of protection provided by current provincial, federal or international governing institutions for their viability in *Paakumshumwaau* demands understanding both the mechanics of the programs and how well each can embrace the values of Cree environmental relationships and promote their resilience.

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<sup>75</sup> Quebec. Développement durable, Environnement et Parcs. *The Advantages and Challenges of a Strategy targeting Protected Areas: The Challenges of Adopting a Strategy for Protected Areas*. 29 Nov. 05.

<[http://www.mddep.gouv.qc.ca/biodiversite/aires\\_protegees/orientation-en/index.htm](http://www.mddep.gouv.qc.ca/biodiversite/aires_protegees/orientation-en/index.htm)>.

<sup>76</sup> Quebec. Développement durable, Environnement et Parcs. *The Advantages and Challenges of a Strategy targeting Protected Areas: Protected Areas in Québec*. 29 Nov. 05.

<[http://www.mddep.gouv.qc.ca/biodiversite/aires\\_protegees/orientation-en/index.htm](http://www.mddep.gouv.qc.ca/biodiversite/aires_protegees/orientation-en/index.htm)>.

<sup>77</sup> Ibid. “There are some 1,100 natural sites in Québec that meet the definition of ‘protected area’, as follows: ‘areas of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means’”.

<sup>78</sup> Canada. Environment Canada. Canadian Wildlife Service National Site. *Habitat Conservation: Federal Protected Areas*. 29 Nov. 05. <<http://www.cws-scf.ec.gc.ca/habitat/default.asp?lang=En&n=BA28E937-1>>.

<sup>79</sup> Ibid.

### 5.10 Stewardship as Partnership: Are we using the right words?

This study has employed the cumbersome term 'positive human-environment relationships' in an effort to compare human community-landscape relationships in two distinct communities. The comparison of projects indicative of the development of such positive relationships within these two communities reveals the complexity of the relationships themselves. Positive human-environment relationships arise within multiple spatial and temporal perspectives working together. For example, the shoreline restoration of Pointe Claire's Edgewater Park employs elements of wilderness conception as waterfowl breed along the shoreline, free from human predation. It also reflects a natural resources utilitarian viewpoint as the pier accommodates fishing. Further it displays elements of a garden perspective as the serpentine structure of the reformed shoreline and its planting arose from human design rather than non-human evolutionary processes. Moreover, it moves toward a perspective of riverbank as human home as human beings' interaction in the space creates the suburban landscape.

What terminology can we use to help characterize such complex culturally embedded dynamic relationships? Environmental stewardship indicates that the environment is being managed by a steward. "Conducting, supervising or managing"<sup>80</sup> the environment presupposes that the steward possesses a measure of authority and an ability to control some aspect of that environment. Merriam-Webster offers the following definition of stewardship within the context of natural resources management: "careful and responsible management of something entrusted to one's care".<sup>81</sup> While stewardship might be an accurate reflection of the human-environment relationships in suburban North America, it does not capture the distinct environmental partnerships with which Cree are engaged.

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<sup>80</sup> Merriam-Webster Inc. Merriam-Webster On-line. *stewardship*. 5 Jan. 2006. <<http://www.m-w.com/dictionary/stewardship>>.

<sup>81</sup> *Ibid.*

Eastern Cree human-environment interaction occurs within the multiple relationships linking Cree and other entities found in the subarctic environment. As partners in these relationships, Eastern Cree do not necessarily possess superior knowledge, but through respectful interchange partnerships are established and maintained (Berkes 1999; Feit 2004; Preston 2002; Scott 1996). Although this embedding of people within the environment through a network of partnerships could be expressed as a management or stewardship of relationships, the word stewardship still fails to describe an important aspect of Cree human-environment partnerships. Cree perspective on environmental relationships acknowledges the agency of non-human entities (Berkes 1999; Feit 1986; Preston 2002; Scott 1996). An understanding of the agency of both 'others' and humans increases the complexity of environmental interactions, reducing the predictability of deliberate human-directed outcomes (Scott 1996; Preston 2002). This suggests that 'management' skills required in Cree stewardship are consultative.

Leopold addressed the problem of adopting a viewpoint that sets humans apart from our landscape: "When we see land as a community to which we belong, we may begin to use it with love and respect." (p xviii) He suggests that our understanding of evolution should awaken in us a feeling of kinship with the world "a wish to live and let live; a sense of wonder over the magnitude and duration of the biotic enterprise" (Leopold 1966 p 117). Yet pathways to alternate ways of knowing that can extend moral consideration beyond the human sphere are not self-evident. Restricted to a scientific knowledge-building perspective, many mainstream environmental ethicists despair at the possibility of establishing moral parity with anything but humans (Fern 2002 p. 88). As Berque states quite plainly, "ethical reciprocity: is it possible for our culture if non-humans cannot talk to establish their place?" (Berque 2005); acknowledging the reciprocity embedded in the context of human-landscape relationships remains elusive.

Adopting an alternate term such as environmental partnership could draw us closer to a sense of human membership in a community embracing all the elements that comprise the environment (Merchant 2004). Merchant defines her partnership ethic as follows: "A partnership ethic holds that the greatest good for

the human and nonhuman communities is in their mutual living interdependence.” (Merchant 2004 p 223). While ‘the human and nonhuman communities...in their living interdependence’ is evocative of the Cree idea of *miyupimaatisiun* (‘being alive well’) governing the living reality of *Iyiyuuschii*, problems remain with the term ‘greatest good’.

Cree reality is not characterized by good or bad. Reality simply is. One’s duty as *Iyiyuu* is to grow in understanding of that reality. The existence of a ‘greatest good’ in Merchant’s partnership ethic implies that partnerships of lesser good may exist, and further, that a human being’s responsibility according to this ethic is then to choose the ‘greatest good’ from among those other choices. Knowledge must somehow be produced that will indicate which of the choices will derive the ‘greatest good’. Leopold’s land ethic also presents a sliding scale of choices: “A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community.” (Leopold 1966 p 262) Further problems arise as we consider how we become aware of the biotic communities’ well being. Although Merchant acknowledges, “we need to cultivate a new ability to hear nature’s voice” (Merchant 2004 p 227), it remains unclear how we will do this. Cree understandings of the network of relationships that give rise to *Iyiyuuschii* are learned through direct experience in active partnership with the landscape (Davidson-Hunt and Berkes 2003a; Scott 1996; Feit 2004). The suburban reality of partnership building between Pointe Claire human residents and the entities that comprise the riverbank at Edgewater Park is less evident.

Through a comparison of two types of positive human-environment relationships cultivated in two distinct cultural human-landscape partnerships this study suggests that our understanding of human-environment relationships is intimately connected to the way we come to know the world around us. As Cheney challenges, “Can we accept the view that the nonhuman world is an active participant in the construction of knowledge?” (Cheney 1999 p 143). While exposure to alternative environmental perspectives can only enrich one’s own perceptions it is not likely that Cree understandings of reciprocity with the natural environment are transferable to the suburban mind-set. Cheney does however

suggest a way forward towards environmental partnership through a perceptual shift when he suggests that worldviews are derived from ethical practice rather than vice versa (Cheney 1999 p 150). As we continue to experience concrete positive human-environment relationships in our suburban landscapes, we will consequently begin to shift our own cultural understandings away from a directive *modus operandi* towards more responsive, collaborative approaches. In this way the unfailing Cree practice of “inviting respectful relationships” (Feit 2004 p 108) offers a salient example of environmental stewardship as partnership.

## Chapter 6 Individual Environmental Engagement

Ingold proposes adopting a dwelling perspective to better understand the network of relationships emanating from people 'dwelling' within a landscape: "It is from this relational context of people's engagement with the world in the business of dwelling that each place draws its unique significance" (Ingold 1993). Placing oneself on the ground floor so to speak, allows one to look out in spherical fashion to the myriad ways in which humans engage through daily activity in relationships with many elements of their environment. These activities employ all of our senses as well as the cognitive and psychological processes that govern our actions, communications and responses. Davidson-Hunt and Berkes emphasize the importance of adopting a dwelling perspective when examining human-environment relationships in an aboriginal context; knowledge, skill and learning occur within a particular landscape, shaping and in turn being shaped by it (Davidson-Hunt and Berkes 2003a).

While it might be obvious that the dwelling perspective reveals much about the East Cree relationship with *Paakumshumwaau*, what does it offer to a consideration of the Pointe Claire residents' relationship with Edgewater Park? In her assessment of non-aboriginal landscape values, Dakin surmises, "people, as inhabitants of places, appreciate landscapes more intimately and less visually than expert approaches assume." The personal engagement with landscape recounted by the Pointe Claire group interviews revealed a similarly rich appreciation of human encounters with the natural world. It is with a 'dwelling perspective' in mind that the following framework analysis was made of the anecdotal evidence gathered from the group interviews.

### 6.1 Environment conversation themes

Listening to the recordings of the conversations and noting themes that were frequently repeated, a list of themes was developed for each of the two community sets of group interviews (Corbin and Strauss 1990; Dakin 2003). Table 6 is a representation of the general content of the Pointe Claire group interviews by conversation themes. The list reflects the equal weighting of

activities involving physical movement (Themes 1-5), activities that are sensorial but don't require as much movement (Themes 6-10), and activities related to a concern for the larger Pointe Claire landscape and human-environment relationships in general. Table 7 describes the thematic content of the Wemindji conversations. Here the majority of comments focused on hunting experiences in the Wemindji landscape (Themes 1-8). As well, most participants included at least one response associated with a state of being relaxed or happy when in the bush (Themes 11-13). The Wemindji conversations were less concerned with articulating sensorial descriptions of landscape experience (Themes 9 and 10).

## **6.2 Learning through direct experience**

It is interesting to note that the Pointe Claire interviewees repeatedly mentioned the importance of learning through individual experiences in natural landscapes such as Edgewater Park (Theme 11). Participants perceived this direct experience in the landscape to be a most efficacious way of learning about ecological relationships. Further, the direct experience made concrete for each of them the connection between human beings and the ecosystems within which they live. The multi-sensorial experience of a walk along this lakeshore was perceived to build intimate personal knowledge of such things as its inhabitants or the dimensions of seasonal change. Although these comments came from parents concerned with the development of ecological sensibilities in their children, the same participants emphasized the importance of this direct experience for the continued development of their own personal relationship with this environment.

