

Toward The Ecological Restoration of South Etobicoke

June 1997



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ENVIRONMENT

Citizens Concerned About the Future of the Etobicoke Watershed

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Toward The Ecological Restoration of South Etobicoke

Final Report

Consultant

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Michael Harrison

Executive Summary

Introduction

Beginning with European settlement in the late 18th century, through the settled agricultural phase and into the industrial and urban growth phase of the late 19th and 20th centuries, the ecosystems of South Etobicoke have been under constant stress, and consequently, are in need of restoration and regeneration.

In order to provide a guide for the ecological restoration of South Etobicoke, the Citizens Concerned About The Future Of The Etobicoke Waterfront (CCFEW) began the study that led to this report.

Ecosystem Approach To Planning

To provide direction on future restoration activities, the report advocates an ecosystem approach to planning with the central principle that everything is connected to everything else.

It is our firm belief that only by moving toward a sustainable future, where we preserve and restore the natural environment, can we provide a healthy foundation for a successful economy. We believe that the proposed restoration activities advocated in this report will act as the cornerstone of the future economic development and prosperity of South Etobicoke.

Policy Framework

This report responds to and is consistent with a number of policy documents which give guidance to planning in South Etobicoke. These include the: City of Etobicoke Official Plan, City of Etobicoke Strategic Plan, Lake Ontario Greenway Strategy, Metropolitan Toronto Official Plan, Metro Toronto Waterfront Plan and the Metropolitan Toronto & Area Remedial Action Plan.

Environmental History

Environmental change in South Etobicoke has been dramatic. The original forest has largely disappeared, and many of the creek beds have been altered or filled in completely to allow for development. Many natural valley systems and their wetlands have been destroyed.

Parts of South Etobicoke were well known for their heavy industries and over time the environment has suffered greatly. Many factories in the area have now closed, leaving a legacy of contaminated soils and groundwaters. Many of these sites are now vacant, the extent of their contamination unknown, and their future uncertain. A number of old waste management sites dot the area containing municipal and industrial waste from the past. Urban runoff has resulted in many beach closures along the Lake Ontario waterfront and the contamination of local aquatic resources.

Current State Of The Environment

From the number of studies carried out over the past years it is clear that the ecosystems of South Etobicoke are under stress. Air quality continues to be a problem especially during the summer months. Soil and groundwater resources have been contaminated through past industrial activities, waste management facilities, the importation of contaminated fill and through lakefilling activities. The watercourses that flow through the area are contaminated with urban runoff from our streets, as is the nearshore of Lake Ontario. Bottom sediments along the Etobicoke waterfront are contaminated with heavy metals and organic compounds, these contaminants have entered the local food chain, resulting in the restriction on eating certain kinds of fish. The implications for human health are only now coming to light and the information is not good. Environmental contaminants are being linked to increased cancer rates, and to the disruption of the hormone regulating endocrine system.

However, it is also clear that some improvements have occurred over the last few years. The river valleys and some of the major lakefill parks continue to act as core natural areas, extending as green fingers northward from the lake, providing the diversity of habitat necessary to support a host of wildlife species.

Current Initiatives

Within the study area a number of ecological restoration activities are already underway. These include projects being undertaken by the MTRCA, the City of Etobicoke, and Metropolitan Toronto.

Ecological Restoration Opportunities

The report proposes a number of potential restoration projects that could be carried out on public lands in South Etobicoke. The recommendations focus on a conceptual approach to describe what type of projects could be undertaken. However, detailed feasibility studies of such projects would be undertaken at a later stage in partnership with the public, other organizations and levels of government. The report looks at projects in three main categories: natural north/south corridors, waterfront lands, and other public lands. In addition, suggestions and sources for the restoration of private lands has also been included in the report to encourage homeowners and industrial property owners to undertake restoration activities on their own properties.

Next Steps

The final section of the report puts forward a process for the implementation of the recommendations, as well as suggesting a list of priorities to be dealt with during the 1997 calendar year.

As a first step, it is proposed that the report be submitted to the City of Etobicoke, Metropolitan Toronto, the Metropolitan Toronto & Region Conservation Authority, the Etobicoke School Board and the Metropolitan Separate School Board with a request that a staff report addressing future partnerships toward the implementation of the report.

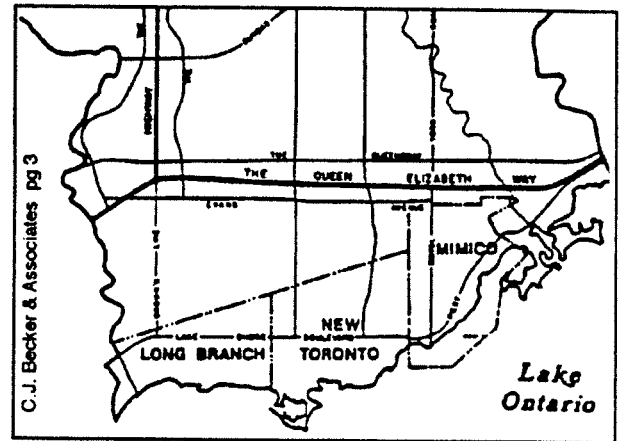
1.0 Introduction

The ecosystem support network of South Etobicoke is under stress, and in need of regeneration.

Beginning with European settlement in the late 18th century, through the settled agricultural phase and into the industrial and urban growth phase of the late 19th and 20th centuries, the ecosystems of South Etobicoke have been under constant stress. The development of human communities in the area has unfortunately resulted in the erosion of the local ecological life sustaining support system.

This report intends to address these activities by first describing the destruction wrought on the local environment, outlining the current state of the environment, and then proposing potential solutions to address them. It is hoped that this report and its recommendations will foster dialogue and discussion on the problems, and lead to the implementation of restoration projects to make up for some of the damage.

The boundaries of the study area include Etobicoke Creek on the west, the Queen Elizabeth Highway to the north, the Humber River to the east and Lake Ontario on the south, and is described as South Etobicoke. Within the boundaries of South Etobicoke lie the former towns of Mimico & New Toronto, along with the former village of Long Branch. These communities were largely developed in the late 19th and early 20th centuries, and hence developed earlier than the rest of the City of Etobicoke. As such, they are unique in terms of density and built form. Other parts of South Etobicoke such as Alderwood, developed mainly during the post war period and followed the suburban model of development.



Study Area

Environmental change in South Etobicoke has been dramatic. The area was well known for its heavy industries and over time, the environment has suffered greatly. Many factories that once provided employment in the area have now closed, leaving a legacy of contaminated soils and groundwater. Many of these sites are now vacant, the extent of their contamination unknown, and their future uncertain. Many creek beds were altered or filled in to allow for residential development, destroying natural valleys and wetland systems. Urban runoff has resulted in many beach closures along the Lake Ontario waterfront and the contamination of local aquatic resources.

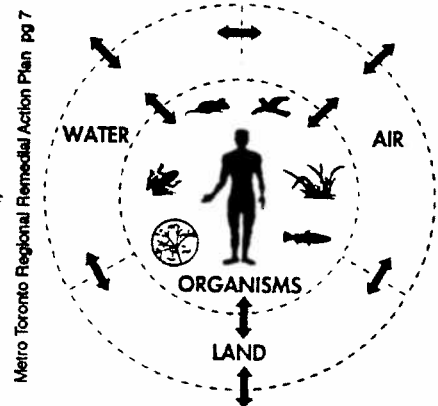
In order to remedy this situation, the Citizens Concerned About The Future Of The Etobicoke Waterfront (CCFEW) began a study that led to this report. This report, entitled *Toward The Ecological Restoration of South Etobicoke*, sets the stage for further ecological restoration work in the study area. The goal of this study is to improve the natural environment, and the quality of life in South Etobicoke. The objective is to detail the change in the environment over time and suggest ways to protect and improve local environmental health through restoration projects.

2.0 Ecosystem Approach to Planning

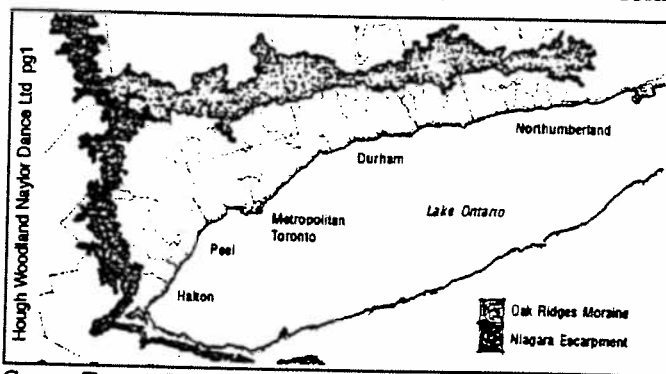
In the past it was a commonly held principle that "the environment and the economy were inevitably opposed"¹ and that we had to choose one over the other. This type of traditional decision making deals with components such as the environment, community and the environment as separate entities. Operating under these rules decision makers tend to deal with each entity on its own, neglecting the connections between them. The result is that decisions made in one area often have unforeseen or unintentional impacts in another.

Only by acknowledging the interconnectedness of all things can we understand what impacts our decisions have on the environment and the creatures inhabiting it, including humans. This can only happen if we take an ecosystem approach to planning that takes everything into consideration.

The central principle of the ecosystem approach to planning is that everything is connected to everything else. As such, ecosystem planning is based on an approach of managing and planning which uses natural boundaries instead of arbitrarily political ones. For example, although South Etobicoke lies along Lake Ontario it is part of three main watersheds; namely the Humber River, and Etobicoke and Mimico Creeks. In turn these watersheds are part of the Greater Toronto Bioregion bounded by the Niagara Escarpment on the west, the Oak Ridges Moraine to the north and east, and Lake Ontario to the south. The Greater Toronto Bioregion is part of the Great Lakes, which in turn forms a part of the world biosphere. This hierarchy demonstrates the dependency between the systems - one influences the other.



Everything is Connected to Everything Else

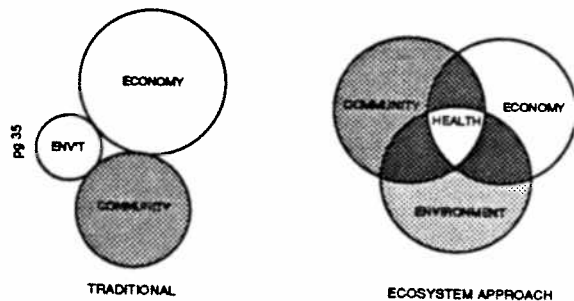


Greater Toronto Bioregion

A move towards a sustainable future will help us protect, preserve and restore the natural environment, which is the foundation of a healthy quality of life and a successful economy. In essence "environmentally sustainable economic development" is "development that meets present needs without compromising the ability of future generations to meet their own needs"³.

This plan recognizes these inherent connections, and seeks to redress the balance by proposing restoration projects that will enhance the environment in South Etobicoke, and improve the quality of life of its citizens. It is our firm belief that this will act as the cornerstone of the future economic development and prosperity of South Etobicoke.

An ecosystem approach to planning is all inclusive and helps to determine the impact of human activities on our communities, and the environment. As such, it is clear that the environment and the economy are inextricably linked, and that "a good quality of life and economic development cannot be sustained in an ecologically deteriorating environment"².



Royal Commission on the Future of the Toronto Waterfront, 1992.

3.0 Policy Framework

All planning carried out in South Etobicoke is guided by the framework established by various policy documents. This report responds to these policies and is consistent with the objectives of the Etobicoke Official Plan, the City of Etobicoke Strategic Plan, the Lake Ontario Greenway Strategy, the Official Plan of the Municipality of Metropolitan Toronto, the Metro Toronto Waterfront Plan, and the Remedial Action Plan.

City of Etobicoke Official Plan

Adopted by Etobicoke Council in July 1990 and receiving approval by the Minister of Municipal Affairs in December 1992, the Official Plan will soon be undergoing its mandated five year review. The Official Plan sets out the policies to be considered in the growth of the city. Chapter six entitled "Environmental Protection and Development Constraints" contains the bulk of the policies related to the environment. The chapter contains a number of goals. This report supports and is consistent with five of these. They are as follows:

To preserve, restore, and enhance the environment in order to provide a safe, healthy and enjoyable City in which to live.

To protect the vegetation, fish and wildlife habitat, slopes, floodways, and natural scenic resources of Etobicoke valleys and the Lake Ontario shoreline from development

To enhance the environmental quality of the waterfront, and to utilize development opportunities to achieve this goal.

To recognize and protect Environmentally Significant Areas from development

To maintain, restore and improve the quality of the water, soil, and air resources to the extent of the City's jurisdiction.

In addition, there is Section 7.1.4 which recommends that:

the Municipal Open Space and Recreation Master Plan address the open space needs of the City with regard to:

a) natural areas such as ravines and woodlots

City of Etobicoke Strategic Plan

Adopted by Etobicoke Council in late 1993 the Etobicoke Strategic Plan contains the following statement as the city's vision for year 2020:

Etobicoke is considered by many to be a model urban centre. The City's sensitivity to the natural environment has lead to significant improvements over the past twenty years. In making environmental protection a priority, the City has created a healthy community with clean air and contaminant-free soil and swimmable, drinkable, fishable water. The beaches are clean

and there are plenty of wetlands and environmentally sensitive areas throughout the city...

In order to reach this vision, the plan has the following as the main goal:

We will enhance the social, economic and environmental well-being of Etobicoke by providing high quality, accessible and cost efficient municipal services.

Included in the document entitled *Our Goals and Action Plans*, which spells out the action steps necessary to implement the above goals, the city has included the following steps:

Preserve and protect the air, water and soil quality

Preserve and protect other resources including valleylands, woodlots, and wetlands

Lake Ontario Greenway Strategy

The Lake Ontario Greenway Strategy will guide the future work of the Waterfront Regeneration Trust, and governments and agencies involved in waterfront issues across the Greater Toronto Bioregion. Containing a comprehensive list of recommendations and actions to be undertaken in order to protect, restore and promote the environmental health of the north shore of Lake Ontario, the document contains a number of recommendations which would be fulfilled by this report, including:

Objective 2: Identify restoration needs and methods and encourage landowners, communities and agencies to undertake regeneration activities

Action 2.1: Restore an adequate supply of natural habitats to sustain biodiversity

Action 2.2: Target restoration programs to priority habitat types

Action 2.3: Restore natural shoreline structure and processes

Action 2.4: Restore degraded waters and sediments

Action 2.5: Restore sites with contaminated soils or groundwater

Action 2.6: Strengthen community identity and landscape character by protecting views and vistas, developing design guidelines, and planting trees

Metropolitan Toronto Official Plan

This report is also consistent with the policies of Metropolitan Toronto Official Plan. The relevant sections include:

3.5 Ensuring Community Health: Environmental Management

Objective:

To conserve, protect and enhance the integrity of the natural systems so that they may benefit the health and well-being of current and future generations. These systems should be recognized as being essential to achieving a high quality of life in Metropolitan Toronto and global environmental integrity...

*3.5.2 Policies Respecting Habitat Protection and Enhancement
It is the policy of Council:*

- 169. to undertake and encourage public agencies, the development sector and the community to undertake habitat protection, rehabilitation and creation programs aimed at achieving and sustaining a healthy system of terrestrial and aquatic habitats...*

Metro Toronto Waterfront Plan

These policies are further strengthened in the Metropolitan Waterfront Plan (1994). Under the heading "Waterfront Green Space System" the plan articulates the following objective:

To plan and manage the Waterfront Green Space System in a way that restores, maintains, and enhances ecosystem integrity...

As well as the following policies:

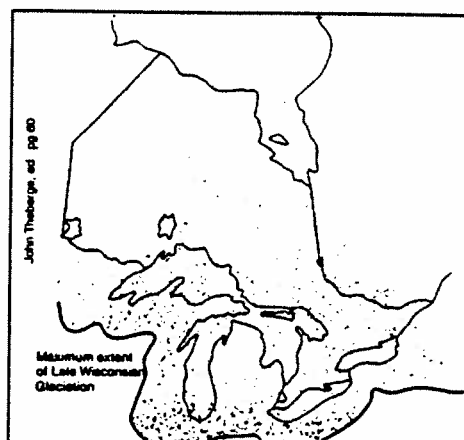
- 2. to protect, conserve and enhance the Waterfront Green Space as shown on Schedule 1 by:*
- c) establishing and maintaining a diversity of habitats through the naturalization and regeneration of indigenous species...*
- 14. to encourage and undertake, where feasible, the restoration of aspects of buried or channelized creeks and streams for ecological regeneration, historical interpretation, or to augment the Waterfront Green Space System*

Metropolitan Toronto & Area Remedial Action Plan

Under the Great Lakes Water Quality Agreement between the United States and Canada, the International Joint Commission (IJC) was set up to monitor and make improvements to the water quality of the Great Lakes. The IJC has identified 42 Areas of Concern around the Great Lakes, 17 of which are in Canada. One of these areas is the Metro Toronto & Region waterfront centred on Toronto Harbour and Humber Bay. To rehabilitate these degraded areas the IJC began the Remedial Action Plan process. The Metropolitan Toronto & Area Remedial Action Plan has been developed to rehabilitate the degraded nature of the aquatic environment in our area. It contains a number of important goals including the promotion of Ecosystem Health, as well as the rehabilitation and restoration of wildlife and fish habitats.