In a cultural climate where virtual learning via books, radio, television, film or computer has replaced many direct learning experiences, vivid life moments lived in the Edgewater Park take on new appreciation. The cultural tradition of East Cree life on the land is tightly bound to the lessons learned from direct experience (Feit 2004). Davidson-Hunt's and Berkes' work with Anishinaabe Cree focuses on the emergence of individual identity as it is "built through on-going practical experiences and communication" within the landscape (Davidson-Hunt and Berkes 2003a). While the Wemindji group conversations did not speak explicitly to this aspect of landscape experience, many of the Cree

participants mentioned childhood experiences in *Paakumshumwaau* that revealed life lessons learned in the bush (such as listening to a hunter's goose calls, learning which one to use at the appropriate time; or learning the vocabulary that distinguishes beaver by age and role within the beaver lodge).

Connected to the idea that direct experience in the landscape builds and strengthens human-environment relationships is the preponderance of urban and sub-urban landscape experiences providing relatively passive tourist-style recreational activity (Light 2003). Light emphasizes that natural landscapes in urban settings must engage residents in a social project of building relationships, with each other as well as with other environmental elements. Recognizing the aesthetic value of a landscape such as Edgewater Park is not enough (Light 2003; Michelfelder 2003; Zavestoski 2003). Relating to elements in the landscape through direct landscape experience shapes individual human identity promoting an individual sense of responsibility and respect towards those elements (Davidson-Hunt and Berkes 2003a; Light 2003; Michelfelder 2003; Zavestoski 2003).

Many of the differences between the conversations in these two community groups emerge from cultural differences in landscape activity. Embedded in these differences is also a distinction in the way participants know themselves, their landscape and their relationship to that environment. Evidence arising from studies such as Myers and Russels' work with the development of relationships between humans and Black bears in the wild indicates that humans do indeed engage in meaningful relationships without the use of language (Myers and Russel 2003). This understanding would be obvious to a Cree hunter (Berkes 1999; Feit 1986, 2004; Scott 1996) -- obvious in a way that it would not seem to require explanation. Further, the words required to relate the context of this understanding would most readily take the form of story (Preston 2002). Unfortunately the scope of the group conversations in this study did not permit the exploration of Cree narrative.

### 6.3 Comparing human-environment relationships

To facilitate comparison of the two groups of environmental themes, three sets of qualitative descriptors were identified from the context of both of the community sets of group conversations (Table 8). Here similarities and distinctions are beginning to emerge. While Cree language and its intimate relationship to landscape activities is an important component of *Iyiyuuschii*, language was of no consequence in the Pointe Claire conversations. Similarly, the value of finding isolation from human relationships is important in Pointe Claire landscape experiences, however this concern does not arise in the Cree conversations. On the other hand, both communities look forward to the relaxing feeling that accompanies experiences in these landscapes. Despite differing cultural relationships with wild animals, both sets of conversations related an unmistakable excitement associated with experiencing the presence of wildlife in its own habitat.

### 6.4 Environment Conversation Themes Compared via 'Elements'

The most commonly occurring elements arising in all the group interview conversations are noted across the top of Tables 9 and 10. The corresponding cells are shaded or not according to the occurrence of this particular element within the conversations. Since it is not a numeric or otherwise quantitative measure the indications of elements arising in conversations demonstrate a relationship of relative importance of this element to the group conversation theme. Hence, it is evident that active movement within the landscape is an important element of Pointe Claire respondents' landscape experiences. Likewise, interview comments frequently referred to an important attachment to the water landscape of the St. Lawrence River.

An interesting recurring comment in the Pointe Claire conversations was the value of maintaining diverse means of access to the water's edge. Edgewater Park established a serpentine multi-levelled rocky ledge riverbank. These curving rows of cut stone serve to stabilize the shoreline while providing a secure and inviting footpath for visitors, leading them into and through the space of the

riverbank. The multi-levels of the pathways permit choice of proximity to the water and riverbank vegetation. The park also includes a pier leading from the grassy area adjacent to paved parking spaces directly out over the water. Group interview participants in Pointe Claire noted that maintaining a variety of ways in which to access the waterside area was a good idea. While it is a relatively small landscape, accessibility options such as sitting in a lawn chair on the grass, or strolling out along the pier or walking in and about the shoreline vegetation offer a variety of ways in which to engage with the landscape. Diversity of access was observed to optimize the likelihood of community activity within the park which was felt to be positive. However, this was voiced along with the ever present caveat: without introducing any built or technological artifacts (such as a shelter or boats).

In the Wemindji group conversations, diversity of access to the landscape did not arise in the conversation in the same way. Landscape activity engaged in by boat, walking, airplane, snow machine, dog sled, road or off road vehicle was spoken of within the context of particular activities, but not in terms of relative ease, preference or importance. Rather, as might be expected in a subsistence culture of the subarctic, hunting activity and animals played a dominant role while water and trees were constant partners in individual perceptions of landscape experience.

### **6.5 Environment Conversation Themes Compared via 'Feelings'**

This particular analysis identifies the qualities related to particular themes that came up in the Pointe Claire and Wemindji group conversations (Tables 11 and 12). The fact that a theme is characterized by an appreciation of beauty does not reflect how many times or with what emphasis beauty was described as being a quality of importance in participants' experience in the landscape. Rather, this analysis allows a comparison of the relative importance of the feelings (identified within the participants' experiences in this landscape) as compared with one another. Thus, in the Pointe Claire 'feelings' analysis, it is apparent that beauty and a feeling of connectedness with the landscape are associated with twice as many of the landscape themes.

In the Wemindji landscape 'feelings' analysis it is immediately evident that feelings of relaxed connectedness are associated with almost all the landscape experiences mentioned in conversation. Equally noticeable is the lack of indication of feeling isolated. Here one may begin to articulate differences in cultural perspective. Without exception, the comments in the Pointe Claire conversations relating to isolation were described as referring to isolation from human social contact, and human suburban activities. For example, when describing the quality of quietness one participant felt in this solitude the respondent was quick to add that the quiet and sense of removal meant being able to feel a bubble of tranquility surrounded her and the noises of nearby traffic and other human activity were somehow silenced. It is not hard to imagine that the experience of Cree hunters in the landscape would be almost the opposite of isolation. Hunters would be looking, listening -- feeling for the many signs of life in the landscape. Yet this state of alertness is strongly associated with a feeling of relaxation or freedom from stress, as in the Pointe Claire experiences. Some other similarities also cross cultural boundaries, for instance the relative comparativeness of landscape experiences eliciting excitement or evoking feelings of nostalgia.

#### **6.6 Environment Conversation Themes Compared via 'Significance'**

A quick glance at these tables reveals the importance to participants of making sites such as Edgewater Park or *Paakumshumwaau* available to all community members (Tables 13 and 14). As mentioned above, group conversations affirmed a concern for respecting the natural environment and finding a good balance between human activities that have a negative impact on the landscape and efforts to maintain healthy environments. From the Wemindji conversations it is clear that landscape experience is rooted in respect and rendered significant through the use of the Cree language. This was clarified through references to concern with dissatisfaction with the different behaviour of non-Cree hunters on Cree land. Accessibility to the larger Wemindji landscape (i.e., the area beyond the confines of the town landscape) was targeted by several participants. For the most part, obligations to town jobs and lack of close

connection to established hunting, fishing or trapping camps were cited as regrettable circumstances curtailing further engagement in land-based activity. Notably, the idea of a balance between human activity and landscape health did not enter the conversations.

## 6.7 Identity and Responsibility

“Understanding identity and its role in mediating behaviour toward the natural world not only has provocative implications for research but it also has important practical implications. If we better understand what makes people passionate about the environment, we can understand the psychological mechanisms capable of fostering protective environmental policies and behavior.” (Clayton and Opatow 2003 p 2)

The importance of hunting to the Cree landscape experience is reflected in the Wemindji conversation themes. To hunt, a person must interact with the environment; one is not simply in the landscape but is a participant within the landscape system. This is the type of integral relationship described by *Iiyuuuschii*. The perspective from within the landscape network immediately acknowledges all the contingencies shaping happenings within the environment. The fact that each activity depends on the context of season or ecosystem functioning is a given. Consequently, balancing one's own activity in relation to environmental activity is a constant reality. In the Pointe Claire community context, the concern with determining a good balance between human activity and ecosystem functioning derives from a perspective that distinguishes human activity from ecological activity.

Describing human relationships with places, Sack identifies three spheres of activity that constitute the human notion of place: social relations, meaning and Nature (p 84). Should the word landscape be substituted for the word place, it is possible to see how all three networks of social relations, meaning and the natural world work together to produce a landscape. Confining ourselves to ecological knowledge, we might ask: How is ecological meaning derived from the Cree landscape experience, *Iiyuuuschii*? Learning from the land is a reciprocal experience. The animals, for instance, are at once both teachers of humans and learners from humans (Bastien 2003; Davidson-Hunt and Berkes 2003a; Berkes 1999; Scott 1988). In this way, Sack's three networks become one.

The development of hunting skills requires building relationships with the habitat as well as the community of hunted species in order to grow in knowledge and respect. Social relationships infiltrate the natural world producing meaning that is indistinguishable from place; the well being of all the elements of the hunting network--that is balance--is considered.

In the context of a North American suburban community, ecological meaning is also derived from the landscape. But here the cultural emphasis is on knowledge through observation. Observation in this context refers to information that may be accumulated primarily through sight, sound, smell, or touch. Here, the human being is learning from the elements of the environment. But there is little recognition that members of the ecological community might be learning from humans in return. Of course, suburban community members understand only too well that human behaviour can have a distinctly negative impact on ecological health. But the cause and effect relationship of this behaviour is often removed, by times at a global scale, from the day-to-day experience of suburban life. From this perspective, the ability of humans to disengage from ecological relationships would appear to be at the heart of concerns for establishing a balance between human activity that produces negative impacts and human activity that promotes environmental health.

Cree human-environment relationships are maintained through direct experience in the landscape, where the notion of healthy living is expressed through the term *miyupimaatisiin*, 'being-alive-well', in a state of mutual respect with one's landscape. Responsibility to the many members of the landscape community arises when one acts in response to the relationships of mutual respect. In a suburban context, much of our personal human identity develops meaning through the reactions of other humans towards our own behaviour (Zavestoski 2003 p 300).