4.0 Environmental History

The following section will present a historical overview of South Etobicoke's natural resources. The first section deals with the impacts of the last ice age which have created the area that we know today. The second section will discuss the occupation of the area by aboriginal peoples and their impact on the environment. The third section will continue to discuss the use of the area by aboriginal peoples but will concentrate on the change in uses experienced once contact had been established with Europeans and the fur trade began. And finally, the fourth, and last section, will discuss the impacts of European settlement in the area.



13,000 Years Before Present.

4.1 Ice Age Impacts

Over the last 120,000 years there have been about fifteen ice ages affecting the lands that eventually became North America.⁴ However it was about 13,000 years ago that the last glacier flowed along the St. Lawrence valley into present day Lake Ontario before turning north.⁵ As this lobe of ice, many miles thick, bulldozed over the landscape it scoured the surface and carried billions of tons of rocks and soil along with it. North of Toronto it collided with another glacier moving south from northern Ontario. The combination of the billions of tons of soil and rock scraped over many miles by both glaciers created the Oak Ridges Moraine, the northerly limit of the Greater Toronto Bioregion.

About 12,500 years ago the ice began to melt, and no longer covered by the burden of ice many miles thick, the land began to rebound. However, ice still blocked the St. Lawrence valley, forcing the water to flow over higher ground across the present state of New York and down the Hudson River valley,

creating a large lake known as Lake Iroquois.⁶ This lake covered all of South Etobicoke. The old shoreline created by this prehistoric lake is a prominent feature in the Toronto area (see Maps 1 & 2). In Etobicoke, the congregation of St. George's Anglican parish built their new church on top of this feature at Dundas Street in 1847.



Huron Women Preparing Corn. Print from 1664.

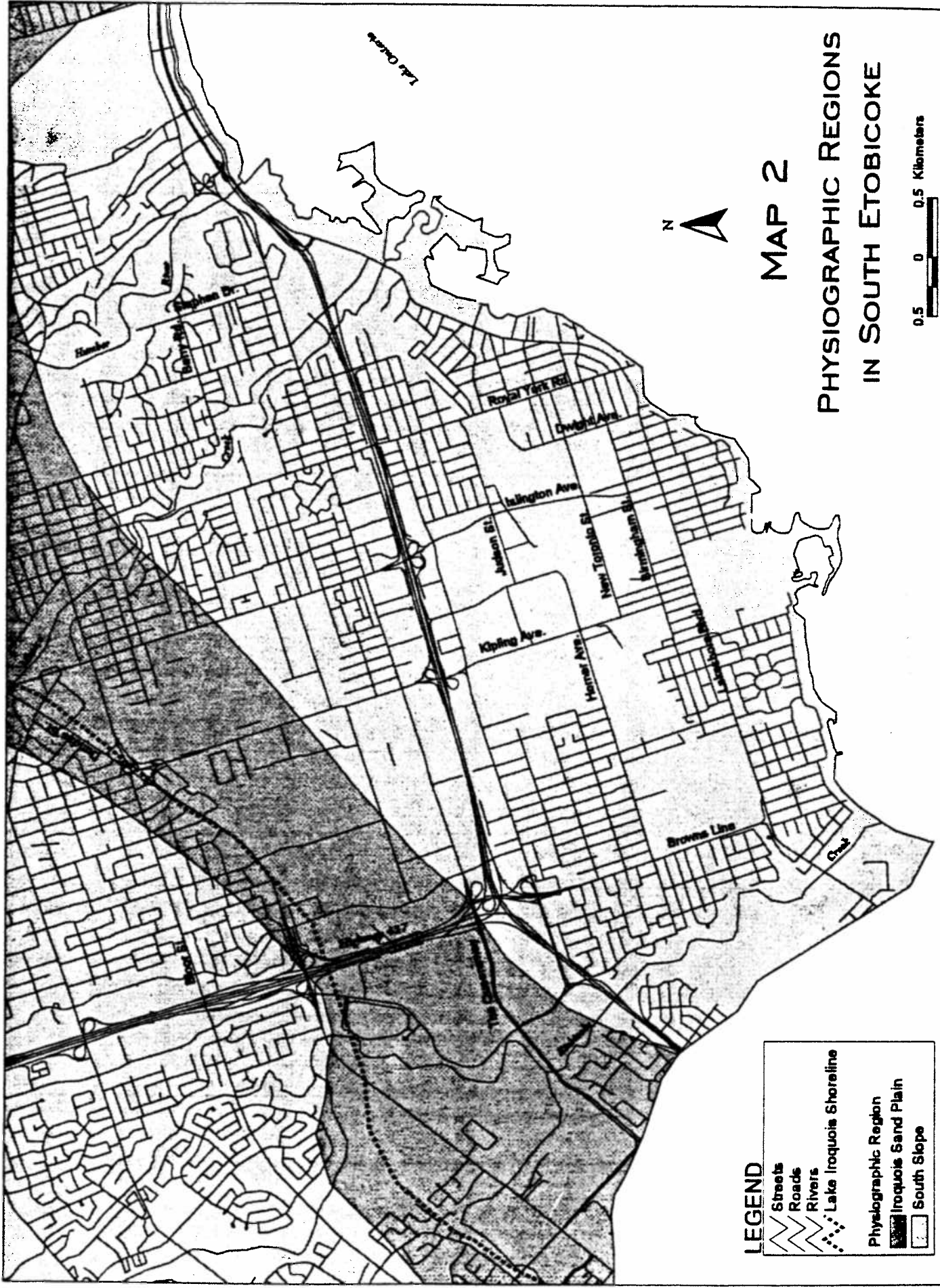
About 11,500 years ago, the ice jam in the St. Lawrence River valley melted away, and waters which had previously flowed over New York State and down the Hudson River valley took this new lower route to the Atlantic Ocean.⁷ By about 11,400 years ago, Lake Ontario hit its lowest level and was about 80 m lower than the present day.⁸ Over the next several thousand years the water levels of the lake slowly began to increase as the St. Lawrence valley, no longer oppressed by an ice sheet several miles thick, began to rebound and increase in elevation. By about 4,000 years ago, present day lake levels were reached and have remained relatively constant since.⁹



Corn Print from 1535.

4.2 Aboriginal Occupation

Though there is some dispute when humans actually began to inhabit North America, it is generally agreed that by about 11,000 years ago, as the glaciers melted away, humans had migrated to most areas in North America.¹⁰



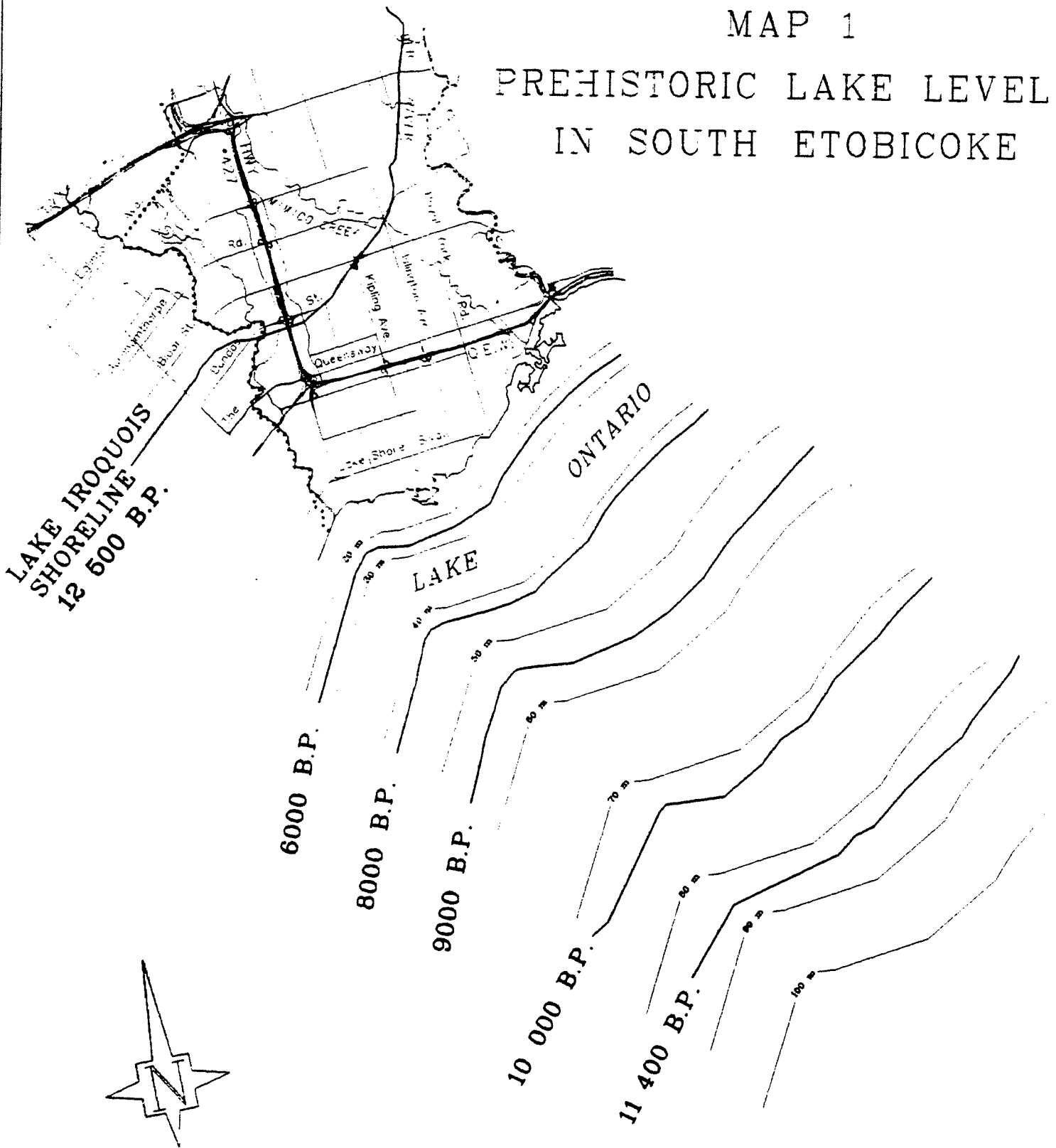
LEGEND

- Streets
- Roads
- Rivers
- Lake Ontario Shoreline
- Physiographic Region
- Iroquois Sand Plain
- South Slope

MAP 2
PHYSIOGRAPHIC REGIONS
IN SOUTH ÉTOBICOKE



MAP 1 PREHISTORIC LAKE LEVEL IN SOUTH ETOBICOKE



B.P.

Present Bathymetry
In metres

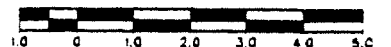
Etobicoke Municipal
Boundary

"Before Present"

— 10 m —

.....

SCALE
kilometers



The first inhabitants of the area would have been small groups of individuals who hunted large mammals, such as mastodon, moose, elk and caribou, that lived in the tundra-like environment that established itself as the glaciers melted away.¹¹ Their life would have been closely connected with the migratory patterns of their chief sources of food, along the greatly diminished Lake Ontario, and they would have been closely linked to the ecosystem in which they lived, acting as an important and functional element of it. There has been some speculation that they may have been responsible for the extinction of a number of species of animals, but other factors such as changes in climate may have had more of a hand in their demise than overhunting.¹²

By about 7,500 years ago a deciduous forest cover had established itself over Southern Ontario.¹³ The nomadic aboriginal groups of this period would have had a greater variety of food sources. The forests provided abundant wildlife such as moose, deer and other animals, as well as plant resources such as berries and roots. This diet was supplemented by abundant aquatic resources such as fish and crustaceans, available from the rivers and streams flowing into Lake Ontario, as well as from the lake itself.

Aboriginal communities continued as hunter-gatherer societies in Southern Ontario until about the year 500 when corn began to be cultivated in the area.¹⁴ This remained "the sole crop for five centuries."¹⁵ Beans followed shortly after the year 1000, and squash was added to the first two early in the 1200's.¹⁶ Slash and burn techniques in the dense woods were used to create fields for crops. After the soils were exhausted (over a period of 10 to 50 years), the lands were invariably returned to the original forest.¹⁷ The impact on the environment was minimal.¹⁸

Another favourite location for fields was in the low lying areas around the mouths of rivers and streams. In South Etobicoke, the mouth of Etobicoke Creek was used for cultivation. The annual floods created by the creek kept the area continually fertile.¹⁹

4.3 The Fur Trade Era

European exploration of North America began as early as the year 1000, when the Norse first established a settlement on the north-east tip of Newfoundland, at present day L'Anse aux Meadows. However, they only stayed until the 1200's and had limited contact with the local aboriginal communities.²⁰

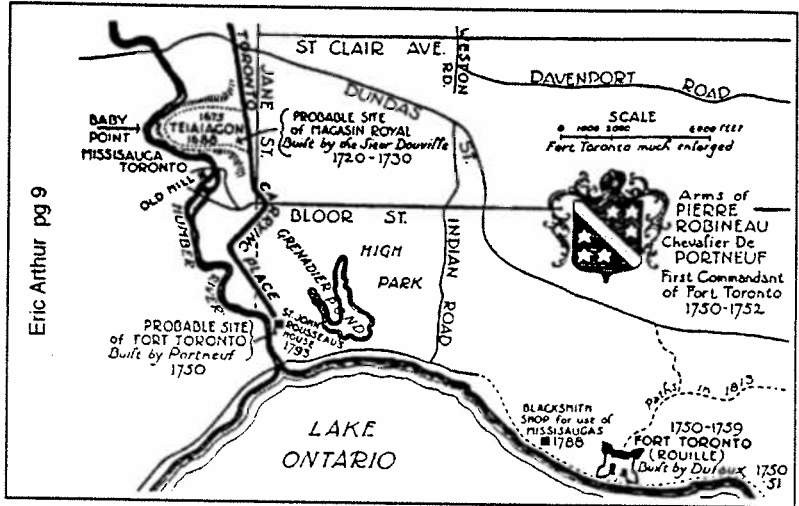
In 1497 John Cabot arrived in Newfoundland and encounters with the aboriginal nations became more common.²¹ Trading soon began, and the attitude of the aboriginal communities vis-à-vis their natural environment began to change. These resources began to take on a commercial value. Their local economies were now becoming linked to the much larger European economies.

By the 1550's, European contact was still restricted to the east coast, but through aboriginal trading networks European goods began to reach far inland including most of Southern Ontario.²² After 1583 however, the fur trade began to take on a greater importance in North America. The Swedish capture of the Russian port of Narra on the Baltic Sea effectively cut off western Europe's main source of furs causing the industry to look toward Canada for new sources.²³ By 1608 the French had established a settlement at Quebec²⁴ and began to compete for trade with the Dutch and English firmly ensconced further south on the Atlantic coast of North America.

Within a few short years the French began to explore the interior of the continent, seeking alliances with the aboriginal nations who controlled the sources of fur. On a mission to the Huron in 1615 Champlain despatched his interpreter, Etienne Brule and twelve Huron to seek the assistance of the Carantouans, an aboriginal nation to the south, for an attack on the Iroquois. Leaving their encampment on present day Lake Simcoe, Brule took the well worn native path of the Toronto Carrying Place, a short cut between Lake Ontario and Lake Huron. As such, Brule was the first European to venture down the Humber River

and set eyes on the landmass that would eventually become South Etobicoke.²⁵ Other French explorers would soon follow including Joliet in 1669, Hennepin in 1678 and La Salle in 1680 and 1681.²⁶

As the fur trade began to take on more importance for the aboriginal nations, the dependence on European goods deepened, and a period of disease, devastation and warfare developed. The first to suffer were the Huron who were clustered around the southern end of Georgian Bay. As the main trading partners of the French, they were an important target for the Iroquois nations of northern New York State, and the English traders who backed them. The Iroquois decimated the Huron in a series of attacks in 1649, and then turned on the neighbouring Neutrals the following year.²⁷ Having effectively destroyed the competition, the Iroquois built a palisaded village on the east bank of the Humber River at Baby Point in 1675.²⁸ From this fortified location at the base of the Toronto Carrying Place they effectively controlled trade along the entire river.



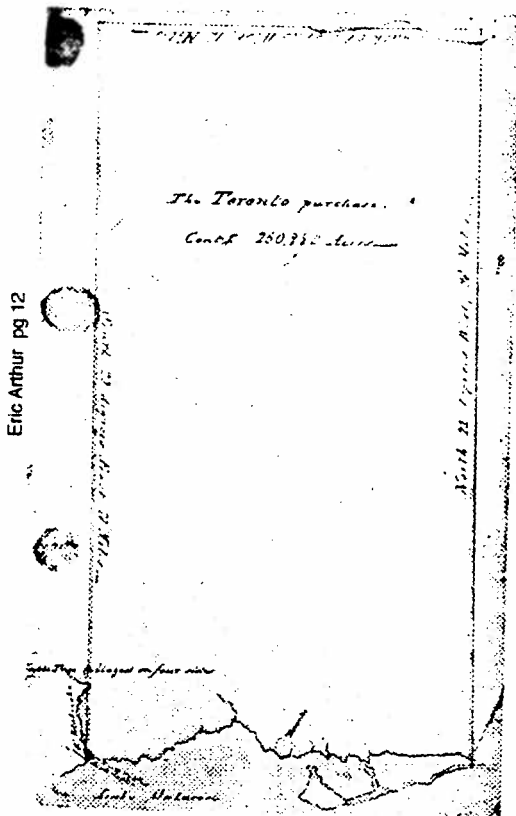
French Posts at Toronto.