If we were to posit an ecological quality to our personal human identity, that we might call our ecological identity, it would similarly arise through the reactions of our surrounding natural environment to our behaviour towards it (Zavestoski 2003 p 300). As our social identity strengthens we are able to

perceive responsibilities to behave in appropriate ways with one another. So too, as an ecological identity takes shape, responsibilities towards landscape elements are recognized. In suburban communities we are well habituated in developing social relationships between humans, less so however, in relationships with other elements of our landscape. For instance, we are inevitably tied to water because of our biological need to consume it. But marshy riverside grasses that maintain river integrity hold less value as immediate necessities for human life.

As the group conversations suggest, for both cultures, it is often difficult to make room in our lives for direct experiences within the natural landscapes we inhabit. The nature of the relaxation response related by the members of these two communities differed. However, the individual comments of all the participants indicated that the reality of direct physical contact within natural environments improves personal wellbeing. This positive response mechanism perhaps bodes well for continued development of environmental partnerships.

## Chapter 7 Conclusion

At the core of positive human-environment relationships resides the question of how human responsibility for the well being of surrounding landscapes arises. What roles do humans play in the landscape and how do these roles shape modifications of the landscape affecting the well being of both the human and ecological communities sharing the landscape? European settlement along the shores of Lake St. Louis in the 1600's established a producer-consumer relationship between the human communities (consumers) and St. Lawrence River ecosystems (producers). Long time a source of water and food (fish and water fowl), the river with its deep waters and strong current has had an important role transporting furs, logs, people, food, raw materials and manufactured products. This utilitarian attitude toward the river has guided residential communities' adaptations to changing conditions in river quality over the years. At the close of the 20<sup>th</sup> century however, Montreal communities are concerned with the diminished health of the river's ecosystems and are beginning to question environmental relationships that assign such narrow instrumental values to ecosystems.

Some 1200 km to the north of the St. Lawrence River the Cree people of the eastern coast of James Bay experience a different relationship with the surrounding taiga. Through an examination of the cultural context in which the search for an appropriate protection strategy for *Paakumshumwaaau* and its adjacent marine coast arises, this study explores the cultural foundations on which environmental responsibility rests in an East Cree community. A community deeply rooted in hunter-gatherer connections to the environment, Cree concepts of respectful cooperative relationships with the elements of the environment guide human activity in partnership with the landscape. Shifts in land occupancy in the latter half of the 20th century present new challenges for Cree life projects and the continued experience of tightly networked relationships within the subarctic landscape.

The critical examination of theoretical perspectives of the environmental ethics arising from these two distinct cultural contexts indicates distinctive cultural approaches to human-environment relationships, a suburban competitive one and an East Cree collaborative one. The comparative analysis of the two landscapes' physical environments developed in Chapter 4 examines how patterns of human land occupancy give rise to the current shape of these two landscapes. The implication of human responsibility to the well being of these two landscapes takes shape differently within the context of the two cultural communities' notions of property. While mainstream property regimes struggle to define tailored bundles of rights in an effort to encourage responsible occupancy, East Cree communities experience a reverse struggle, trying to contain fluid contingent understandings of abiding respectful human-landscape partnerships in institutional frameworks that require explicit definition of human activity within specific spatial extents. Furthermore, in making human-environment relationships explicit the scientific empirical model of knowledge building distinguishing clearly between fact and value in suburban communities etches a different path for human environmental responsibility than in the East Cree case where notions of fact and value remain indistinguishable. While mainstream ecosystemic perspectives on environmental issues begin to approach contextual understandings such as the East Cree experience, direct implication of human responsibility for ecological health remains elusive in suburban communities.

Despite some similarities at the federal and provincial levels of government, Chapter 5 reveals how regional administrative governing instruments shape the projects growing out of two community contexts. The value of developing effective environmental governance has been noted in the nested policy network capturing broader ecological linkages in the St. Lawrence River system. Discerning regulation such as the Pointe Claire's shoreline acquisition by-law supports policy and is capable of constraining further environmental degradation without obliterating the human community's freedom of access. The success and limitations of grounding Cree environmental understandings in governing policy is evident in the JBNQA. As the community of Wemindji

considers the feasibility of seeking formal protection of Cree landscape within the broader institutional contexts of the Quebec Provincial and Canadian Federal governments, questions arise. For example, is it possible to reinforce and maintain positive human-environment relationships within the Cree concept of *Iyiyuuschii* in this manner? The eventual success of the *Paakumshumwaau-Wemindji* project requires that mainstream institutional arrangements strive not to contain the environment in order to manage it, but rather that those institutions become situated within the landscape partnership responding in a respectful way to the dynamic continuity of environmental well being in a human occupied animate landscape.

The anecdotal collection of individual understandings of human-environment relationships analyzed in Chapter 6 reveals an interesting concern for human-ecological 'balance' in the suburban community residents that is absent in the Wemindji participants' conversations. For East Cree the fact that the landscape is means that balance is intact. It is each individual's responsibility (along with fellow non-human members of the landscape community) to discover and participate respectfully in that balance. Suburban Pointe Claire residents on the other hand are deeply concerned that the world is out of balance. Understandably, evidence of the diminished health of major ecological systems like the St. Lawrence River contributes forcefully to such a perspective. However, bolstered by the authority of scientific knowledge feeding a global economic system tailored to sustain industrial and technological development such a concern for balance is equally founded on the notion that it is the role of human beings, in the unfolding of their life projects, to impose balance in a chaotic, competitive planetary environment.

Understandings that human beings develop in their personal relationships with their landscapes are tightly linked to the way they go about knowing that environment. For East Crees, since the landscape community of *Iyiyuuschii* possesses agency of its own, it is the responsibility of all landscape community members, humans included, to use all their faculties to learn and respect the will of the other landscape community members. In a suburban community such as

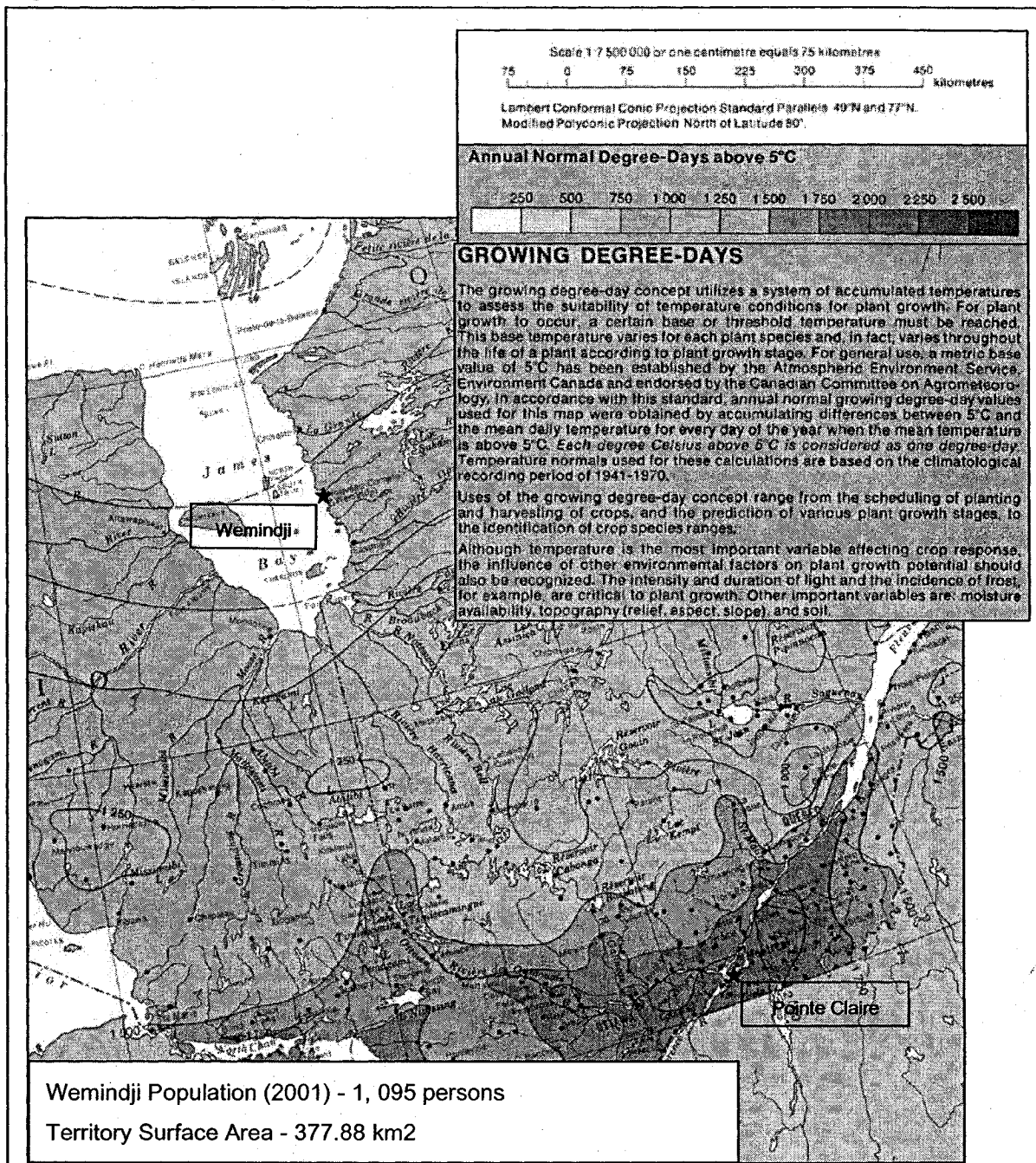
Pointe Claire, human community members understand environmental partnership to be a learning process as well. Here however, elements of the natural landscape are not understood in a social context. While ecosystems function dynamically in complex interconnection with one another, they are not understood to communicate what, if any, agency they themselves possess; as such they are silent partners.

Given the increasingly evident negative impact the human community is imposing on our planetary environment the question begs: how can we deepen the engagement of suburban human communities in an environmental partnership? This study suggests that opening human perception to more diverse and global understandings of our natural environment offers a pathway towards this end. As demonstrated in the East Cree case, increasing human community environmental awareness of local ecological communities through direct human experience in the landscape is key. However, the limited spatial extent in Edgewater Park offers constrained opportunity for human interaction in the riverbank community. Moreover, through such restorative landscape projects, suburban communities are not likely to abandon the notion of a competitive natural environment requiring the benevolent yet oftentimes oppressive managerial hand of the steward.