Meanwhile, in an attempt to gain easier access to the heart of North America, the chief source of furs, the English established a number of trading posts on the shores of Hudson's Bay through the Hudson's Bay Company, after the company received its charter in 1670.

The impact of this new front on the trade war fuelled yet more turmoil among the aboriginal nations of the area, setting off the expansion of the Ojibwa nation. Now, armed with guns obtained from the Hudson's Bay Company, they moved south and established themselves in the former territory of the Huron.³⁰ By the late 1680's they had reached the northern shore of Lake Ontario and took up residence in the abandoned fortified position originally built by the Iroquois in 1675. Known as Teiaiagon, this aboriginal village was the primary trading post along this stretch of Lake Ontario and as such was constantly visited by European traders.³¹

In 1720 the French established a trading post known as Magasin Royal adjacent to the village. It fell into disuse by 1730, but was replaced by a more substantial structure, Fort Toronto, built at the mouth of the Humber River in 1750. Within a few months however, a bigger and more permanent structure, known as Fort Rouille, was built further to the east. In 1759 after the fall of Quebec City to the English, Fort Rouille was destroyed by the French.³²

The fur trade had a devastating impact on the aboriginal nations and environment of the area. "Perhaps the most serious problem of all, at least from a long-range point of view, was the over-exploitation of resources encouraged by the trade".³³ Jesuit historian Pierre-Francois de Charlevoix

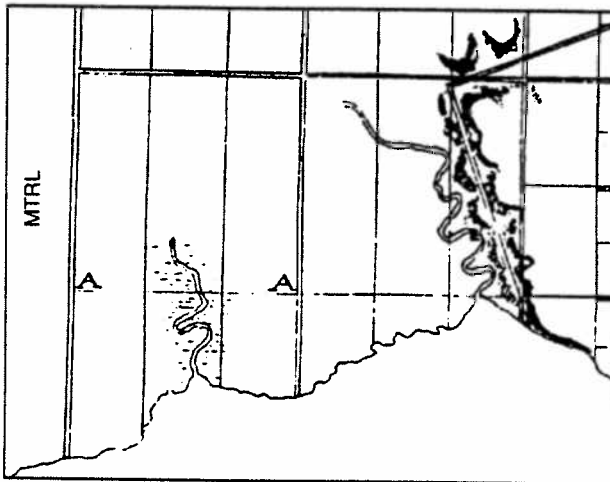


The Toronto Purchase 1787.

(1682-1761) said he was appalled at the destruction wrought by a handful of French who had arrived "in a land abounding with wildlife". Noting that "less than a century later, it was already noticeably diminished".³⁴

4.4 European Settlement

Although the English conquered New France after the Battle on the Plains of Abraham at Quebec City in 1759, settlement did not begin in the Toronto area until 1793. The lands surrounding Toronto (including all of Etobicoke) were acquired from the resident Ojibwa Mississauga aboriginal nation as part of the Toronto purchase in 1787. Later confirmed in 1805, the treaty established the rights of the Mississauga aboriginal nation to continue cultivating the lands at the mouth of Etobicoke Creek.³⁵



Etobicoke Waterfront 1788 Showing Mimico Creek and Humber River

It was the Mississauga nation which would give the place names to many South Etobicoke locations. Mimico got its name from the fact that the mixed hardwood and evergreen forest at the mouth of Mimico Creek was one of two favourite nesting places of the Passenger Pigeon in the GTA region, and hence "the home of the wild pigeon".³⁶ Etobicoke is also an aboriginal name which means "where the Alders grow"³⁷

In 1791 Colonel John Simcoe was appointed by the British Government as the Lieutenant Governor of Upper Canada. He left England and arrived to take over his new responsibilities in the fall of 1792 at the provincial capital of Newark (present day Niagara-on-the-Lake). Fearing that the settlement was vulnerable to attack by the Americans, Simcoe relocated the provincial capital to Toronto in 1793.³⁸

The only European inhabitants were Jean-Baptiste Rousseaux and his family, who lived in a house on the east bank of the Humber River, a short distance from its mouth. The family had established themselves there as early as 1770 when Rousseaux's father was granted a license to trade in the area. It was Rousseaux who acted as the pilot for Simcoe's ship the *Mississauga* and guided it safely into Toronto Bay.³⁹

Shortly after Simcoe's visit, Joseph Bouchette was sent to survey the new harbour. Bouchette remarked on "the untamed aspect which the country exhibited when first I entered the beautiful basin....Dense and trackless forests lined the margin of the lake, and reflected their inverted images in its glassy surface...the bay and neighbouring marsh were the hitherto uninvaded haunts of immense coveys of wild fowl".⁴⁰ Bouchette found little occupation of the area by any aboriginal group. The aboriginal villages on the Humber River and elsewhere had been abandoned, and only two Mississauga families were found living near the shore of Toronto Bay.⁴¹ Thus it seems that for whatever reason, the Mississauga were no longer living in the area, though they continued to use it for hunting and fishing, as well as the mouth of Etobicoke Creek for agricultural purposes.

Into this unspoiled wilderness, settlers came. A 10 block military grid adjacent to the mouth of the Don River was surveyed for the new town⁴² and construction soon began. The majority of the wood for the construction of the early buildings of York came from the saw mill established in 1793 on the west side of the Humber River in the new Township of Etobicoke. The mill site, which also included Toronto's first shipyard,⁴³ was built to take advantage of the superior wood found in this location.⁴⁴

In 1795, Simcoe reserved 4,150 acres of nearby land for members of the Queen's Rangers. This strategy would ensure that there would always be an army of men on hand in case of an American invasion.

These lands included South Etobicoke, of which the largest amount of 1,530 acres was granted to Colonel Samuel Smith. In 1799, Smith built a home near the mouth of Etobicoke Creek.⁴⁵ These large military land grants would slow the development of the South Etobicoke area, and hence the environmental destruction that went along with it.

In 1799 Sir David Smyth published his book *A Short Topographical Description of His Majesty's Province of Upper Canada in North America* and described the area as follows:

...a little to the westward of the garrison are the remains of the old French fort Toronto; adjoining to which is a deep bay, that receives the river Humber, on which are saw mills belonging to government: a little way up the river the government yacht is building. Further to the westward (that is, between the Humber and the head of Lake Ontario) the Tobycocke [Etobicoke], the Credit, and two other rivers, with a great many smaller streams, join the main waters of the lake; they all abound in fish, particularly in salmon;... The tract between the Tobycocke [Etobicoke] and the head of the lake, is frequented only by wandering tribes of Missassagues.⁴⁶

During this pioneer stage, the main activities of the settlers was to open up the area, clear their land, erect a log cabin and put in their first crop of potatoes, corn and squash.⁴⁷ The Lake Shore Road was the main route through South Etobicoke. By 1798, this route (which had originally been an aboriginal path) was widened and opened as a road. A ferry service was available at the mouth of the Humber River. It was replaced by a bridge in 1809. The Lake Shore Road was the principle road connection between York and Niagara, and by 1826 stagecoaches began to make regular trips between the two points.⁴⁸

During this early period of growth, the Humber River valley, and the lands to the west were utilized by the inhabitants of York for recreational purposes. Lady Simcoe recorded such an excursion that occurred on September 4, 1793, and remarked on the "great deal of Hemlock Spruce on this river", and the "beautiful species of Polygala" flowers that bloomed along its banks.⁴⁹ And on September 19, 1800 Joseph Willcocks recorded in his diary:

I went to the Humber on a pleasure party with Mr. & Miss Russell, Mr. and the Miss Willcock's, Mr. Weeks and Doctor Baldwin. We left York at 10 o'clock and reach'd the Humber in Mr. Jarvis's Boat at half past 12. Walked about for an hour & dined at half past 1. We had for Dinner a piece of Cold Roast Beef, Cold ham, cold chickens & hot Stewed Wild Ducks. We all arrived safe at home at 5 o'clock in the Evening.⁵⁰

Many of the military grants in South Etobicoke were held by speculators who made no improvements whatsoever. In 1818 while on his way to visit Colonel Smith, then Chief Administrator of the province, Robert Gourlay commented that:

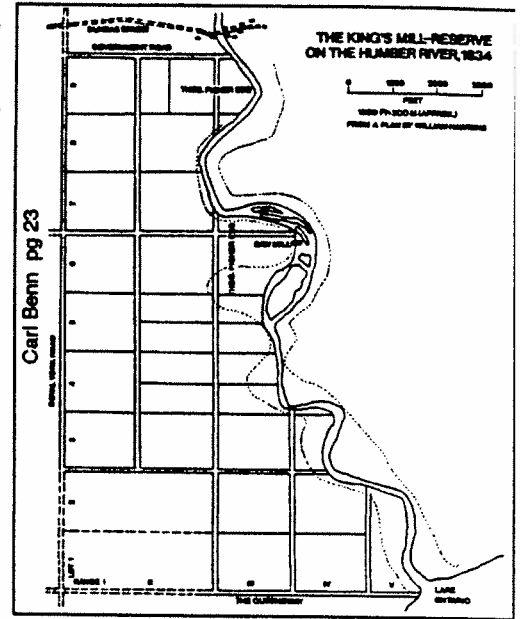
For many miles not a house had appeared when I came to that of Colonel Smith, lonely and desolate. It had once been genteel and comfortable but now was going to decay. A vista had been opened through the woods towards Lake Ontario; but the riotous and dangling undergrowth seemed threatening to retake possession from the Colonel of all that had once been cleared, which was of narrow compass...Not a living thing was to be seen around. How different it might be, thought I, were a hundred industrious families compactly settled here out of the redundant population of England.⁵¹

In 1805, the population of the township amounted to 84 inhabitants. This increased to 137 by the time the second census was taken in 1809. However, by 1830 the population had increased to 1,016, indicating the popularity that the area held with new settlers.⁵²

At first, the impact on the environment was negligible. In fact, the creation of cleared areas increased productive wildlife habitat along the forest edges.⁵³ The quail was an example of a species that benefited from the clearing of the forests, as they "... were unknown in the dense forests of Upper Canada before they were cleared".⁵⁴

However, as the destruction of the forests increased, so did the loss of animal species. As the destruction continued even Mimico's namesake, the Passenger Pigeon began to be threatened. Once counted in the billions, the Passenger Pigeon began to decline as its breeding habitat was destroyed, and millions of birds were killed by farmers, who salted them for sale in local markets.⁵⁵ The number of birds was such a surprising sight that even Lady Simcoe was moved to record her reaction in her diary. On November 1, 1793 she wrote:

The flights of wild Pidgeons in the Spring & Autumn is a surprizing sight. They fly against the wind & so low that at Niagara the Men threw sticks at them from the Fort & killed numbers, the air is sometimes darkened by them. I think those we have met with have been particularly good....Coll. Butler was observing that they build where there are plenty of Acorns but do no feed within 20 miles of the place, reserving that stock of Provisions till the young ones can leave their Nests & then scratch the Acorns up for them.⁵⁶



Shooting Wild Pigeons

One of their favourite places to nest in the Toronto area was the "mixed hardwood and evergreen forest" along the banks of the mouth of Mimico Creek.⁵⁷ However, by about 1900 this bird, which use to blacken the skies for hours during migration season, was effectively extinct. The last bird in Ontario was shot at Penetanguishene in 1902, and the sole survivor of the species died in the Cincinnati Zoological Gardens in September 1914.⁵⁸

Added to the destruction resulting from the clearing of land by settlers was the destruction created by the cutting of timber for building material and shipbuilding. Timber along the banks of the Humber River in the King's Mill

Reserve was especially sought after. The Kings Mill burned to the ground in 1803⁵⁹, but it was later rebuilt and the destruction continued. In order to ensure that supplies of timber remained constant, the government continued to enlarge the reserve throughout the years. Beginning as a Reserve of 726 acres in 1793, it was enlarged to 850 acres in 1799, and then to 1,181 acres in 1803, at which stage it included all the land east of present day Royal York Road to the Humber River, and from The Queensway in the south to Government Road in the north.⁶⁰ In some years 500,000 feet of lumber "was loaded at the mouth of the river, bound chiefly for Britain and the United States".⁶¹ By 1822 "most of the timber on the mill reserve have been cut off".⁶²

Trees hold rainwater and then slowly release it over time. Therefore, as the total area of tree coverage decreased so did the water table. Initially the changes were subtle, but as more trees were cut the decreasing water table became a problem for the many watercourses which flowed through the Township of Etobicoke toward the lake⁶³ (see Map 3). Many of the smaller creeks dried up completely, and the larger ones began to experience fluctuations in flow.



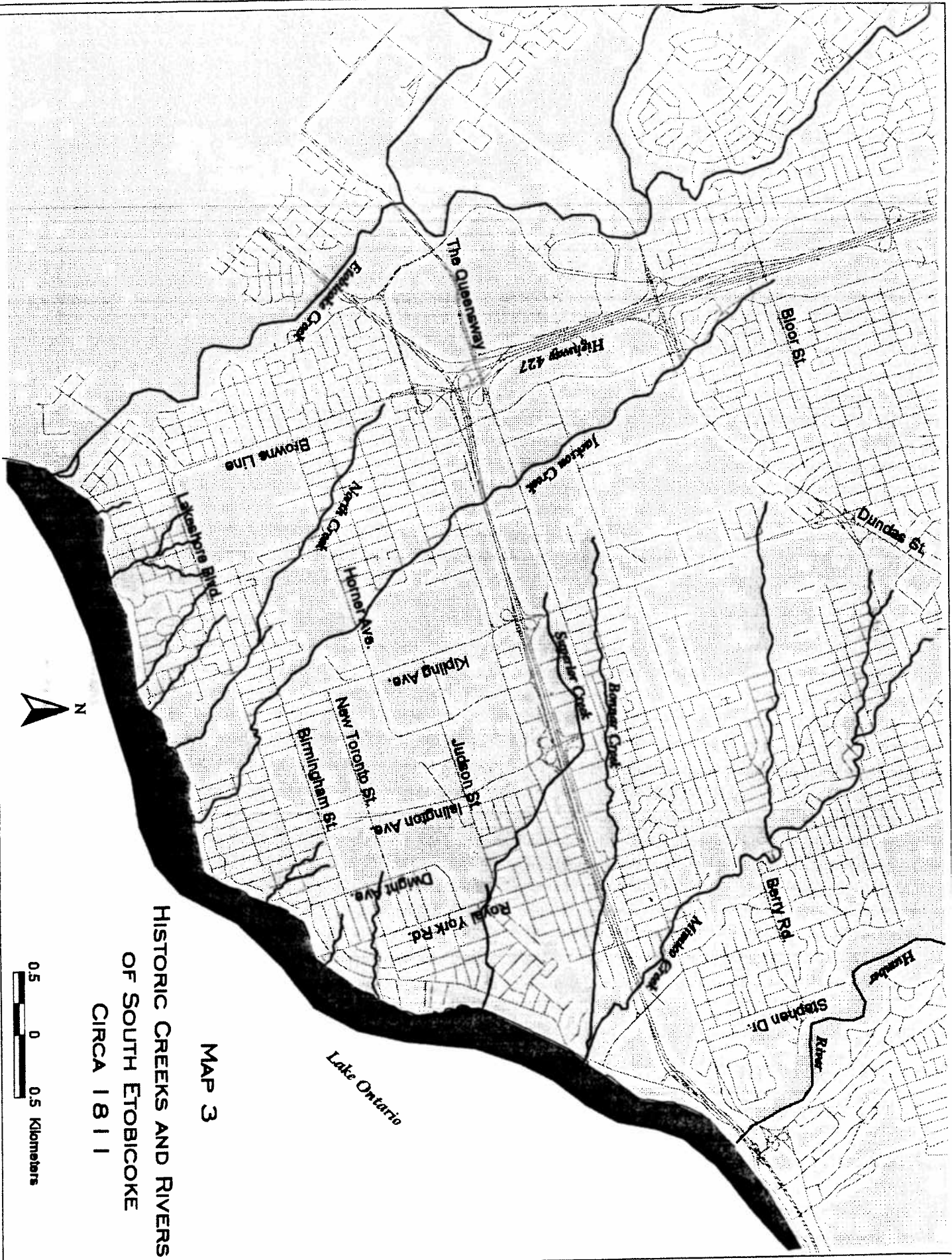
South Etobicoke 1860.

These fluctuations began to have a severe economic impact on the many mills located on these watercourses. In South Etobicoke, William Gamble built a saw mill at the mouth of Mimico Creek in 1823,⁶⁴ and sometime later two other saw mills were constructed on the lower Etobicoke Creek.⁶⁵ As the increase in deforestation continued, the water table decreased, resulting in lower levels of water in the adjacent rivers and streams. This, combined with the increase in water level fluctuations due to runoff from the land caused many

problems for the mills. Many lacked adequate quantities of water to drive the mill stones, or received so much water at one time that the dams were overwhelmed and destroyed.

Moreover, decreased water levels had an impact on the fishing. In the early years of settlement, many settlers remarked on the abundance of fish, especially the highly sought after salmon, available in the Humber River and other streams flowing into Lake Ontario. "One settler wrote, 'It looked as if I could walk across the river on their backs'. Another recorded, 'I was impeded in paddling my canoe across the stream by the multitude of salmon. For the first meal in our wilderness home we enjoyed a large specimen of this prince of fish cast out by hand from a creek flowing beside our log cabin'". However, the dams of the mills began to prevent many of the fish from reaching their spawning grounds further up stream, and those that did found many of them suffocated by saw dust from the many saw mills.⁶⁶

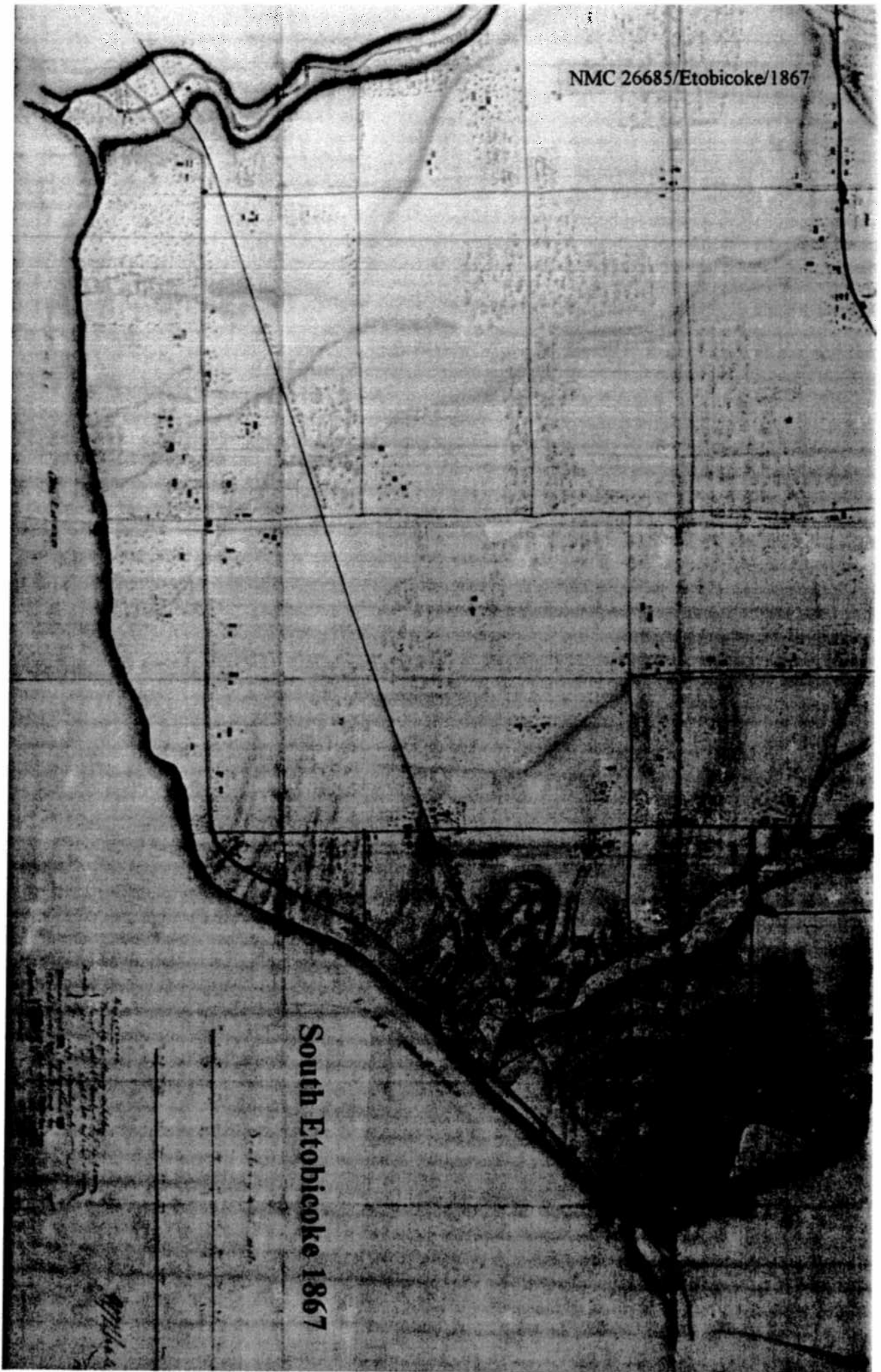
By about 1840 the Township of Etobicoke had generally completed the pioneer stage of its development and had emerged into an era of settled agriculture. By 1842 forest depletion in Etobicoke Township had reached 50% and the population of the area reached 2,467.⁶⁷ As deforestation continued, further disrupting the movement of ground water, the rivers and streams in the area flooded causing extreme damage to mills and other properties. The first severe floods occurred in 1850. The village of Weston, built on the west side of the Humber River was destroyed by floods and many of the mills were either damaged or had their dams washed away.⁶⁸ This was followed by other floods in 1851, 1859, 1878 and 1880, each more severe than the last. The flood of 1878 destroyed all the mills on the Humber River along with a number of houses resulting in loss of life.⁶⁹ The unreliable water fluctuations in the rivers made mill activities difficult and many of them closed or were converted to more reliable steam power. By 1870, there was not enough water in the Etobicoke Creek to turn the great wheel at the Dundas Road mill built by the Silverthorne family.⁷⁰ Water fluctuations in the rivers also destroyed fish habitat and devastated cold water species, including the salmon.



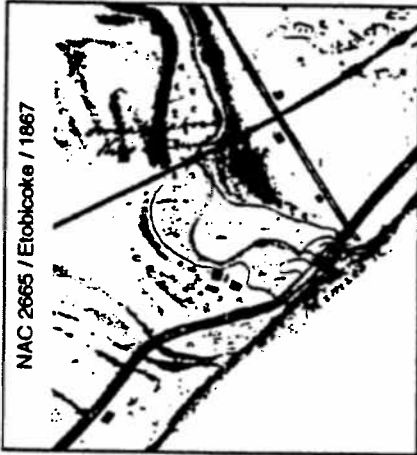
MAP 3
HISTORIC CREEKS AND RIVERS
OF SOUTH ETOBICOKE
CIRCA 1811

NMC 26685/Etobicoke/1867

South Etobicoke 1867



Out on the open lake the destruction of fish habitat continued as stone hookers began to ply their trade, scraping the bottom of the nearshore for aggregate to fill the need for building material in the City of Toronto. This caused a great amount of erosion and destruction of fish habitat, and though a law was enacted in 1857 to try and prevent the extraction of material within 17 feet of the shore, it proved difficult to enforce and was largely ignored. The trade, and its destruction carried on until the early 20th century when in-shore quarries were opened, and the economics of rail and truck transport made the industry impractical.⁷¹



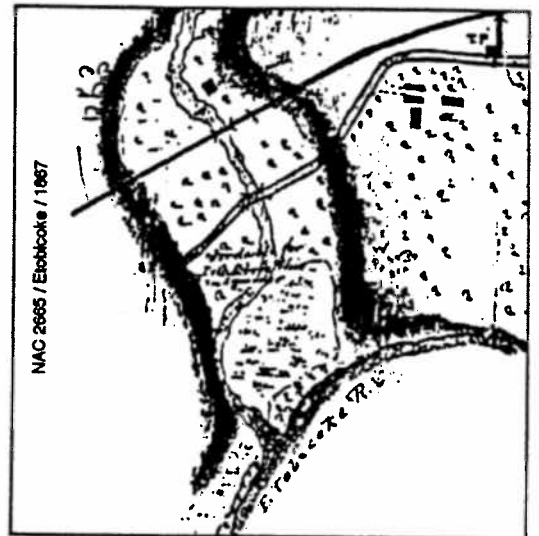
Mimico Creek and Wetlands 1867.

wetlands at the mouth of the Etobicoke and Mimico Creeks and Humber River also remained and provided important habitat for fish and other wildlife.⁷⁶

However, over the years these remaining woodlots steadily decreased. In 1871, Samuel Smith Jr. sold his 500 acres of land to James Eastwood, who found ready buyers for the vast forest of trees on the property. All were cut within a few years.⁷⁷ By the mid 1880's the forests that lay in the Etobicoke and Mimico Creeks, and the Humber River valleys were all that remained of the original forest cover.

Between 1881 and 1891, the City of Toronto experienced a tremendous increase in population.⁷⁸ This increase in population spilled into the surrounding lands, and as a result South Etobicoke began its transformation from an

By 1850 the Lake Shore Road had been sold to a private company and planked.⁷² A little later wharves were built at the mouth of Mimico Creek and the Humber River to export agricultural products by ship and receive imported finished goods.⁷³ In 1855 the Great Western Railway was built through the area on its way to Hamilton.⁷⁴ This led to a plan for a new workers community centered around Christ Church in Mimico, but the idea never got off the ground and only a few homes were built.⁷⁵ However, despite these changes growth was slower than the rest of Etobicoke, and the environment was given a respite from further damage. A large amount of forest cover, including the 500 acres of pine and oak owned by the Smith family, remained. The large productive



Etobicoke Creek and Wetlands 1867.

agricultural community to an urban/industrial suburb.

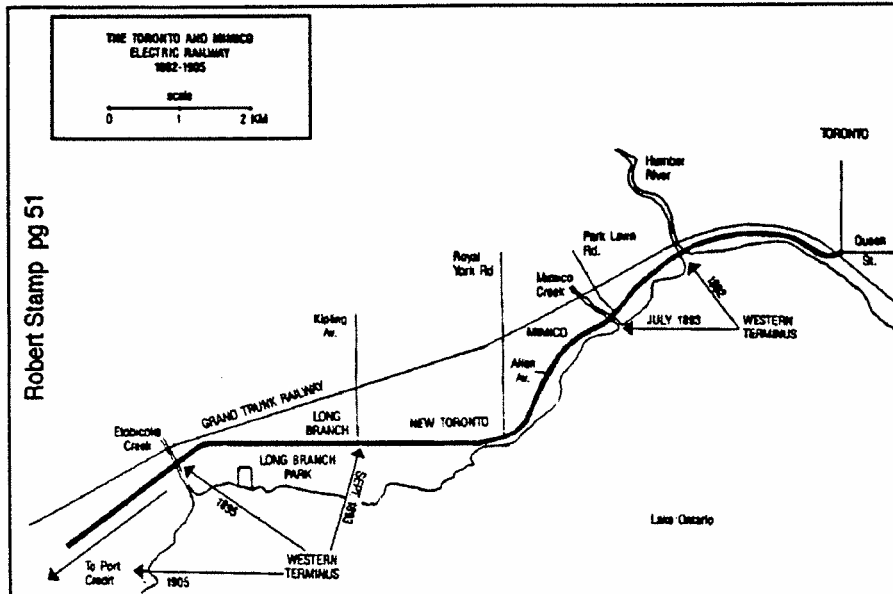
Some suburban development began in Mimico as early as 1870, but it was small and limited to a few lots along the lake. However, the first organized and planned step in the transformation began in 1883 when James



South Etobicoke 1878.

Eastwood sold 75 acres of the old Smith Estate to a syndicate of entrepreneurs who intended to develop a new resort community. In 1884, Thomas J. Wilkie registered a plan for a new development consisting of 219 cottage lots. Eventually named Long Branch Park, this resort community was served by a number of ferries which plied the waters along the north shore of Lake Ontario from Toronto. The resort was an

immediate success and by 1888 the steamships carried more than 50,000 "pleasure seekers" to Long Branch.⁷⁹



The second step in the transformation was the construction of the Victoria Industrial School in 1887. This provincial facility, to treat male juvenile offenders, was situated on a large acreage of land north of the railway tracks near present day Islington Avenue and Judson Street. It operated until 1935.⁸⁰

Another significant development was the construction of the Mimico

The Toronto & Mimico Electric Railway 1892-1905.

Asylum. This new hospital facility, developed as a branch hospital of the Toronto Asylum on Queen Street, was established on 55 acres of the former Goldthorpe farm, east of Kipling Avenue. In 1903, the McNeil farm on the west side of Kipling Avenue was added and the lands were utilized for agricultural purposes. The hospital operated on the site for another 76 years.⁸¹

In 1890 the Mimico Real Estate & Security Company began construction of a new industrial suburb on 550 acres of land further east on the Lake Shore Road. Calling the embryo town "New Toronto", and stating that the new community "promises in time to equal, if not surpass Old Toronto as a commercial centre". The consortium of manufacturers constructed new industrial enterprises in the area and subdivided the land for residential development.⁸²

In order to facilitate the growth of their newly acquired lands, the main investors also became involved in the construction of a radial streetcar line to serve the area. The Toronto and Mimico Electric Railway began construction of the new radial line along the Lake Shore Road in 1892, reached the mouth of Mimico Creek in July 1893, Kipling Avenue by September 1893, and eventually reached

A.O., Boyd Collection 9912-1-70



Mouth of Mimico Creek 1889.

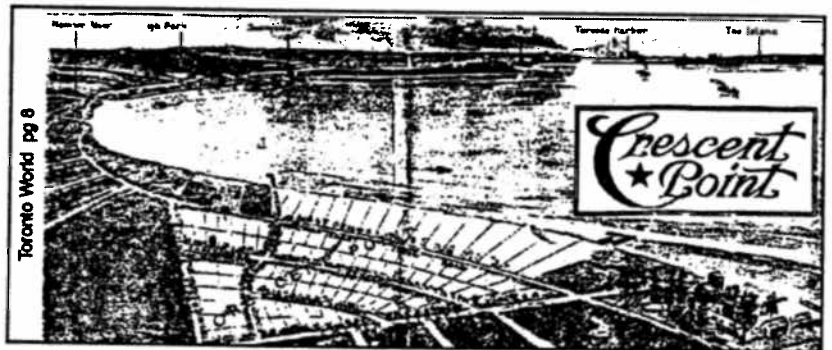


John Duck's Hotel and Pleasure Grounds.

around the mouth of the Humber River made it a "noted centre for taverns and sporting and social life." Establishments such as these began in the 1850's, and over the years more were built by the likes of Octavius Hicks, Charles Nurse and John Duck who "spared no expense in beautifying the extensive pleasure-grounds" of Wimbleton House.⁸⁵

West of Mimico Creek along the Lake Ontario waterfront a number of large estates were built. With "its clear waters, long unobstructed beach and stately shade trees" the area began to look attractive to Torontonians as early as the 1870's. However, the construction of the radial line in the 1890's made the area accessible to the City of Toronto, and wealthy families began to move into the area.⁸⁶ Despite the depression of the 1890's, Mimico also attracted a few industrial enterprises including the Ontario Sewer Pipe Company,⁸⁷ and a number of small brick making factories.⁸⁸

By the turn of the century, most of the area of South Etobicoke was subdivided into lots as a series of new communities. Promoted by infrastructure improvements such as the paving of the Lake Shore Road in 1917, and its widening and the double tracking of the streetcar lines in 1928, suburban development flourished until most of the area south of the CNR tracks, and a

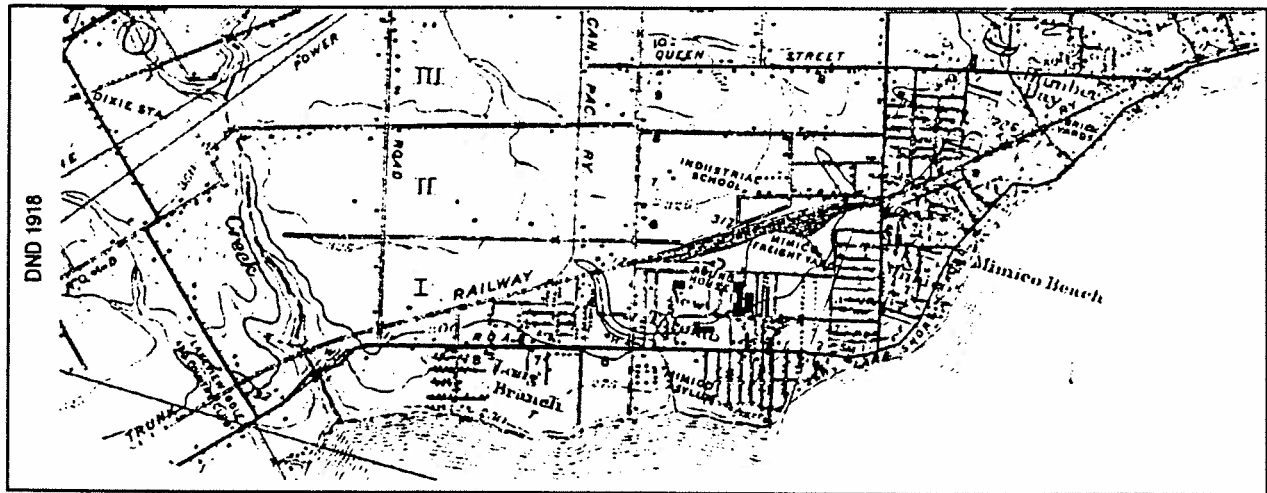
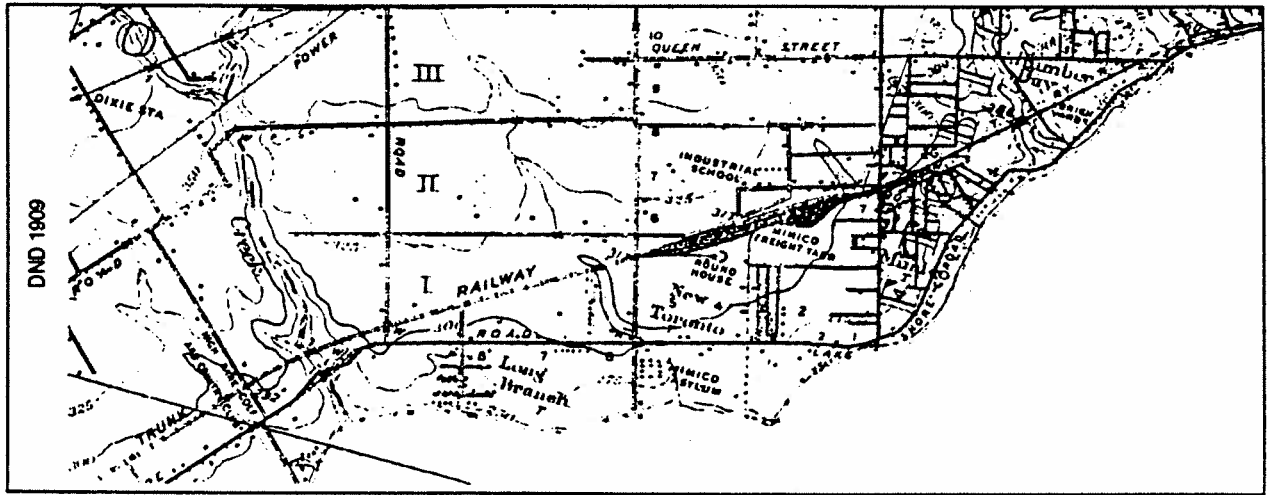


Crescent Point

portion of southern Alderwood was fully urbanised prior to WW II. This new pattern of growth accelerated the deterioration of the local environment.