As Merchant asserts, it is increasingly clear that the objectified environment of 'scientific' inquiry proves unwieldy in its ability to perceive the complexity of natural planetary systems, human social institutional networks and the relationships between the two. A partnership perspective will require a softening of the authoritative voice of science accompanied by a promotion of complementary ways of building knowledge of our planetary environment, not the least of which is developing respect for our own individual capacity to know and understand the ecological communities of our landscapes. Can we realign our western project of human expectation with a humbler co-operative project that situates the human community within the larger planetary community that is already 'as good as it gets'?

## FIGURES

Fig. 1: Wemindji Geographical Context



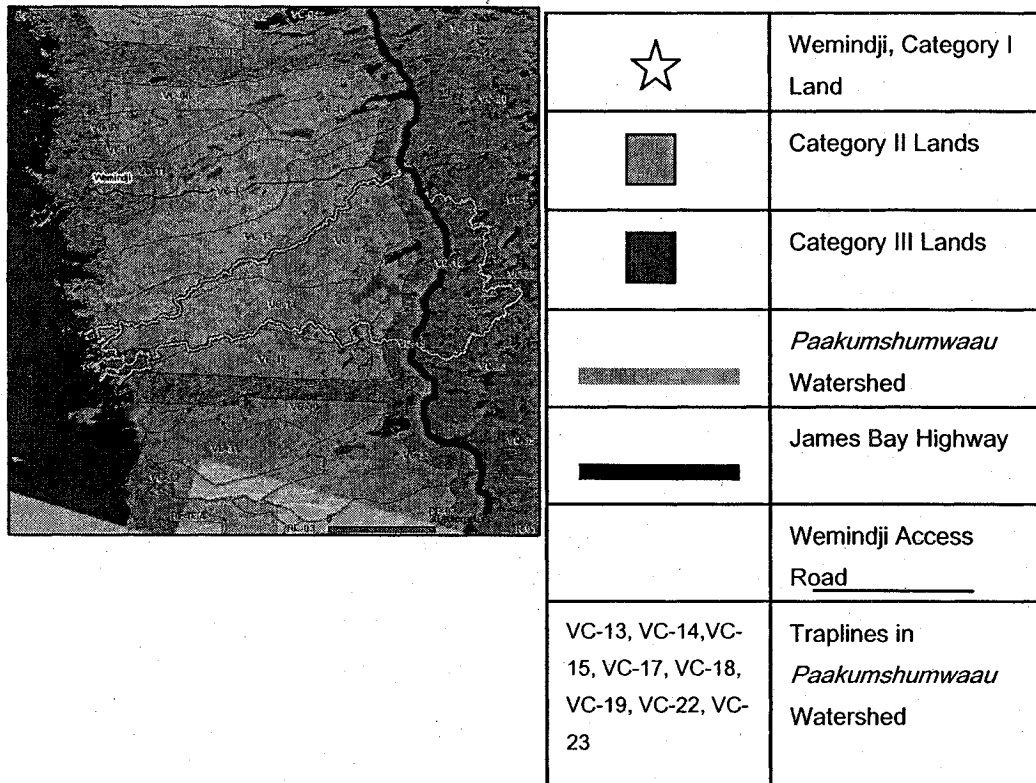
Population Data: Canada. Statistics Canada. 8 May 2006.

<<http://www12.statcan.ca/english/profil01/CP01/Details/Page.cfm?Lang=E&Geo1=CSD&Code1=2499812&Geo2=PR&Code2=24&Data=Count&SearchText=Wemindji&SearchType=Begin&SearchPR=01&B1=All&Custom=>>

Map Source: Canada. The Atlas of Canada. *Degree Growing Days Map*. 25 January 2006.

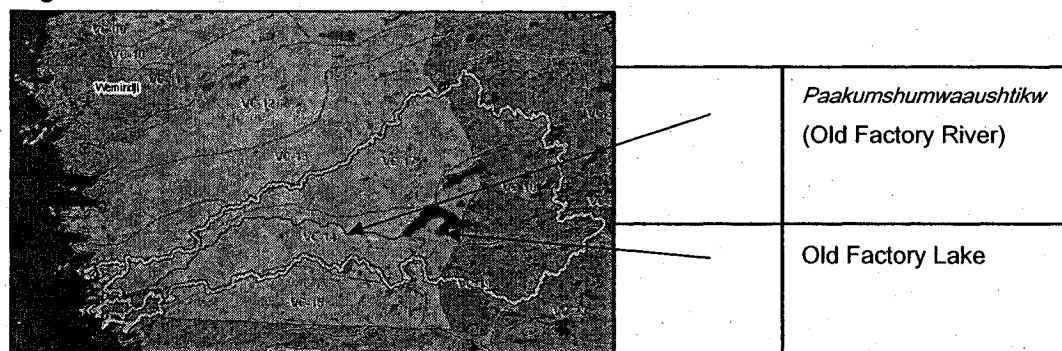
<<http://atlas.gc.ca/site/english/maps/archives/5thedition/environment/climate/mcr4034>>.

Fig. 2: *Paakumshumwaashtikw* (Old Factory River)



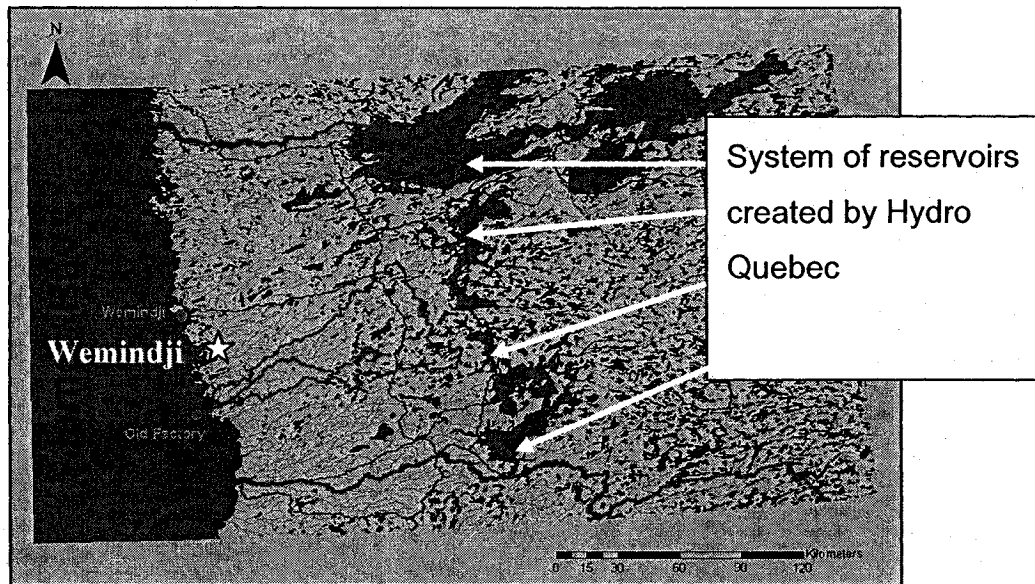
Map Source: *Paakumshumwaau*-Wemindji Protected Area Project. Resources: SSHRC CURA Project Description. 2 May 2006.  
[http://maps.strata360.com/website/mcgillweb/pdf/CURA\\_description\\_Final2.pdf](http://maps.strata360.com/website/mcgillweb/pdf/CURA_description_Final2.pdf).

Fig. 3: *Paakumshumwaau* watershed context



Map Source: *Paakumshumwaau*-Wemindji Protected Area Project. Resources: SSHRC CURA Project Description. 2 May 2006.  
[http://maps.strata360.com/website/mcgillweb/pdf/CURA\\_description\\_Final2.pdf](http://maps.strata360.com/website/mcgillweb/pdf/CURA_description_Final2.pdf).

Fig. 4: *Paakumshumwaau*-Wemindji Hydroelectric development context



Map Source: Benessaiah, K., A. Bennett, S. Boyce, E. Crawford, V. Demers, M. Forrest, É. Lagacé, C-C. Lemoine, C. Péloquin, J. Sayles, S. Schiff and K. Scott. 2003. *Aa-wiichaaautuwiihkwa: Creating a Culturally Appropriate Watershed and Adjacent Marine Coastal Protected Area in Paakumshumwaau (Old Factory) Wemindji, James Bay, Quebec*. Montreal: McGill University.

Fig. 5: *Paakumshumwaa* - Early 20th century Old Factory coastal settlement

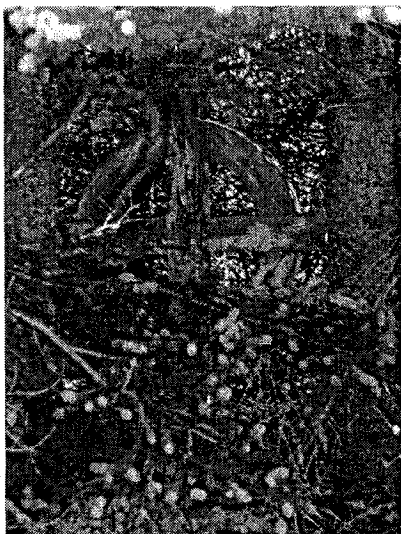
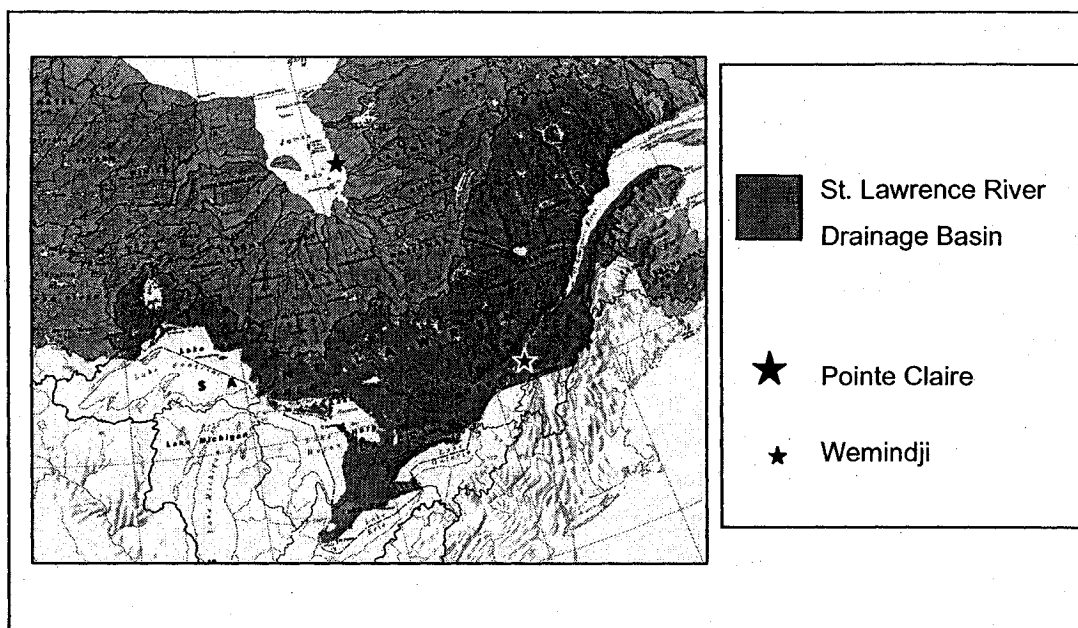