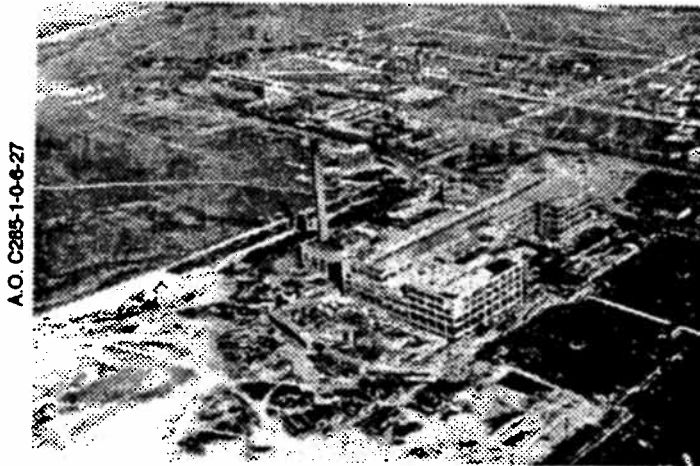
Mimico was a desirable community for those wishing to flee the dirt and grime of the nearby city. In 1905, the community of over 300 demanded political independence and the York County Council created Mimico as a Police Village.⁸⁹ The following year the Grand Trunk Railway decided to establish its main marshalling yards in the area, and the resulting influx of new jobs created a demand for more housing. Within a few years the population grew to 800. The influx of new residents enabled the community to become an independent Village in 1911,⁹⁰ and as a result, new subdivisions were put on the market to satisfy the need for housing. The 35 acre *Crescent Point* was launched in 1910, with an emphasis on the beautiful lake setting among the estates of the "best class of people".⁹¹ This and other developments promoted strong growth, and Mimico developed as a primarily residential community, and was known as one of the prettiest Toronto suburbs. The community remained relatively stable until the end of WW II, at which time the descendants of many of the large lakefront estates, unable to afford the maintenance and taxes, began to sell them to developers and speculators. Some were operated as restaurants or nursing homes for a period of time, but then began to be converted for low rise apartment development. The first

Toward the Ecological Restoration of South Etobicoke



Development of South Etobicoke 1909 - 1931.

property to be built on was the former Franceschini Estate in 1950. This inevitably led to more construction as developers attempted to meet the post war housing shortage, and this resulted in unique destruction to the environment.



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New Toronto 1918.

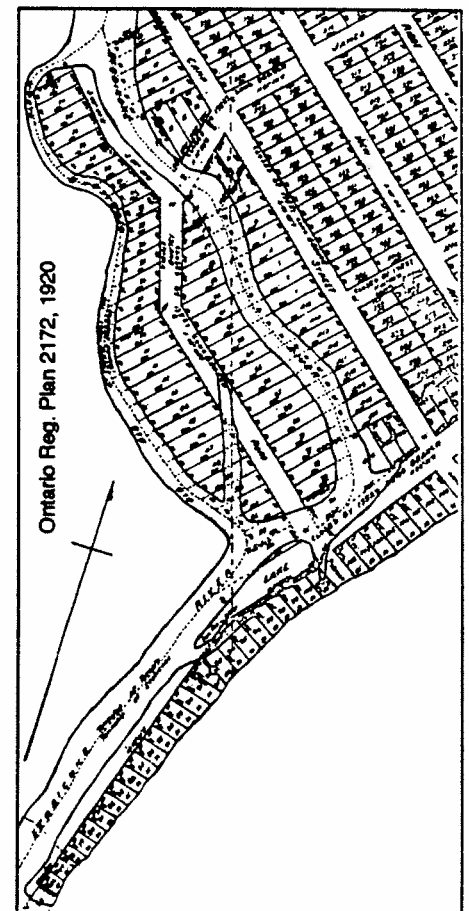
In New Toronto, development continued with new businesses occupying many of the vacant industrial buildings and even constructing new factories. Reg. N. Boxer, producers of paper products opened for business in 1903⁹² and Brown's Copper and Brass Rolling Mills opened next door in 1910.⁹³ With the increase in population attracted by these new industries, the area was able to have itself declared a Village in 1913. During WW I a number of new industrial enterprises moved to the area. These included, the Fabrikoid Division of Canadian Industries Limited which began construction on their new plant in 1915, the Goodyear Tire Company in 1917,⁹⁴ and the Donnell and Mudge tannery in 1918.⁹⁵

After the war, industrial development continued. Anaconda American Brass Limited came to the area and rented the existing Brown's Copper and Brass plant in 1922. In 1928 Anaconda purchased the property and expanded the plant.⁹⁶ By 1923, the population increased to 5,000 and New Toronto became a Town.⁹⁷

The community's industrial success continued during the Great Depression of the 1930's. During those trying times, three other major industries were attracted to the area including Campbell Soup in 1931, Gilby's Distillery in 1933 and Continental Can in 1935.⁹⁸

At the turn of the century, the Long Branch community remained a popular destination. In 1910, the agricultural lands on either sides of the Lake Shore Road were subdivided. The new subdivisions were referred to as *The Pines, Pine Beach, The Lake Shore Gardens, and The Lake Shore Gardens Annex*.⁹⁹ The lands north of the Lake Shore road and west of the Long Branch resort community however were held by the Jockey Club for the location of a future racetrack, and by Ontario Hydro for the construction of a future radial terminal.¹⁰⁰ South of the Lake Shore Road the lands held by the Eastwood family were subdivided in 1920. The 406 lot plan covered the entire property including the river valley, the island at the Creek mouth, and the thin spit of sand which projected in a westerly direction into Lake Ontario.¹⁰¹

Long Branch developed slowly, and became a Village in 1931. The blocks of land west of 32nd Street, north of the Lake Shore Road were not released for development until after WW II.¹⁰² These lands would provide the community with some industrial development, in addition to the small industrial areas along the south side of the CNR rail line.



Plan of Subdivision of Eastwood Property 1920.

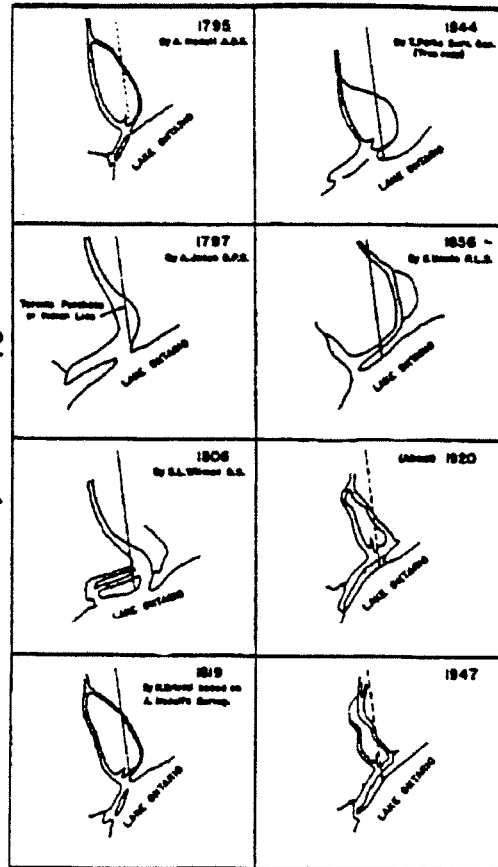
The lands south of Horner and west of Browns Line were developed as the Alderwood community after WW I. However, Alderwood wouldn't see the bulk of its growth until the end of WW II. Development here would be the typical 1950's suburban housing which occurred in most areas of the city. In addition,

a large section of land was reserved for industrial purposes. With quick and convenient access to downtown Toronto via the Queen Elizabeth Way, especially after the Gardiner Expressway was built in 1953, these industrial areas soon filled up.

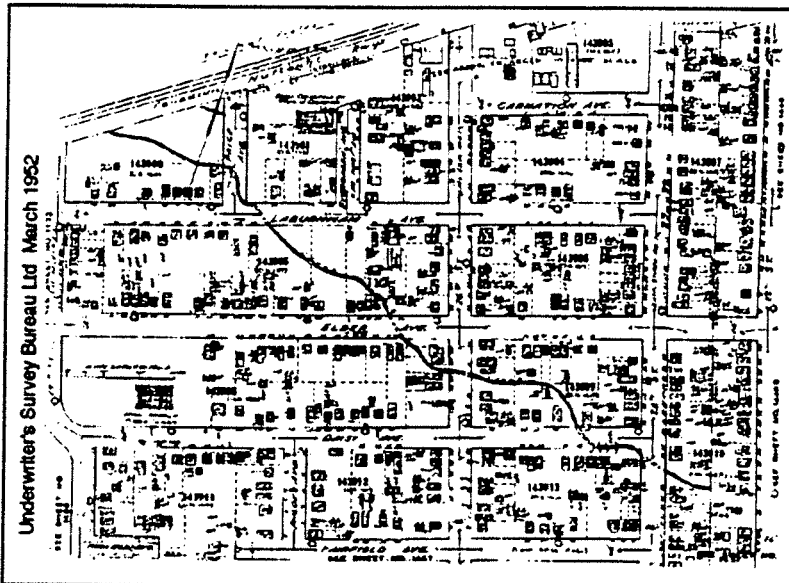
Prior to the end of WW II residential and industrial development in the area essentially worked within the existing landscape and few wide scale changes were made to the basic topography. Land unsuitable for development was usually set aside as parkland. For example, when Robins Real Estate Limited began development of their *West Point* project in New Toronto in 1913 they reserved the land in and around the (Jackson) creek that emptied into Lake Ontario for parkland.¹⁰³ However, the construction boom that followed WW II required more lands for development. As a result, lands originally seen as unsuitable for development were now filled in and either built upon or used for other purposes.

In addition to the disruption of the landmass itself, there were also impacts on the soil and groundwater as local industry and the railways, whether through carelessness or oversight, began to contaminate the areas close to their facilities. With a history of industry going back to the beginning of the 1890's New Toronto was especially hard hit, but other areas suffered as well.

Wayne Reeves pg 5



The Changing Face of the Mouth of Etobicoke Creek 1795-1947.



Route of North Creek through Long Branch 1952.

Waste management became an issue as the population increased. In response, the Towns of Mimico and New Toronto set up the Union Sewerage Commission in 1915. A garbage incinerator¹⁰⁴ and a sewage plant,¹⁰⁵ were soon constructed on separate sites in Mimico to deal with the problem. In 1947, the incinerator was rebuilt in a new location adjacent to the sewage plant.¹⁰⁶ These new facilities added to the existing problem of soil and groundwater contamination in the area.

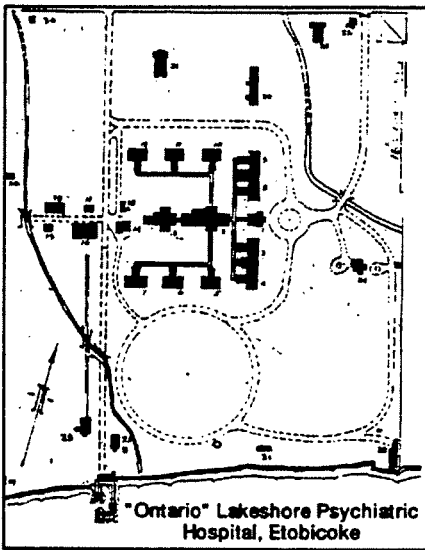
As the area urbanized, paved surfaces such as roads and driveways, affected the water levels in the remaining watercourses. Under such circumstances the flow of water was greater during wet events, and minimal in between, playing havoc with fish and wildlife which require constant even flows of water. However, the greatest impact was from the direct alteration of the landscape which resulted in the elimination and the destruction of habitat as creeks and riverbeds were filled in. At the beginning of the 20th century, only three major and five minor watercourses remained of the numerous creeks and streams which once flowed through South Etobicoke.

4.4.1 Etobicoke Creek

In 1920, the former Eastwood property at the mouth of Etobicoke Creek was subdivided for residential purposes. The subdivision not only included the entire property including the river valley, an island at the Creek mouth and the thin spit of sand which projected in a westerly direction into Lake Ontario. This dynamic habitat, which had gone through constant change since it was first charted in 1795, was now subject to the imposition of a static and unchanging urban framework. Flooding was a constant concern of the new inhabitants.¹⁰⁷ In an attempt to alleviate the problem a 60 foot channel was constructed in 1949 to redirect the creek to the lake. However, the improvement failed to prevent Hurricane Hazel from flooding the area in 1954. Seven people were killed and 56 homes were destroyed. As a result, all 183 properties in the floodplain were expropriated and the homes demolished. Upon the demolition, the lower creek was completely channelized, and the area was used for a number of years as a landfill site to raise the elevation of the land.¹⁰⁸ These changes destroyed all of the existing habitat and introduced potential contaminants into close proximity to Lake Ontario. Once the landfill site was closed in 1959, the site was fully landscaped and turned into Metropolitan Toronto's first regional park, known today as Marie Curtis Park.

4.4.2 North Creek

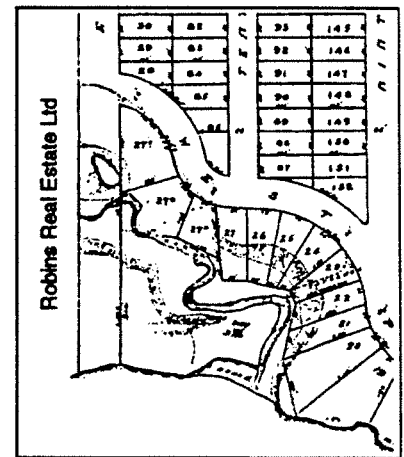
North Creek located south of the Queen Elizabeth Way east of Brown's Line drained an area of approximately 227 acres. The creek traversed in a south-easterly direction, through Laburnham Park and the *Lake Shore Gardens* subdivision, and then flowed in a southerly direction just west of Kipling Avenue through the Hospital Grounds to the lake. In about 1930, alteration of the creek through the Hospital Grounds occurred during which the creek was straightened.¹⁰⁹ In 1954 the Etobicoke-Mimico Conservation Authority approved a plan to force the creek underground into a series of sewers south of Laburnham Avenue.¹¹⁰ Today, the creek still flows freely for a short stretch through Laburnham Park before entering a storm sewer and then re-emerging on the Hospital Grounds, emptying into Lake Ontario through Colonel Samuel Smith Park.



Jackson and North Creeks, Hospital Grounds 1936.

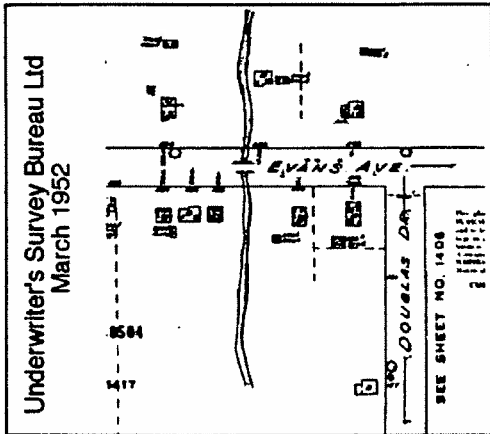
4.4.3 Jackson Creek

Jackson Creek originated just north of Bloor Street near present day Highway 427, then travelled in a southerly direction, through Douglas Park south of Evans Avenue, traversed the north-east corner of the Hospital Grounds, and then flowed into Lake Ontario at the West Point development site being built by Robins Real Estate Limited. In 1905 the watercourse was altered and the banks of the ravine were graded through the Hospital Grounds.¹¹¹ From there the creek continued to meander through the *West Point* lands to the east, terminating with a sandy beach at Lake Ontario. The creek continued to flow above ground through the Hospital Grounds until sometime after WWII. Later, it was buried in a storm sewer through the site and the present day grassy swale was created.¹¹²

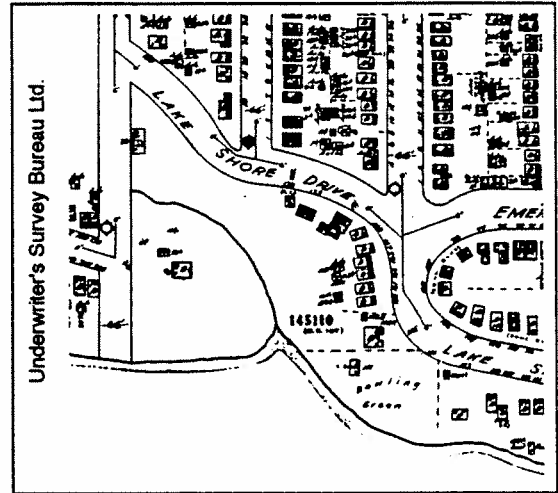


Mouth of Jackson Creek at Foot of 10th St. 1917.

The mouth of Jackson Creek remained relatively undisturbed until 1947. At that time, the creek was forced into a sewer which allowed it to flow directly into Lake Ontario at the foot of 11th Street. Once the creek was diverted, its former valley and beach were smothered with fill, and utilized for recreational purposes. Today the area is known as Rotary Park.¹¹³



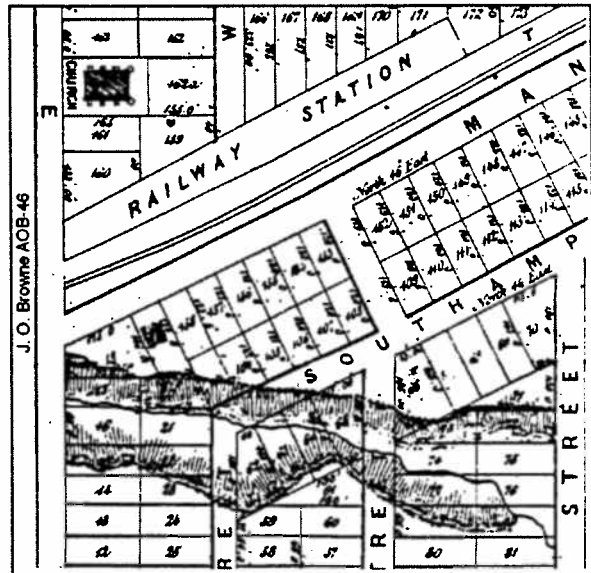
Route of Jackson Creek Through Douglas Park 1952.



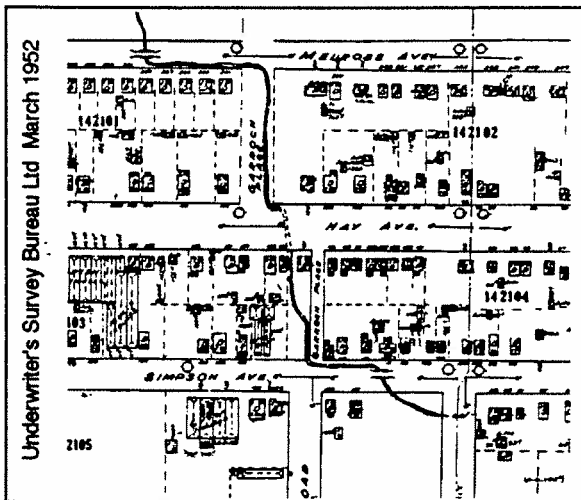
Mouth of Jackson Creek at Foot of 10th St. 1952.

4.4.4 Superior Creek

Further east, Superior Creek's headwaters were located just north of the QEW west of Kipling Avenue. From its source, the creek flowed in a south-easterly direction through the north western part of the Town of Mimico west of Royal York Road, and then down Stanley Avenue to Superior Avenue, and from there to the lake. In 1915, the lower portion of this creek was straightened to allow local improvements to Stanley Avenue,¹¹⁴ and sometime later buried in a sewer. The upper portions of the creek continued to flow freely across upper Mimico, but construction of newhomes after WW II necessitated the burial of the creek for most of its length above and below the CNR rail line in 1954.¹¹⁵



Superior Creek Flowing East of Royal York Rd., 1856.



Superior Creek route through north Mimico 1952.

4.4.5 Bonnar Creek

Bonnar Creek originated just west of Kipling Avenue north of the QEW and flowed south east through the area and joined Mimico Creek just south of the railway line. With the construction of the railway in 1855 the path of the creek was altered and some contaminated material was deposited in its old watercourse.¹¹⁶ However, the creek continued to flow unmolested until about 1950 when it was placed in a sewer and parts of its former watercourse began to be filled in. In 1957 the operators of the McGuiness Distillery began to fill in the remainder of the creek in order to construct a number of warehouses north of Manitoba Street.¹¹⁷



Mouth of Mimico Creek 1856.

4.4.6 Mimico Creek

Mimico Creek remained relatively intact until the end of WW II. In 1947 a great amount of fill material of unknown quality was deposited in the area to make it suitable for industrial building sites. Initially this filling activity was restricted to the western banks of the creek, but eventually progressed into the deeper parts of the valley. By 1956 the Mimico Creek Oxbow with its large wetland was entirely engulfed.¹¹⁸ By 1957 the majority of the wetland habitat in this area was entirely destroyed.

4.4.7 Humber River

The Humber River was the last watercourse to feel the impact of the direct alteration and destruction of its wildlife habitat. Originally the Humber River included eight important wetlands south of Bloor Street. However only

five exist today.¹¹⁹ This has reduced the total area of wetland habitat from 142 hectares to about 26 hectares.¹²⁰ Of the three former wetlands, two were on the Etobicoke side of the river and were filled in to provide for recreational parkland and a boat marina. Both of these former wetlands now form part of King's Mill Park between Riverwood Parkway and Bloor Street W.¹²¹

4.4.8 Lakefilling

Lake Shore Drive, at the foot of Fifth Street in New Toronto was the first portion of the South Etobicoke shoreline to be altered through lakefilling activities. In order to stabilize the area and protect it from erosion, fill was placed behind a constructed cribwork encompassing an area just under 1 acre in size.¹²² The town used all manner of material to create the necessary land and used the area as a "dump".¹²³ The work proceeded quickly and by the summer of 1936 the Town of New Toronto had graded, sodded and planted the area to create a new waterfront park.

After WW II, the Lake Ontario shoreline in South Etobicoke underwent a number of profound and fundamental changes. In 1947, the lands east of Mimico Creek (Motel Strip) were lakefilled until they doubled in size by the mid 1970's. The source and quality of this fill is unknown.¹²⁴ West of Mimico Creek, in the Town of Mimico, the modification of the shoreline began to occur as the large lakefront estates were developed for apartment units beginning in about 1950 and proceeding into the 1960's. Filling of the lake occurred along the entire apartment strip from Mimico Creek in the east to about Miles Road in the west, and just west of the foot of Royal York Road on the former Fetherstonhaugh Estate.

Lakefilling in New Toronto occurred in connection with the construction of the R.L. Clark Water Filtration Plant on the westerly portion of the Hospital Grounds in 1968, and the expansion of two waterfront parks (Rotary Park and Prince of Wales Park).¹²⁵

In Long Branch, the owners of the Long Branch Hotel site filled in their waterlot to allow for the construction of apartment buildings in 1963. However, the Town of Long Branch was able to acquire the property, and turn the recently lakefilled area into Long Branch Park.¹²⁶

In 1972, the Metropolitan Toronto and Region Conservation Authority (MTRCA) began a number of major lakefilling projects in South Etobicoke. Humber Bay Park East and West were constructed on

either side of the mouth of Mimico Creek.¹²⁷ When complete, these two parks added 40 hectares (99 acres) of recreational lands to the area.¹²⁸ In 1983, the MTRCA began construction of Colonel Samuel Smith Park.¹²⁹ Today this park has added another 28.5 hectares (70 acres) of parkland to the area.¹³⁰ The environmental impacts of this activity will be discussed in section 5 of the report.

5.0 Current State of the Environment

This section of the report will provide a synthesis of the information in various reports produced by government ministries and agencies, municipal governments, and the private sector, in order to provide an assessment of ecosystem health in South Etobicoke. The current state of the environment will be examined for the components of air, land and water.

5.1 Air Quality

Air quality in the area of South Etobicoke is a result of international, regional and local sources. Scientific work over the last decade has shown that a great number of toxic chemicals can be transported in the air for many thousands of kilometres. It is estimated that up to 50% of the toxic chemicals in Lake Ontario are the result of deposition from the air.¹³¹ Local air quality is a product of the emissions of local industry and transportation corridors such as railways and the QEW. During the warmer months of the year emissions from cars and industry combine to create groundlevel ozone.¹³² Hours of unacceptable air quality measured at the MOEE monitoring station at Evans and Arnold Avenue has decreased from a high of approximately 225 hours in 1989 to about 75 hours in 1992, the last date for which data is available.¹³³

One of the larger contributors to local air quality is the Lakeview Generating Station operated by Ontario Hydro just west of Etobicoke Creek in the City of Mississauga. This coal-fired station is currently utilized by Ontario Hydro to meet peak demand periods of electrical use during the heat of mid summer and the cold of mid winter. To reduce its overall impact on air quality the plant burns low-sulphur coal and then cleans the emission gases through the use of electrostatic precipitators and scrubbers. However trace amounts of material do escape into the air contributing to air quality problems. This is especially the case during the hot days of August when emissions from the plant contribute to the persistent smog and ground level ozone problems that plague the area during this time of the year. Such problems often result in respiratory problems for individuals suffering from other medical conditions.¹³⁴

If the proposed privatization of Ontario Hydro takes place, and the Lakeview Generating Station is sold to private owners, an increase in emissions can be expected as the new owners operate the plant on a continuous basis in order to recoup the costs of their investment. This would inevitably lead to higher levels of local pollution.

5.2 Soils & Groundwater

Soil and groundwater resources within the South Etobicoke area have been contaminated through past industrial activities, waste management facilities, alteration to the terrestrial environment through the importation of fill, and the creation of new lands through lakefilling.

5.2.1 Industrial Activities

As noted in section 4, there is a long history of industrial operations in South Etobicoke, especially in New Toronto where a number of industrial operations were founded in the early 1890's. This area was later joined by some other smaller industrial areas in Mimico along the rail line. After WW II large areas of land were developed for industrial purposes, especially in Long Branch and Alderwood.

Some of these industrial operations have resulted in the contamination of local soils and groundwater. Investigations have been undertaken on a number of sites (see Map 4), but the quality of the soil and groundwater on the majority of the industrial lands in South Etobicoke is unknown.

In New Toronto, such contamination first came to light during the construction of the Daniel's Development on the former Goodyear Tire factory which had been operating on the site since 1917.

Testing of the site discovered that 12 areas required remediation to allow for the proposed residential uses planned for the site, with a concentration on the more northerly portion of the property.¹³⁵ A total of 22,600 metric tons of soil suffering from contamination levels above the industrial standard were removed to a hazardous waste site, and an additional 3,700 metric tons which was not as contaminated was disposed of at a landfill site.¹³⁶ Once clean-up of the site was accomplished, the proposed residential development proceeded and about half of the site has now been developed for residential uses. The balance of the lands will be developed sometime in the future.

Adjacent to the former Goodyear Tire factory on the east side is **8th Street Park**, a small park owned by the City of Etobicoke. Recent soil and groundwater testing of the site indicated that while there was a history of industrial use on the site dating back to 1918, the soils were relatively clean.¹³⁷ Elevated levels of lead were discovered at the south-east corner of the site, but the detected levels of this heavy metal were well below the residential/parkland use criteria.¹³⁸ Traces of organic compounds such as toluene, and xylenes were also discovered on the site, but these too were below the residential/parkland use criteria.¹³⁹ Testing of the groundwater on the site indicated traces of naphthalene and other organic compounds as well as heavy metals.¹⁴⁰

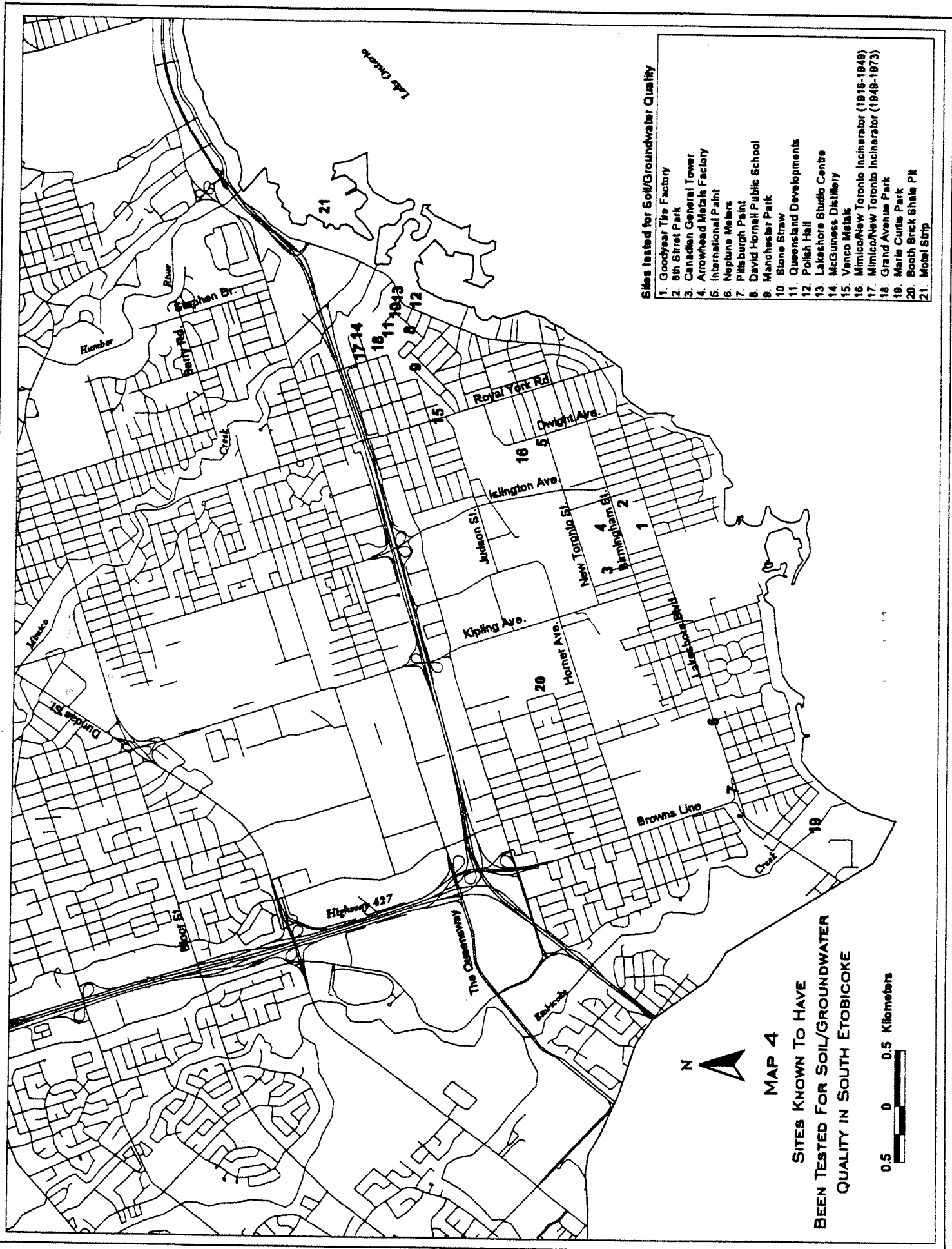
To the north-west of the former Goodyear Tire factory is another large industrial site owned by **Canadian General Tower (CGT)**. Industrial operations began on the site in 1915. In 1992 the plant closed down and was demolished. The plant and its successors manufactured rubber and vinyl coated goods for the automotive industry, and used chemicals such as plasticizers, lubricants, pigments and organic solvents as part of its operation.¹⁴¹ The current owners are proposing to convert the site to residential uses and construct townhouses and semi-detached homes. Testing was undertaken on the site in 1989 and 1991. Seven distinct areas were found to be contaminated by heavy metals and petroleum hydrocarbons above permitted residential levels. It is estimated that a total of 15,850 cubic metres of contaminated material will have to be excavated and disposed of at an appropriate landfill site.¹⁴³ Similar contamination was found in the groundwater. Samples taken from various wells drilled on the site indicated the presence of metals and various organic compounds including petroleum hydrocarbons.¹⁴⁴ However the concentrations are considered to be within the acceptable levels in the clean-up guidelines, and therefore are not considered to be of concern. Lead was also detected in the groundwater sample on the northerly portion of the site.¹⁴⁵ As the groundwater flow in this area is generally from north to south,¹⁴⁶ this suggests that the lead is coming from an offsite source to the north.