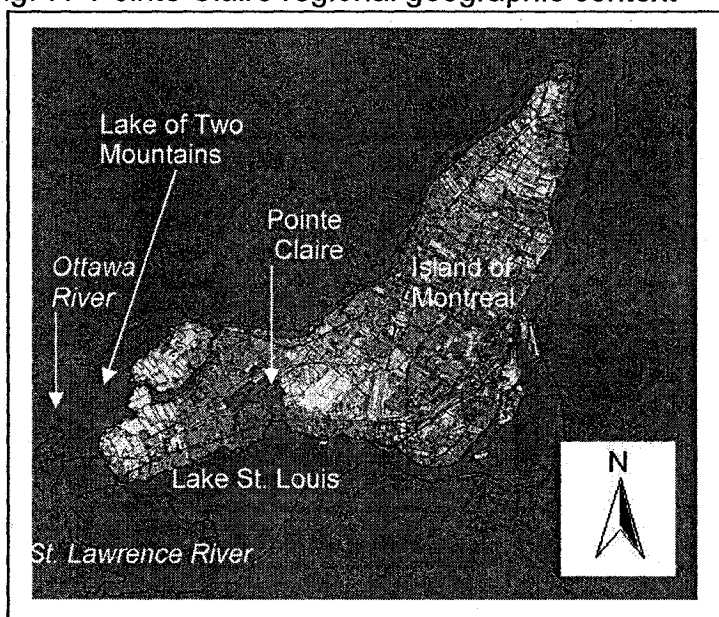
Photo Source: Katherine Scott 2005

Fig. 6: Pointe Claire and Wemindji continental watershed context



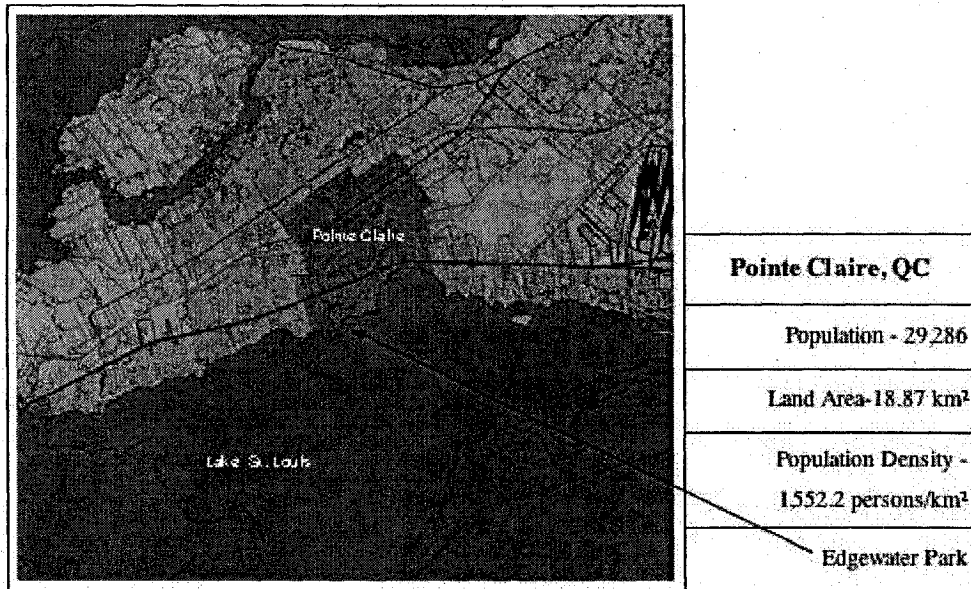
Map Source: Canada. The Atlas of Canada. *Drainage Basins* 1985. 25 January 2006  
<http://atlas.gc.ca/site/english/maps/archives/5thedition/environment/water/mcr4055#download>.

Fig. 7: Pointe Claire regional geographic context



Map Data: City of Montreal Land Use (1996)  
 Map created by: Margaret Forrest

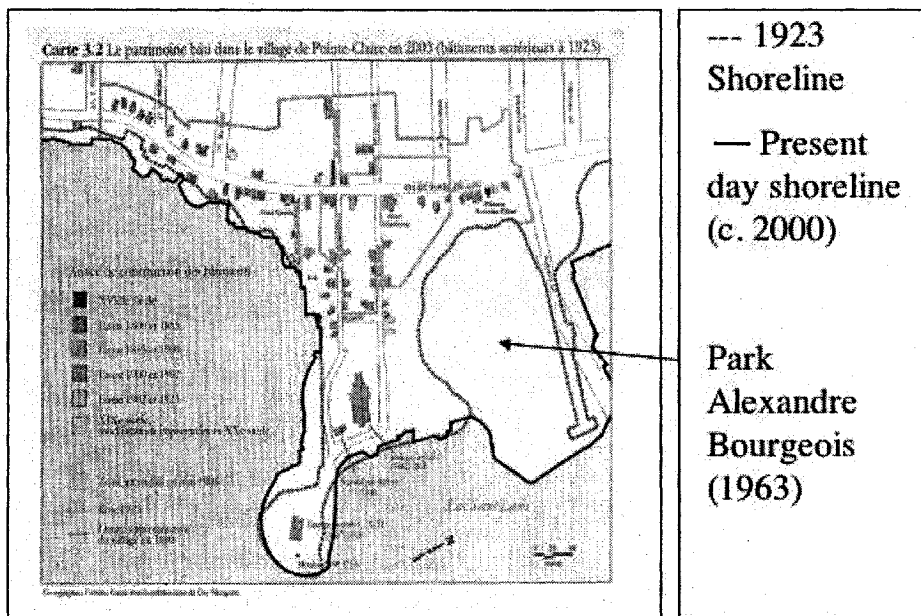
Fig. 8: Pointe Claire local geographic context



Map Data: City of Montreal Land Use (1996)

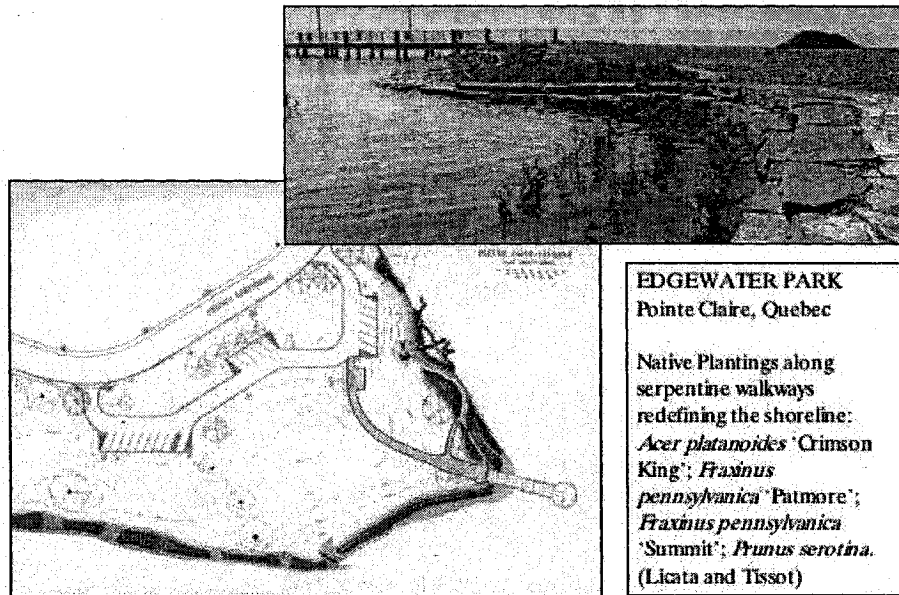
Map created by: Margaret Forrest

Fig. 9: Pointe Claire Historic Shoreline Change

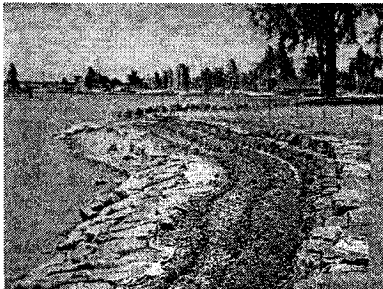


Map Source: Licata, J. and E. Tissot. 2005. *Conférence sur la situation des rives à Pointe-Claire et le projet du Parc Edgewater*. Montréal: Division des parcs et de l'horticulture, Service des Travaux publics, Arrondissement de Pointe-Claire, Ville de Montréal, Québec.

Fig. 10: Edgewater Park, Pointe Claire



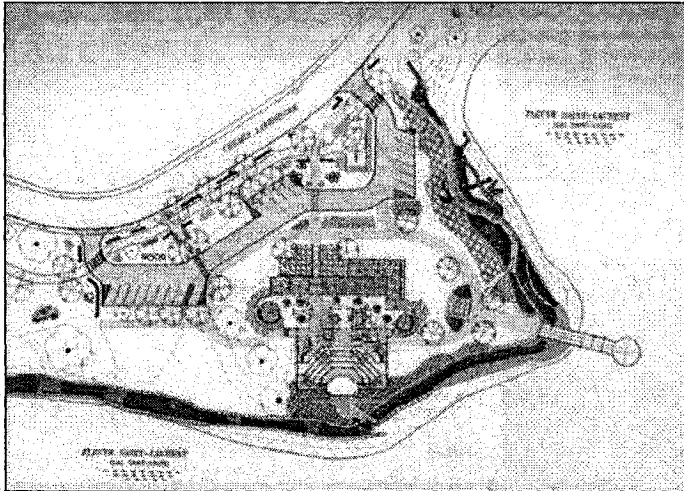
Edgewater Park BEFORE (looking east)



Edgewater Park AFTER (looking west)

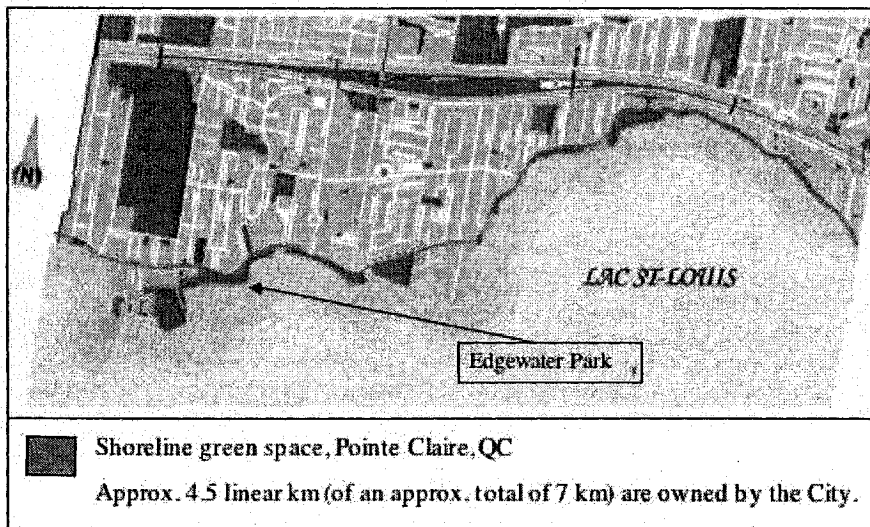
Map and Photos Source: Licata, J. and E. Tissot. 2005. *Conférence sur la situation des rives à Pointe-Claire et le projet du Parc Edgewater*. Montréal: Division des parcs et de l'horticulture, Service des Travaux publics, Arrondissement de Pointe-Claire, Ville de Montréal, Québec.

Fig. 11: Phase III (projected) Edgewater Park, Pointe Claire



Map Source: Licata, J. and E. Tissot. 2005. *Conférence sur la situation des rives à Pointe-Claire et le projet du Parc Edgewater*. Montréal: Division des parcs et de l'horticulture, Service des Travaux publics, Arrondissement de Pointe-Claire, Ville de Montréal, Québec.

Fig. 12: Pointe Claire, QC shoreline greenspace



Map Source: Licata, J. and E. Tissot. 2005. *Conférence sur la situation des rives à Pointe-Claire et le projet du Parc Edgewater*. Montréal: Division des parcs et de l'horticulture, Service des Travaux publics, Arrondissement de Pointe-Claire, Ville de Montréal, Québec.

Fig. 13: Pointe Claire shoreline property acquisition policy

**City of Pointe Claire Purchase Policy for Riverside Property**

In the riverside property purchase regulations it is agreed that:

- The City will not erect or permit the building of any structure for commercial, industrial or residential use, permanent or temporary
- The City will not proceed with a resale of the property
- The City will conserve the property exclusively for recreation or park development use
- The City will maintain the property

Chart source; Licata, J. and E. Tissot. 2005. *Conférence sur la situation des rives à Pointe-Claire et le projet du Parc Edgewater*. Montréal: Division des parcs et de l'horticulture, Service des Travaux publics, Arrondissement de Pointe-Claire, Ville de Montréal, Québec.

Fig. 14: Pointe Claire shoreline retaining wall, Green space corner of Lakeshore Rd. and boul. St-Jean

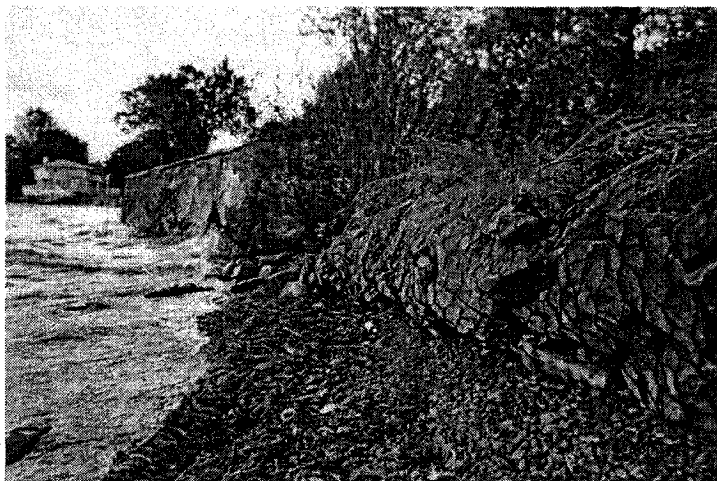


Photo Source: Margaret Forrest 2004

Fig. 15: Regulatory Institutional Context

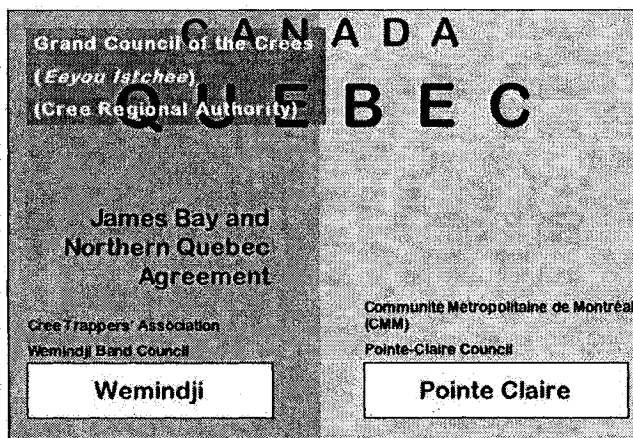


Fig. 16: Canadian Federal Environmental Regulatory Context

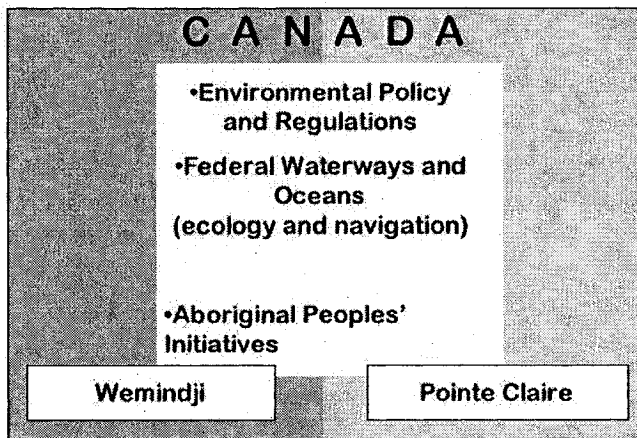


Fig. 17: Quebec Environmental Regulatory Context

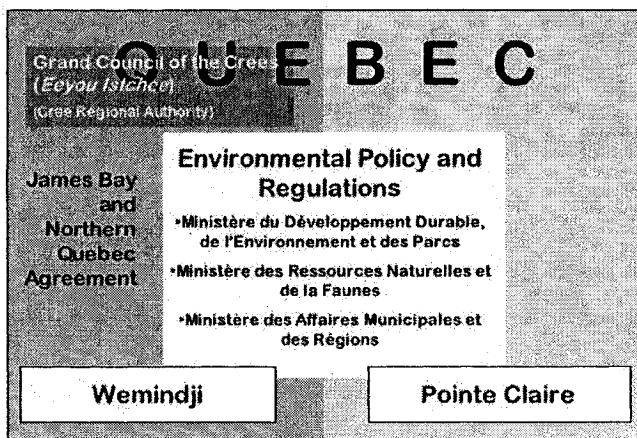


Fig. 18: Regional Environmental Regulatory Context

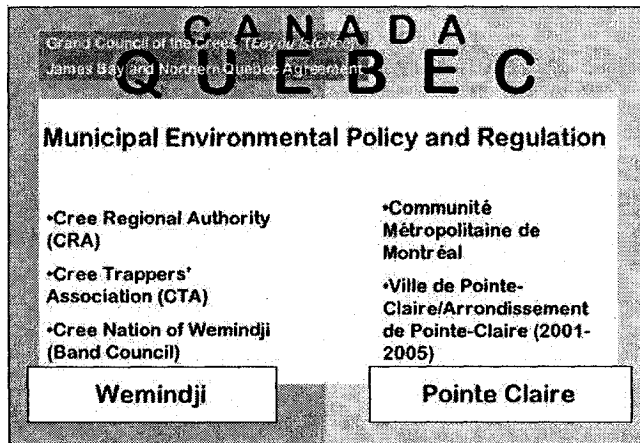
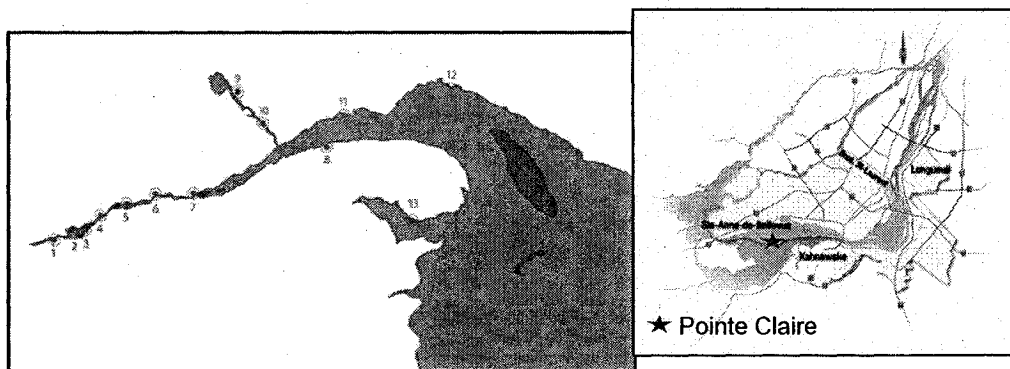


Fig. 19: ZIP Committees



ZIP Committees: Map of the area of ZIP Ville-Marie (light blue shading indicates the river body covered by the zone; sand coloured shading indicates the municipalities and boroughs that fall within the purview of the committee ( # 2 - ZIP Ville Marie (Pointe Claire).

Map Sources: Quebec. Stratégies Saint-Laurent. Les comités ZIP. 25 Nov. 05.

<<http://www.strategiessl.qc.ca/strate.fra.html>>; Quebec. Comité zone intervention prioritaire (ZIP) Ville-Marie. Area. 25 Nov. 05. <<http://www.zipvillemarie.org/en/103are.htm>>.