Adjacent to the CGT site is the site of the former **Arrowhead Metals** factory. The factory was closed down in the 1980's and the buildings have now been demolished. The current owners of the site have stated that it is their intention to seek the redesignation of the site to allow for a mixed use form of development. Soil and groundwater testing has been conducted on the site. However, a request to review the results has been denied.

Further to the east, at the north-west corner of Dwight Ave. and New Toronto Street is the former **International Paint** site. A number of studies were carried out in 1987 and 1988 which determined that about 1000 cubic metres of material on the site had been contaminated with toluene and xylene. Testing also revealed that lead was also present, though this was below the permitted levels at the time.¹⁴⁷ This material was excavated and removed from the site to the Keele Valley landfill site, and the building was demolished. It is believed that this site has now been remediated to industrial/commercial levels.

Bordering this industrial area of New Toronto to the north is the CNR marshalling yards. No soil or groundwater tests are known to have been carried out on these lands, but in the City of Toronto the railway lands there have been discovered to be contaminated with heavy metals and organic contaminants.¹⁴⁸ Similar results could be expected along the rail lines and in the marshalling yards in South Etobicoke.¹⁴⁹

In the former Town of Long Branch, information is available for two sites. The first of these is the former **Neptune Meters** site at 3480 Lake Shore Blvd. West. Neptune Meters purchased the site in 1947 and operated a brass and bronze foundry on the site until the mid 1970's.¹⁵⁰ It was common practice during



Sites tested for Soil/Groundwater Quality

1. Goodyear Tire Factory
2. 8th Street Park
3. Canadian General Tower
4. Arrowhead Metals Factory
5. International Paint
6. Neptune Motors
7. Pittsburgh Paint
8. David Herrell Public School
9. Manchester Park
10. Stone Straw
11. Queensland Developments
12. Polish Hall
13. Lakeshore Studio Centre
14. McGuinness Distillery
15. Venco Metals
16. Mimico/New Toronto Incinerator (1916-1948)
17. Mimico/New Toronto Incinerator (1948-1973)
18. Grand Avenue Park
19. Marie Curie Park
20. Booth Brick Shale Pit
21. Motel Strip

MAP 4

**SITES KNOWN TO HAVE
BEEN TESTED FOR SOIL/GROUNDWATER
QUALITY IN SOUTH ETOBICOKE**



these years to dump the waste products from the manufacturing process at the back of the property. This foundry sand now covers the rear of the site in thicknesses ranging from 2 to 7 feet.¹⁵¹ Sampling of this material indicates that the waste material is contaminated with copper, lead and zinc greatly in excess of the residential/parkland criteria, and that there is also some oil and grease contamination in a former fuel storage area, including a small amount of PCB contamination.¹⁵² As on most other sites in South Etobicoke, groundwater flow in this area is generally from the north to the south. Groundwater sampling has indicated that low levels of phenol were detected in the vicinity of a former drum storage rack, but that there is no indication that the high levels of heavy metal contamination from the overlaying foundry sands on the site have penetrated to the groundwater.¹⁵³

Further to the west at the north-east corner of Lake Shore Blvd. W. and Brown's Line is the former **Pittsburgh Paint** site owned by PPG. The property was first utilized for industrial development in 1946 when a paint and resin manufacturing facility was built on the site.¹⁵⁴ Operations at the plant ceased in 1989, and demolition of the facility occurred in 1994.¹⁵⁵ Remediation of the PPG site, and a portion of the adjacent MSSB school property occurred between September 1995 and January 1996. In total, 30,658 tonnes of material was removed. This material was contaminated with hydrocarbons and PCB's¹⁵⁶ A system has also been installed to monitor groundwater.¹⁵⁷ The site has now been remediated to commercial/industrial levels.

In the Mimico area there has been a great deal of redevelopment on former industrial lands, and thus a great deal of information has been gathered on the soils and groundwater for this area.

As discussed in Section 3 of this report, Mimico was predominately a residential community, but there was some industrial development along the CNR rail line. The earliest industry to locate in the area was the Ontario Sewer Pipe Company which occupied a large site in the easterly section of the former town beginning in 1897.¹⁵⁸ The westerly portion of this site was developed for a townhouse project in the mid 1970's. The rear yard of **David Hornell Public School** lies on the easterly portion. In 1991, a soil investigation was undertaken on the school site to determine if the historic industrial uses had left any residual contamination. Results indicated that all samples met the requirements of the MOEE for Residential/Parkland guidelines, and that no remediation was required.¹⁵⁹ Soil and groundwater testing undertaken by the City of Etobicoke in 1995 as part of the process related to the redesignation of **Manchester Park** from "industrial" to "open space" resulted in the further examination of these, and the lands to the west. Test results indicated that no adverse effect had occurred from the past industrial uses in the park.¹⁶⁰

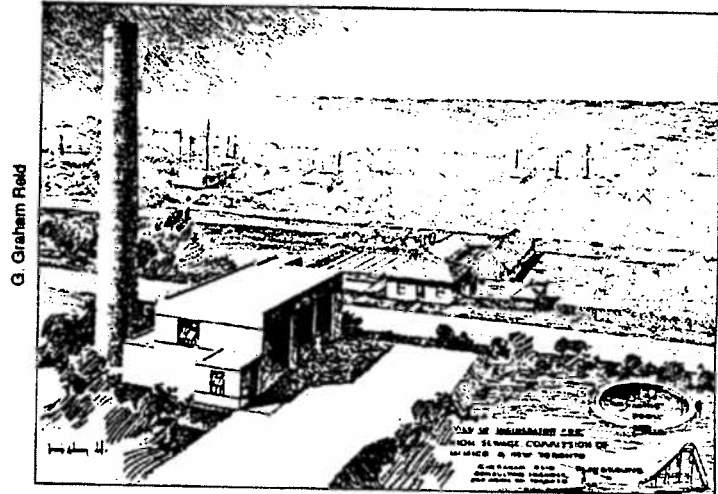
To the east is the industrial area around Fleeceline Road. Residential developments have recently been approved for most of the industrial lands in this area. Soil and groundwater investigations have been undertaken on two sites.

The **Stone Straw** site at 2276 Lake Shore Blvd. W. has a history of industrial use dating back to 1940.¹⁶¹ Soil testing has indicated that a portion of the site is contaminated by black tar and asphaltic paper, but these are believed to have originated from the former **Bishop Asphalt Papers Limited** site to the north. Testing of this material indicated that it is contaminated with PAH's (Polycyclic Aromatic Hydrocarbons) in excess of the MOEE guidelines for residential/parkland criteria.¹⁶² Some hydrocarbon contamination from a former fuel storage tank was also found.¹⁶³ Approximately 422 cubic metres of soil will have to be removed from the site.¹⁶⁴ Groundwater on the site was found to slightly exceed the Ontario Drinking Water Objectives for iron, manganese, arsenic, cadmium and phenols.¹⁶⁵

To the north are the lands owned by **Queensland Developments** at the end of Fleeceline Road; part of the property was formerly the site of the **Bishop Asphalt Property Ltd.** A townhouse development has recently been approved on the site. Past testing indicates that while the easterly part of the site has up to 10m of fill material resulting from the former industrial activity on the site, all of the tested samples meet the residential/parkland criteria of the MOEE. The same is true for the westerly portion of the site which has up to 3 m of fill material.¹⁶⁶ No groundwater testing was undertaken on either site.

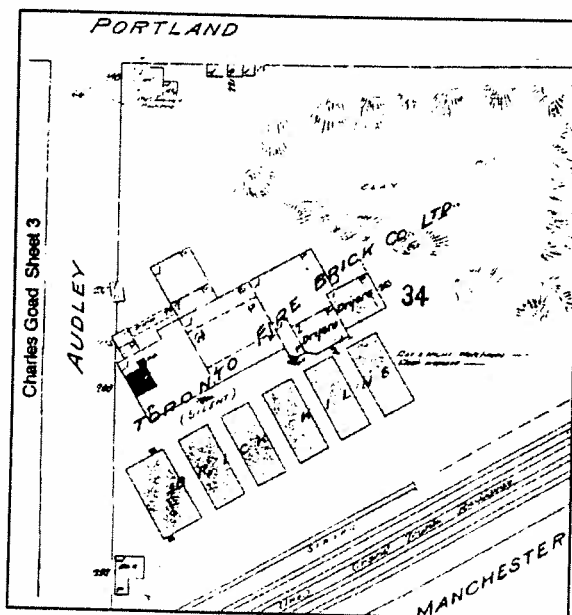
Previous testing has also been undertaken at the Polish Hall at 2282 Lake Shore Blvd. W. in 1971, and the Lakeshore Studio Centre at 2264 Lake Shore Blvd. W. in 1973, but both investigations were strictly for the purposes of geotechnical evaluation and no chemical analysis was undertaken. However, this past testing did indicate that fill exists on both sites with up to 1.4 m on the former, and 3.6 m on the latter.¹⁶⁷

Directly to the north of this area, across the CNR rail line is the former McGuinness Distillery site, now being developed as a new residential community. Soil and groundwater testing was conducted in 1988 and again in 1992 in accordance with the redesignation of this site from an industrial to a residential use. These tests indicated that selected portions of the site were contaminated with heavy metals in excess of the residential/parkland criteria, for zinc, cadmium, copper and antimony. Samples taken from a historic creek bed on the site (Bonnar Creek), which is believed to have been filled in in 1855 when the rail line was first constructed through the area, contained heavy metals in excess of the residential/parkland guidelines for copper, arsenic, selenium and lead. PAH's (Polycyclic Aromatic Hydrocarbons) were also discovered in a small area on the eastern portion of the site adjacent to Mimico Creek, and in another location to the west. The investigation also discovered an underground storage tank on the northern side of Manitoba Street, and it was found that the tank had been leaking hydrocarbons into the adjacent soils.¹⁶⁸ About 18,695 cubic metres of soil is to be removed as part of the clean-up.¹⁶⁹



Mimico / New Toronto Incinerator, Grand Avenue, with Sewage Plant in Background, 1947.

Groundwater in the area flows in an easterly direction toward Mimico Creek. Testing of the groundwater on the McGuinness site indicated that with the exception of the area around the leaking underground storage tank which was contaminated with hydrocarbons,¹⁷⁰ the groundwaters on the site "are somewhat degraded, probably due to the presence of the incinerator and the former sewage treatment plant"¹⁷¹ to the west on the lands owned by Metro Toronto. However, further investigations on the adjacent Metro site



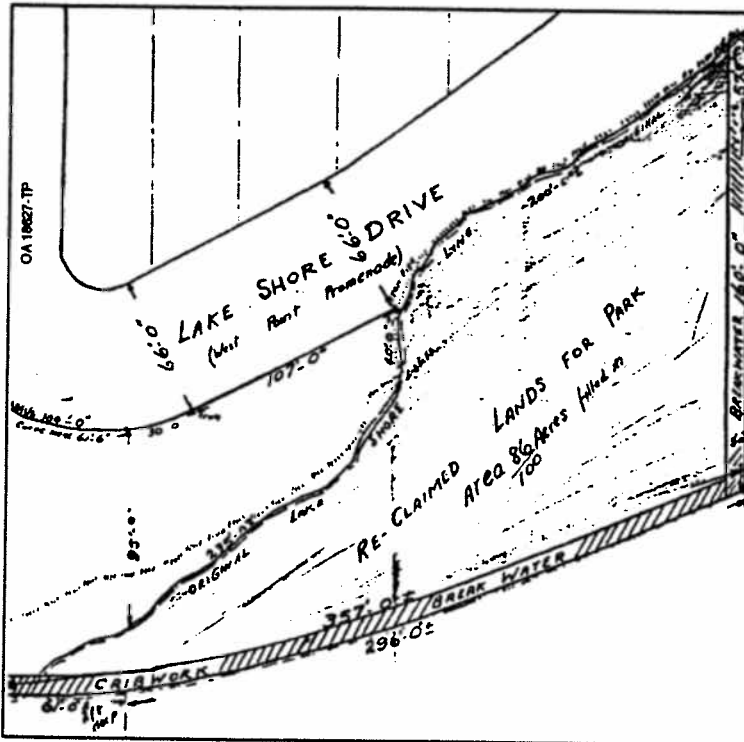
Toronto Fire Brick Co. shale pit, 1913.

indicated that groundwater samples on the McGuinness site had higher concentrations of aluminium, chromium, copper, phenol, selenium and zinc.¹⁷² This suggests that these concentrations may be a result of some onsite activities and not necessarily the result of contamination from the adjacent Metro sites.

West of the McGuinness site in Mimico exists an old industrial area hugging the northerly portion of the CNR rail line. Of these properties, only one is known to have been subject to soil and groundwater testing.

The Venco Metals site is located at the south-east corner of Royal York Road and Newcastle Street, and is known municipally as 347 Royal York Road. Industrial operations began on the site in 1945 and carried on until 1990 when the building was closed. The longest occupant of the building was a tool and die manufacturer between 1954 and 1970.¹⁷³ A historical report conducted in 1988 indicated that between 1985 and "approximately

20 litres of [dirty varsol] per day was disposed of onto the ground at the rear of the plant...As well, results from an investigative drilling program indicated that machine and stamping oils used in the plant had entered and contaminated the groundwater". And that "[w]hile some of the substances have been recovered, the report indicates that only a small fraction of the potential 31,000 L of varsol had been



Town Dump at Foot of 5th Street, 1934.

recovered and disposed of in 1988".¹⁷⁴ Further work undertaken in 1991 found that there was up to 1.8 m of fill on the site, and that the soils were "contaminated with oil and varsol residue in some areas with ash and cinders", and that this contamination extends down into the native soils in some locations on the site.¹⁷⁵ The groundwater was also found to be contaminated with varsol but not to the degree reported in the MOEE letter of 1990. As such, it was concluded that the "product appears to have moved off site".¹⁷⁶

5.2.2. Waste Management

Another major factor affecting the quality of soils and groundwater in South Etobicoke was the waste management practices of local municipal governments (see Map 5). In order to save costs and provide efficient services to their ratepayers, Mimico and New Toronto decided to co-operate in the area of some

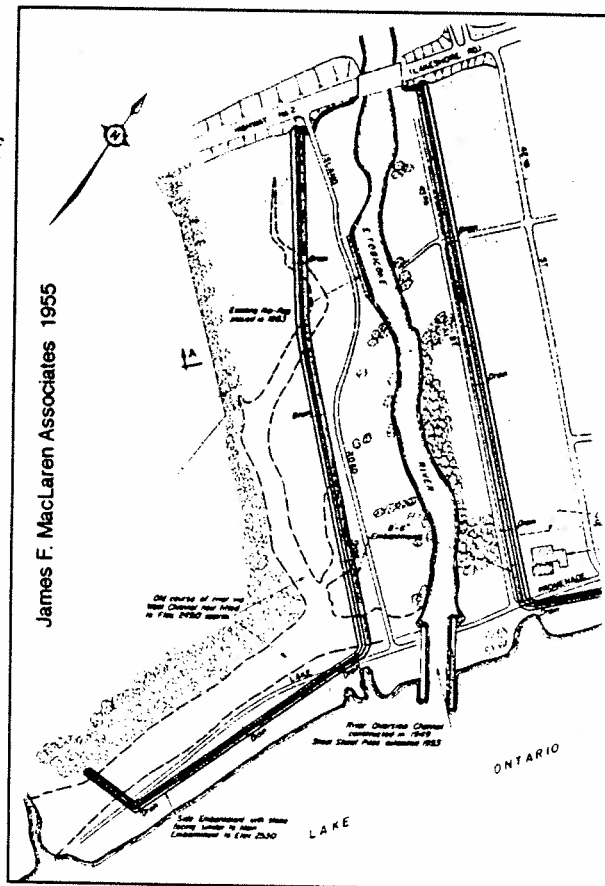
municipal services such as utilities and waste management. An agreement between the two municipalities was signed in 1915.¹⁷⁷ Under this arrangement, Mimico would supply New Toronto with access to its incinerator and sewage works in exchange for access to New Toronto's waterworks. Work on the joint sewage system began in 1916 and was completed by 1917, and the new plant was located east of Grand Avenue just north of the CNR rail line.¹⁷⁸ At the same time a site for the incinerator was acquired on the west side of Dwight Avenue at its juncture with Drummond Street. The incinerator was quickly completed and began burning industrial and municipal waste from the area.¹⁷⁹ Later the original incinerator was closed, and a new facility was constructed adjacent to the sewage works on Grand Avenue in 1949.¹⁸⁰

No testing has been undertaken on the site of the original incinerator which operated from 1916-1949 on Dwight Avenue, but documentation suggests that some impairment of soils and groundwater can be expected. It was known that the facility was "operating at it fullest capacity" on municipal waste alone, and that the "enormous amount" of industrial waste was having to be burned outside in open pits.¹⁸¹ Municipal records indicate that the facility was accepting a total of 6420 tons of waste in 1947, of which 1600 tons was industrial waste from nearby factories in Mimico and New Toronto.¹⁸²