Fig. 20: *Paakumshumwaau* goose flyways



Photo source: Katherine Scott, *Paakumshumwaau*-Wemindji Project 2004

Fig. 21: Pointe-Claire Green Space (Lakeshore-St. John's)

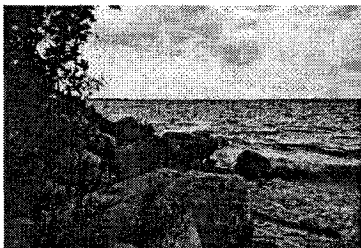


Photo source: Margaret Forrest 2004

Fig. 22: *Paakumshumwaau* – an island shoreline



Photo source: Katherine Scott, *Paakumshumwaau*-Wemindji Project 2004

Fig. 23: *Paakumshumwaau* beaver dam



Photo source: Katherine Scott, *Paakumshumwaau*-Wemindji Project 2003

Fig. 24: Edgewater Park pier



Photo source: Margaret Forrest 2004

Fig. 25: Terra Cotta Natural Park (A), Pointe Claire

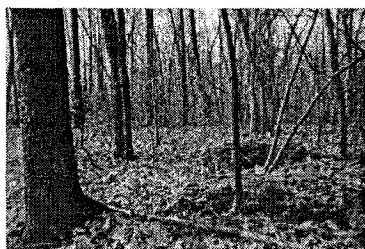


Photo source: Margaret Forrest 2004

Fig. 26: *Paakumshumwaau*—Old Factory Lake portage trail



Photo source: Jenn Burt, *Paakumshumwaau*-Wemindji Project 2004

Fig. 27: Edgewater Park ducks

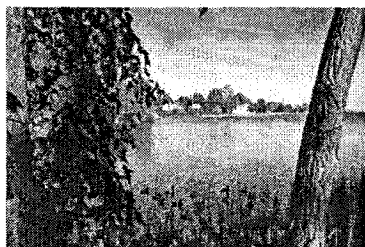


Photo source: Margaret Forrest 2004

Fig. 28: Terra Cotta Natural Park (B), Pointe Claire



Photo source: Margaret Forrest 2004

Fig. 29: Rapids *Paakumshumwaashtikw*

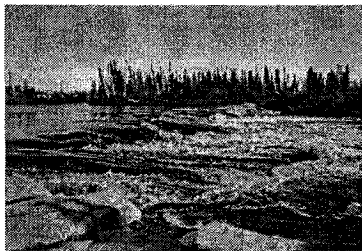


Photo source: Margaret Forrest 2003

## TABLES

Table 1: Bundles of Property Rights (after Schlager and Ostrom)

| Bundles of Rights Associated with Positions<br>(Table adapted from Schlager and Ostrom) |                                                                                                                                                                  |       |            |          |                 |
|-----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------------|----------|-----------------|
|                                                                                         | Definition of Rights                                                                                                                                             | Owner | Proprietor | Claimant | Authorized User |
| <b>Alienation</b>                                                                       | The right to sell or lease or both of the above collective-choice rights.                                                                                        |       |            |          |                 |
| <b>Exclusion</b>                                                                        | The right to determine who will have an access right, and how that right may be transferred.                                                                     |       |            |          |                 |
| <b>Management</b>                                                                       | The right to regulate internal use patterns and transform the resource by making improvements.                                                                   |       |            |          |                 |
| <b>Access and Withdrawal</b>                                                            | Access: The right to enter a defined physical property.<br>Withdrawal: The right to obtain the products of a resource (e.g. catch fish, appropriate water, etc.) |       |            |          |                 |

Chart Source: Schlager, E. and E. Ostrom. 1992. "Property-Rights Regimes and Natural Resources: A Conceptual Analysis". Land Economics 68(3):249-262.

Table 2: St. Lawrence River Action Plan Partners

| St. Lawrence River Action Plan Partners                |                                                                                         |                          |
|--------------------------------------------------------|-----------------------------------------------------------------------------------------|--------------------------|
| Canadian Government Departments                        | Quebec Government Departments                                                           | Other Organizations      |
| Agriculture and Agri-Food Canada                       | Agriculture, Pêcheries et Alimentation                                                  | Stratégies Saint-Laurent |
| Economic Development Canada                            | Environnement (now Ministère du Développement durable, de l'Environnement et des Parcs) | ZIP committees           |
| Environment Canada                                     | Faune et parcs (now Ministère des Ressources naturelles et de la Faune)                 | Advisory Committee       |
| Canadian Heritage                                      | Santé et Services sociaux                                                               |                          |
| Fisheries and Oceans Canada - St. Lawrence Observatory | Transports                                                                              |                          |
| Health Canada                                          |                                                                                         |                          |
| Transport Canada                                       |                                                                                         |                          |
| Public Works and Government Services Canada            |                                                                                         |                          |

Chart Source: Quebec. St. Lawrence Vision 2000. *Partners*. 25 Nov. 05.  
[http://www.slv2000.qc.ca/plan\\_action/phase3/partenaires\\_a.htm](http://www.slv2000.qc.ca/plan_action/phase3/partenaires_a.htm).

Table 3: ZIP Ville Marie

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Vision Statement - ZIP Ville-Marie</b>                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| A community whose decision-makers share with all residents in awareness of the fragility of aquatic ecosystems and incorporate a concern for biodiversity preservation into planning and other activities.                                                                                                                                                                                                                                                                     |
| <b>Our Mission - ZIP Ville-Marie</b>                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <p>ZIP Ville-Marie seeks to mobilize citizens and stakeholders of the Montreal region and to encourage their participation in activities that:</p> <ul style="list-style-type: none"> <li>• Protect, conserve and enhance the ecosystems of the St. Lawrence River and its tributaries;</li> <li>• Publicize and share environmental information and knowledge;</li> <li>• Restore access and use of the St. Lawrence and its tributaries within the urbanized area</li> </ul> |
| <b>Ecological Rehabilitation and Action Plan (ERAP) - ZIP Ville-Marie</b>                                                                                                                                                                                                                                                                                                                                                                                                      |
| <p>The ERAP reflects the concerns of community members and sets out concrete implementation strategies grouped in four distinct areas:</p> <ul style="list-style-type: none"> <li>• Pollution prevention and decontamination</li> <li>• Environmental education and awareness</li> <li>• Environmental protection and habitat conservation</li> <li>• Recreational tourism and waterfront improvement</li> </ul>                                                               |

Chart Source: Quebec. Comité zone intervention prioritaire (ZIP) Ville-Marie. *Vision and mission*. 25 Nov. 05. <<http://www.zipvillemarie.org/en/102vis.htm>>.

Quebec. Comité zone intervention prioritaire (ZIP) Ville-Marie. *Action Plan*. 25 Nov. 05. <<http://www.zipvillemarie.org/en/104act.htm>>.

Table 4: Quebec Protected Area Strategy

| * Protected areas = 2.84% of total land area in Quebec |                                                                                   |
|--------------------------------------------------------|-----------------------------------------------------------------------------------|
| Categories of Protected Areas (IUCN 1994)              | Quebec Designation Examples                                                       |
| I Whole natural reserve                                | Ecological reserve / Site protected by a charter for private organization         |
| II National park                                       | National park<br>Quebec park                                                      |
| III Natural monument / Striking natural element        | Park of recreational, tourism or conservation interest / Migratory bird sanctuary |
| IV Area managed for species and habitats               | Wildlife habitat / Site protected by the Fondation de la faune du Québec          |
| V Protected landscape or seascape                      | None                                                                              |
| VI Protected area of managed natural resources         | Salmon river / National wildlife are / Wildlife habitat                           |

Quebec. Développement durable, Environnement et Parcs. *Centre de données sur le patrimoine naturel du Québec*, 1999: IUCN, 1994. 29 Nov. 05  
<http://www.mddep.gouv.qc.ca/biodiversite/aires-protegees/orientation-en/appendix1a.htm>.

Table 5: Canadian Agencies offering environmental protection

| Environment Canada         | Parks Canada                       | Fisheries and Oceans Canada |
|----------------------------|------------------------------------|-----------------------------|
| National Wildlife Areas    | National Parks                     | Marine Protected Areas      |
| Migratory Bird Sanctuaries | National Marine Conservation Areas |                             |
| Marine Wildlife Areas      |                                    |                             |

Chart Source: Canada. Environment Canada. Canadian Wildlife Service National Site. *Habitat Conservation: Federal Protected Areas*. 29 Nov. 05: <http://www.cws-scf.ec.gc.ca/habitat/default.asp?lang=En&n=BA28E937-1>.

Table 6: Pointe Claire environment conversation themes

| Pointe Claire: environment conversation themes |                                               |
|------------------------------------------------|-----------------------------------------------|
| 1                                              | Walking along the pathways                    |
| 2                                              | Walking along the shore                       |
| 3                                              | Canoeing on the water                         |
| 4                                              | Fishing                                       |
| 5                                              | Swimming                                      |
| 6                                              | Sitting along on the shore                    |
| 7                                              | Smelling of the water                         |
| 8                                              | Listening to the waves along the shore        |
| 9                                              | Watching seasonal changes                     |
| 10                                             | Watching the ducks                            |
| 11                                             | Needing to experience to know                 |
| 12                                             | Beautifying the shoreline                     |
| 13                                             | Observing urban wildlife                      |
| 14                                             | Walking in the woods                          |
| 15                                             | Future possibilities for shoreline recreation |

Table 7: Wemindji environment conversation themes

| Wemindji: environment conversation themes |                                   |
|-------------------------------------------|-----------------------------------|
| 1                                         | Walking on the land               |
| 2                                         | Canoeing                          |
| 3                                         | Goose hunting                     |
| 4                                         | Winter hunting                    |
| 5                                         | Preparing camp                    |
| 6                                         | Making tools                      |
| 7                                         | Preparing food                    |
| 8                                         | Eating country food               |
| 9                                         | Observing the landscape           |
| 10                                        | Observing wildlife                |
| 11                                        | Losing track of time              |
| 12                                        | No phones or emails               |
| 13                                        | Childhood experiences on the land |

Table 8: Human-environment relationship theme qualities

| FEELINGS  | SIGNIFICANCE | ELEMENTS |
|-----------|--------------|----------|
| beauty    | availability | access   |
| connected | balance      | activity |
| exciting  | history      | animals  |
| isolation | language     | trees    |
| nostalgia | respect      | water    |
| relaxing  |              |          |

The 'feelings' category seeks to capture the most often repeated and firmly attested descriptions of emotional or psychological responses to the landscape photos. While these terms were not always specifically used, the feelings conveyed were allied to these broad groupings. For instance, the feeling of 'connectedness' was assumed to be present when a participant described a feeling of being comfortable or relaxed, but alert and focused at the same time, becoming aware of small details in the landscape that were not normally noticeable.

The 'significance' category sorts out concerns that reveal the importance these landscapes held for the participants. The term 'availability' indicates the importance of the landscape being accessible to community members. 'Balance', refers to the repeated concern within the Pointe Claire conversations for finding an appropriate balance, that is, constraining human activity along the shoreline while permitting the riverside ecosystem to thrive. The Wemindji conversations all acknowledged historical implications of activity within the landscape, especially in *Paakumshumwaaqu*. Further, experiences in the landscape were directly connected to Cree language use as well as developing respect for the landscape and the concern for finding time and opportunity to maintain these relationships.

The third category, 'elements', notes the main landscape elements talked about in the group conversations. 'Access' pertains to the Pointe Claire conversations; each of the group conversations touched on the pros and cons of different physical types of access to the shoreline. 'Activity' indicates whether or not the theme is something that requires human action in the landscape. 'Animals', 'trees' and 'water' were the landscape elements most often mentioned.

Table 9: Pointe Claire Elements Comparison

| Pointe Claire: environment<br>conversation themes |                                                  | ELEMENTS |          |         |       |       |
|---------------------------------------------------|--------------------------------------------------|----------|----------|---------|-------|-------|
|                                                   |                                                  | access   | activity | animals | trees | water |
| 1                                                 | Walking along the pathways                       |          |          |         |       |       |
| 2                                                 | Walking along the shore                          |          |          |         |       |       |
| 3                                                 | Canoeing on the water                            |          |          |         |       |       |
| 4                                                 | Fishing                                          |          |          |         |       |       |
| 5                                                 | Swimming                                         |          |          |         |       |       |
| 6                                                 | Sitting along on the shore                       |          |          |         |       |       |
| 7                                                 | Smelling of the water                            |          |          |         |       |       |
| 8                                                 | Listening to the waves along<br>the shore        |          |          |         |       |       |
| 9                                                 | Watching seasonal changes                        |          |          |         |       |       |
| 10                                                | Watching the ducks                               |          |          |         |       |       |
| 11                                                | Needing to experience to<br>know                 |          |          |         |       |       |
| 12                                                | Beautifying the shoreline                        |          |          |         |       |       |
| 13                                                | Observing urban wildlife                         |          |          |         |       |       |
| 14                                                | Walking in the woods                             |          |          |         |       |       |
| 15                                                | Future possibilities for<br>shoreline recreation |          |          |         |       |       |
| Relative Importance                               |                                                  |          |          |         |       |       |

| Scale of Relative Importance | More important |  | Less important |  |
|------------------------------|----------------|--|----------------|--|
|                              |                |  |                |  |

Table 10: Wemindji Elements Comparison

| Wemindji: Environment<br>conversation themes |                                   | ELEMENTS |          |         |       |       |
|----------------------------------------------|-----------------------------------|----------|----------|---------|-------|-------|
|                                              |                                   | access   | activity | animals | trees | water |
| 1                                            | Walking on the land               |          |          |         |       |       |
| 2                                            | Canoeing                          |          |          |         |       |       |
| 3                                            | Goose hunting                     |          |          |         |       |       |
| 4                                            | Winter hunting                    |          |          |         |       |       |
| 5                                            | Preparing camp                    |          |          |         |       |       |
| 6                                            | Making tools                      |          |          |         |       |       |
| 7                                            | Preparing food                    |          |          |         |       |       |
| 8                                            | Eating country food               |          |          |         |       |       |
| 9                                            | Observing the landscape           |          |          |         |       |       |
| 10                                           | Observing wildlife                |          |          |         |       |       |
| 11                                           | Losing track of time              |          |          |         |       |       |
| 12                                           | No phones or emails               |          |          |         |       |       |
| 13                                           | Childhood experiences on the land |          |          |         |       |       |
| Relative Importance                          |                                   |          |          |         |       |       |

| Scale of Relative Importance | More important |  |  |  | Less important |  |  |  |
|------------------------------|----------------|--|--|--|----------------|--|--|--|
|                              |                |  |  |  |                |  |  |  |

Table 11: Pointe Claire Feelings Comparison

| Pointe Claire: Environment<br>conversation themes |                                                  | FEELINGS |           |          |           |           |          |
|---------------------------------------------------|--------------------------------------------------|----------|-----------|----------|-----------|-----------|----------|
|                                                   |                                                  | beauty   | connected | exciting | isolation | nostalgia | relaxing |
| 1                                                 | Walking along the pathways                       |          |           |          |           |           |          |
| 2                                                 | Walking along the shore                          |          |           |          |           |           |          |
| 3                                                 | Canoeing on the water                            |          |           |          |           |           |          |
| 4                                                 | Fishing                                          |          |           |          |           |           |          |
| 5                                                 | Swimming                                         |          |           |          |           |           |          |
| 6                                                 | Sitting along on the shore                       |          |           |          |           |           |          |
| 7                                                 | Smelling of the water                            |          |           |          |           |           |          |
| 8                                                 | Listening to the waves along<br>the shore        |          |           |          |           |           |          |
| 9                                                 | Watching seasonal changes                        |          |           |          |           |           |          |
| 10                                                | Watching the ducks                               |          |           |          |           |           |          |
| 11                                                | Needing to experience to<br>know                 |          |           |          |           |           |          |
| 12                                                | Beautifying the shoreline                        |          |           |          |           |           |          |
| 13                                                | Observing urban wildlife                         |          |           |          |           |           |          |
| 14                                                | Walking in the woods                             |          |           |          |           |           |          |
| 15                                                | Future possibilities for<br>shoreline recreation |          |           |          |           |           |          |
| Relative Importance                               |                                                  |          |           |          |           |           |          |

| Scale of Relative Importance | More important |  | Less important |  |
|------------------------------|----------------|--|----------------|--|
|                              |                |  |                |  |

Table 12: Wemindji Feelings Comparison

| Wemindji: Environment<br>conversation themes | FEELINGS |           |          |           |           |          |
|----------------------------------------------|----------|-----------|----------|-----------|-----------|----------|
|                                              | beauty   | connected | exciting | isolation | nostalgia | relaxing |
| Walking on the land                          |          |           |          |           |           |          |
| Canoeing                                     |          |           |          |           |           |          |
| Goose hunting                                |          |           |          |           |           |          |
| Winter hunting                               |          |           |          |           |           |          |
| Preparing camp                               |          |           |          |           |           |          |
| Making tools                                 |          |           |          |           |           |          |
| Preparing food                               |          |           |          |           |           |          |
| Eating country food                          |          |           |          |           |           |          |
| Observing the landscape                      |          |           |          |           |           |          |
| Observing wildlife                           |          |           |          |           |           |          |
| Losing track of time                         |          |           |          |           |           |          |
| No phones or emails                          |          |           |          |           |           |          |
| Childhood experiences on the land            |          |           |          |           |           |          |
| Relative importance                          |          |           |          |           |           |          |

| Scale of Relative Importance | More important |  |  |  | Less important |  |  |  |
|------------------------------|----------------|--|--|--|----------------|--|--|--|
|                              |                |  |  |  |                |  |  |  |

Table 13: Pointe Claire Significance Comparison

| Pointe Claire: Environment<br>conversation themes |                                                  | SIGNIFICANCE |         |         |          |         |
|---------------------------------------------------|--------------------------------------------------|--------------|---------|---------|----------|---------|
|                                                   |                                                  | availability | balance | history | language | respect |
| 1                                                 | Walking along the pathways                       |              |         |         |          |         |
| 2                                                 | Walking along the shore                          |              |         |         |          |         |
| 3                                                 | Canoeing on the water                            |              |         |         |          |         |
| 4                                                 | Fishing                                          |              |         |         |          |         |
| 5                                                 | Swimming                                         |              |         |         |          |         |
| 6                                                 | Sitting along on the shore                       |              |         |         |          |         |
| 7                                                 | Smelling of the water                            |              |         |         |          |         |
| 8                                                 | Listening to the waves along<br>the shore        |              |         |         |          |         |
| 9                                                 | Watching seasonal changes                        |              |         |         |          |         |
| 10                                                | Watching the ducks                               |              |         |         |          |         |
| 11                                                | Needing to experience to<br>know                 |              |         |         |          |         |
| 12                                                | Beautifying the shoreline                        |              |         |         |          |         |
| 13                                                | Observing urban wildlife                         |              |         |         |          |         |
| 14                                                | Walking in the woods                             |              |         |         |          |         |
| 15                                                | Future possibilities for<br>shoreline recreation |              |         |         |          |         |
| Relative importance                               |                                                  |              |         |         |          |         |

| Scale of Relative Importance | More important |  |  |  | Less important |  |
|------------------------------|----------------|--|--|--|----------------|--|
|                              |                |  |  |  |                |  |

Table 14: Wemindji Significance Comparison

| Wemindji: Environment conversation themes |                                   | SIGNIFICANCE |         |         |          |         |
|-------------------------------------------|-----------------------------------|--------------|---------|---------|----------|---------|
|                                           |                                   | availability | balance | history | language | respect |
| 1                                         | Walking on the land               |              |         |         |          |         |
| 2                                         | Canoeing                          |              |         |         |          |         |
| 3                                         | Goose hunting                     |              |         |         |          |         |
| 4                                         | Winter hunting                    |              |         |         |          |         |
| 5                                         | Preparing camp                    |              |         |         |          |         |
| 6                                         | Making tools                      |              |         |         |          |         |
| 7                                         | Preparing food                    |              |         |         |          |         |
| 8                                         | Eating country food               |              |         |         |          |         |
| 9                                         | Observing the landscape           |              |         |         |          |         |
| 10                                        | Observing wildlife                |              |         |         |          |         |
| 11                                        | Losing track of time              |              |         |         |          |         |
| 12                                        | No phones or emails               |              |         |         |          |         |
| 13                                        | Childhood experiences on the land |              |         |         |          |         |
| Relative importance                       |                                   |              |         |         |          |         |

| Scale of Relative Importance | More important |  |  |  | Less important |  |
|------------------------------|----------------|--|--|--|----------------|--|
|                              |                |  |  |  |                |  |

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