Testing of the lands at Grand Avenue, originally owned by the Town of Mimico, but now in the possession of Metropolitan Toronto, was undertaken in 1992. The first set of tests were undertaken as part of the redevelopment proposal on the adjacent McGuinness site. These preliminary tests, restricted to the surface soils, indicated that both the incinerator site, and the sewage site to the south, were contaminated with heavy metals and PAH's (Polycyclic Aromatic Hydrocarbons) in excess of the residential/parkland criteria established by the MOEE.¹⁸³ The discovery of these contaminants prompted additional testing by Metro Toronto in the fall of 1992. The results of this investigation indicated that both the incinerator site and the sewage site to the south, were contaminated with heavy metals, and

organic compounds such as PAH's. PAH's are the result of the incomplete combustion of materials. Ash from the former incinerator was found buried on both sites, in thicknesses ranging from 15 cm to 4.5 m.¹⁸⁴ Subsequent testing of the ash indicated the presence of dioxins.¹⁸⁵ However, it is the opinion of the MOEE that since the ash is buried at depth on both sites, the dioxins do not at present represent a risk to human health.¹⁸⁶ An underground storage tank was also discovered on the sewage plant site. Further investigations concluded that the tank had been leaking hydrocarbons into the adjacent soils. The tank and approximately 95 tons of soil were removed from the site in September 1993.¹⁸⁷ Groundwater quality on the site was determined to exceed the Ontario Drinking Water Objectives for boron.¹⁸⁸

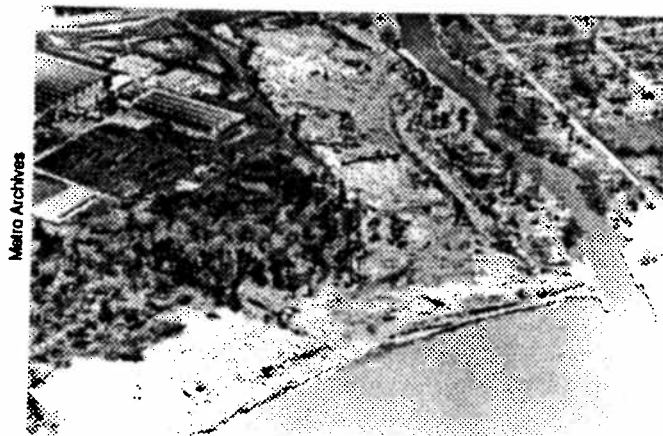
Documentation also exists suggesting that the ash and other material from the incinerator was disposed of at a number of locations in Mimico and New Toronto. One such site is at the south-east corner of Audley and Portland Streets. Here the Toronto Fire Brick Company left a large shale pit when it left sometime after 1913.¹⁸⁹ It soon filled with water and became a local hazard. On May 12, 1930, Mimico Council passed a resolution authorizing a committee of council to "interview the owners of the properties on which the shale hole is situated asking authority for the same to be used as a dumping ground until full".¹⁹⁰ Permission was soon granted and the municipality began to fill in the shale hole with "garbage". Today the former shale pit is covered by industrial buildings.



Long Branch Dump Proposal / Marie Curtis Park, 1955.

Another location for the disposal of waste materials was at the foot of Fifth Street in New Toronto.

According to a newspaper article in the September 5, 1934 edition of the *Toronto Star*, "[t]he conversion of the town dump between Fifth and Sixth Sts. into a municipal bathing beach was decided upon by council last night".¹⁹² About two years later we learn that the new park was nearing completion. "The long talked of park at the foot of Fifth street on the site of the old dump is readily becoming a reality..." reports *The Advertiser* on May 28, 1936.¹⁹³ In total, about 0.86 acres was landfilled, graded, sodded and planted with trees adjacent to the municipal waterworks.¹⁹⁴

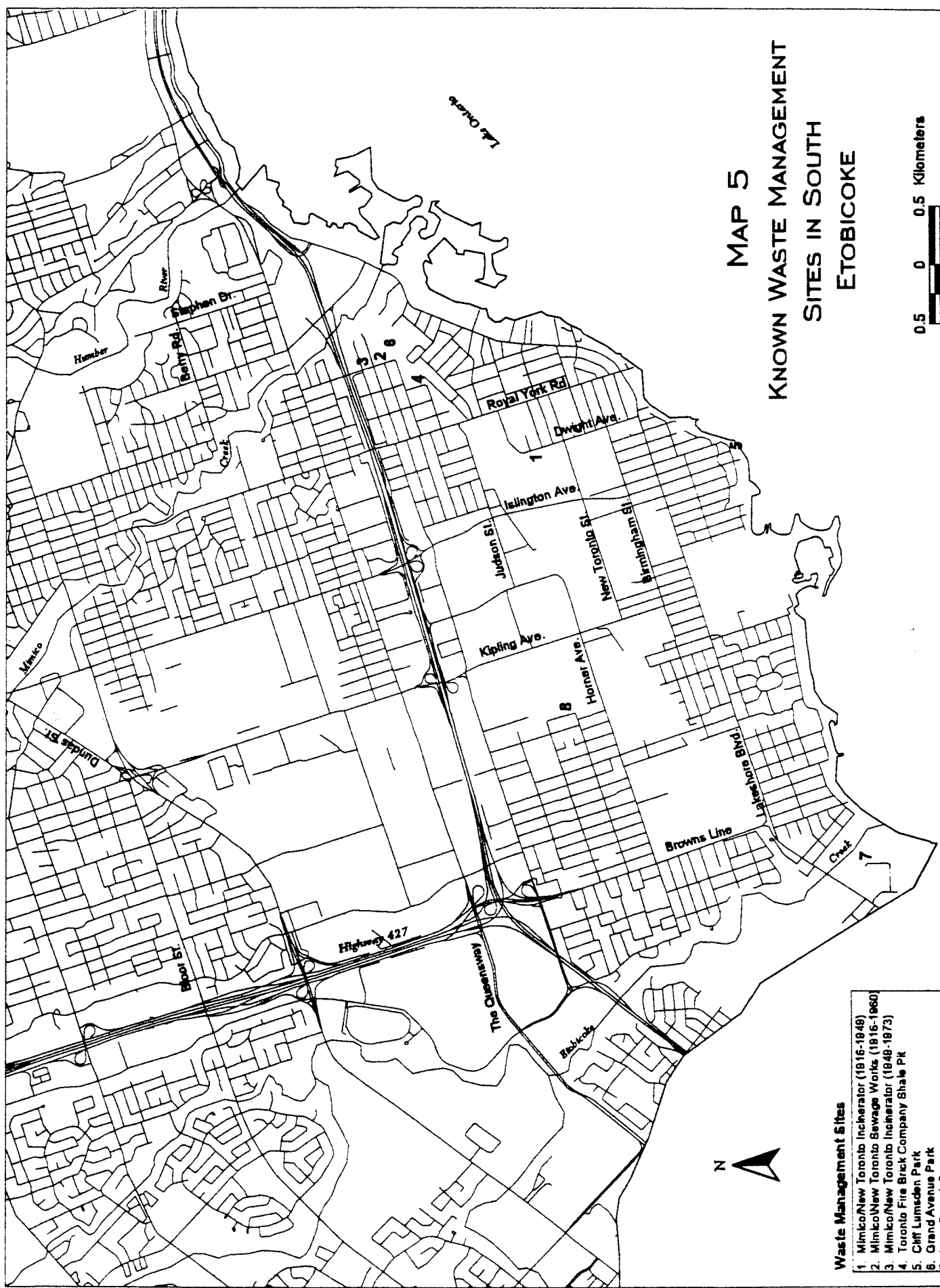


Aerial View of Long Branch Dump, 1956.

It is also believed that Grand Avenue Park adjacent to the incinerator and sewage plants on Grand Avenue was also used as a disposal area. A copy of the minutes of the September 12, 1960

meeting of the Mimico Works Committee refers to a new agreement between the CNR and the Town for use of the CNR right-of-way east of Grand Avenue as "a municipal dump".¹⁹⁵ Attempts to recover a copy of the agreement however were not successful. The CNR destroyed the files related to the property when it was sold to Etobicoke in 1975.¹⁹⁶ Some shallow surface testing in the park in 1992 discovered

MAP 5 KNOWN WASTE MANAGEMENT SITES IN SOUTH ETOBICOKE



- Waste Management Sites**
1. Mimico/New Toronto Incinerator (1916-1948)
 2. Mimico/New Toronto Sewage Works (1916-1960)
 3. Mimico/New Toronto Incinerator (1948-1973)
 4. Toronto Fire Brick Company Shale Pit
 5. Cliff Lumsden Park
 6. Grand Avenue Park
 7. Long Branch Dump
 8. Booth Brick Shale Pit

one location where heavy metals exceeded the residential/parkland guidelines. In addition, traces of PAH's (Polycyclic Aromatic Hydrocarbons) were also found in the surface soils of the park, especially at the eastern end of the site.¹⁹⁷ Such contamination probably originated from the incinerator site to the north. A further investigation was undertaken in April 1995 when two boreholes were drilled into the park. The results of these tests indicated that both soil and groundwater met the residential/parkland guidelines for the areas tested.¹⁹⁸

With the formation of Metropolitan Toronto in 1953, matters such as waste disposal became the responsibility of the new municipality. Within the Town of Long Branch, it was decided to take advantage of the recent expropriation of the table lands at the mouth of Etobicoke Creek following the disaster of Hurricane Hazel in 1954, and utilize the area as a waste disposal site. This would enable the municipality to recoup the costs of the expropriation and the proposed development of the site as park.

Use of the area for waste disposal began in the spring of 1955 and continued until the landfill site was closed on October 15, 1958. In all, a total of 133,019 truck loads¹⁹⁹ of waste was disposed of on the site. The majority was placed on the lands west of Etobicoke Creek south of Lake Shore Blvd., but a small portion was also disposed of on the eastern side of the creek at the south-west corner of Lake Shore Blvd. W. and 42nd Street.²⁰⁰ Waste accepted at the site included flyash²⁰¹ from the adjacent Lakeview Generating Station, and industrial waste from many factories throughout South Etobicoke, and other areas in Metro Toronto.²⁰² In order to maximize the capacity of the site it was common practice to burn as much waste as possible.²⁰³ Special pits were constructed along the Lake Ontario shoreline west of Etobicoke Creek for just such a purpose.²⁰⁴ Upon the closure of the facility in 1958, final grading work was undertaken, and the area was opened as Marie Curtis Park, Metropolitan Toronto's first regional waterfront park in 1959.

In 1994, Metro was advised by the MOEE that some surface soils in the park exceeded the residential/parkland guidelines for heavy metals. This condition was first discovered in 1992 when the MOEE was conducting an investigation into the environmental impact of the Lakeview Generating Station and began testing surface soils around the plant.²⁰⁵ Upon notification, Metro Toronto conducted its own surface testing program, confirming the presence of heavy metals in 13 locations on the western half of the park, and 2 locations on the eastern half.²⁰⁶ The source of these contaminants is believed to have originated from the adjacent Canadian Arsenals property, and were placed on the property as part of the final cover and grading of the landfill areas.²⁰⁷ The recommended remediation technique suggested for the contaminants in the most used portions of the park (south of the parking lots on the western half of the park) is to bring in clean topsoil and cap the area.²⁰⁸ No soil or groundwater tests have been conducted within the landfill area to determine the potential impact of the old landfill site on water quality in Etobicoke Creek or Lake Ontario.

Another known waste disposal site in South Etobicoke is the former shale pit located on lands originally owned by Booth Brick Company north of Horner Avenue, west of Kipling Avenue in Alderwood. Beginning in 1976 Ontario Hydro disposed of approximately 750,000 tons of flyash from its coal fired Lakeview Generating Station in the existing shale pit on the site. The operation ended in 1979, and the land was graded, covered with topsoil, sodded and is now operated by the City of Etobicoke as Connorvale Park.²⁰⁹ Ontario Hydro continues to monitor the groundwater in this location.²¹⁰ In 1995, as a requirement to rezone the park from industrial to open space, the City of Etobicoke conducted soil and groundwater tests on the site. The results indicated that both the soils and groundwater on the site meet the residential/parkland criteria.²¹¹

5.2.3. Land Alteration

Soil and groundwater in the area has also been impacted by the importation of fill material of unknown origin and quality.

The earliest known example is the contaminated fill material discovered at depth on the McGuiness Distillery site. This fill material, contaminated with heavy metals such as copper, arsenic, selenium and lead above the levels allowable under the residential/parkland criteria of the MOEE, is thought to have been imported and deposited on the site as part of the construction of the rail line by the Great Western Railway in 1855.²¹²

Historic filling activities also took place in the areas north of Lake Shore Blvd. W, west of Mimico Creek in order to provide suitable sites for industrial buildings.²¹³ Filling also occurred in the valleys of the remnant creek systems in the area, including Bonnar Creek, Jackson Creek, North Creek, and Superior Creek, as described in section 4 of this report.

5.2.4. Lakefilling

Lakefilling activity in South Etobicoke is an extension of the land altering activities described above. These activities have resulted in new lands being created where none existed before (see Map 6).

The earliest known example, undertaken at the foot of Fifth Street in New Toronto in 1934, has already been described. However, it wasn't until after WW II that lakefilling began on major portions of the Etobicoke waterfront.

On the Motel Strip, lakefilling began in 1947 and continued until the late 1960's, more than doubling the amount of land. The source of this fill is unknown. Initial testing on selected sites in 1994 suggested that portions of the area were contaminated with heavy metals and organic contaminants such as PAH's.²¹⁴ However, further testing conducted in 1996 has indicated that the majority of the lands meet the residential/parkland standard for soils.²¹⁵

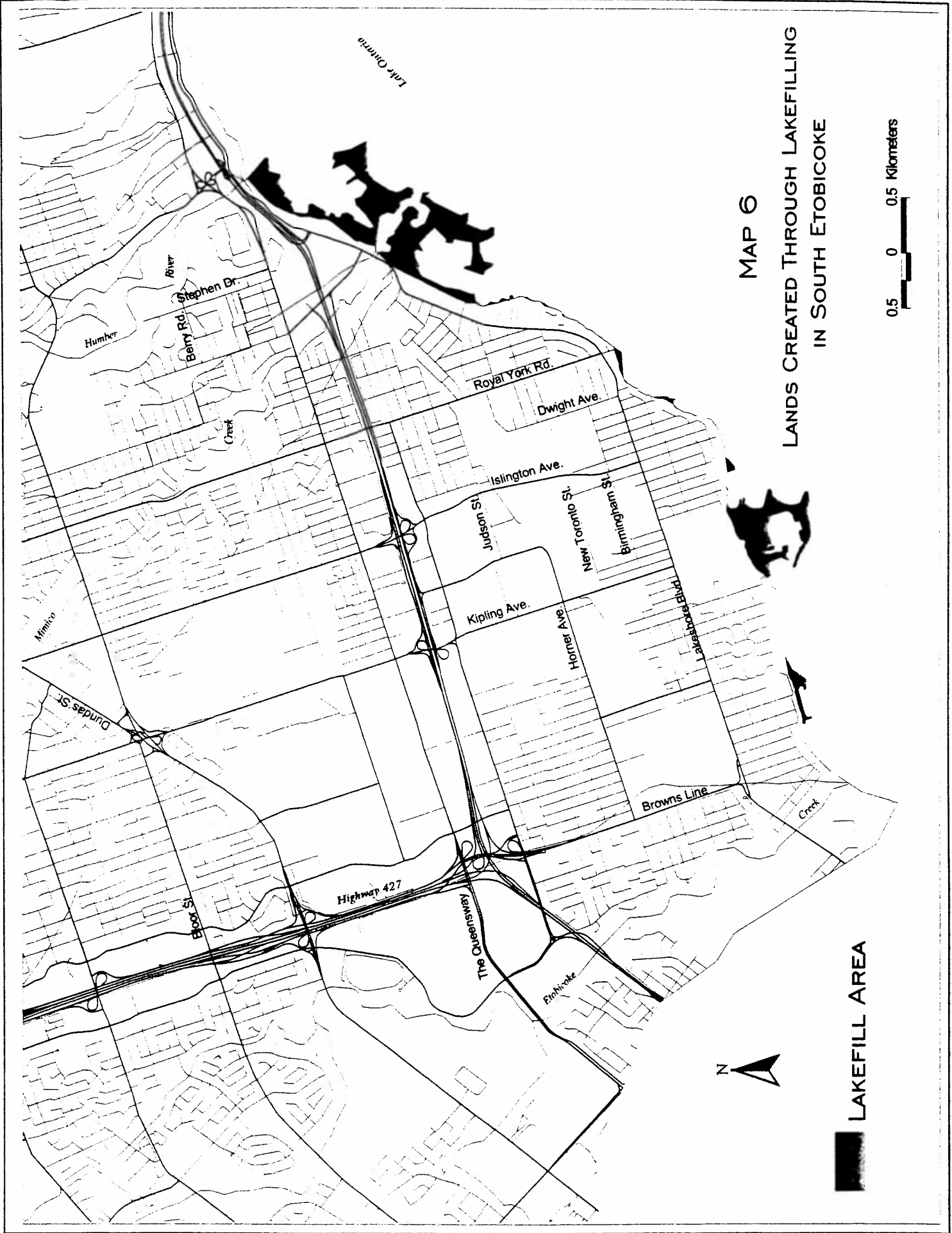
West of Mimico Creek in the Town of Mimico, the modification of the shoreline began to occur as the large lakefront estates were developed for apartment uses beginning in about 1950 and proceeding into the 1960's. Filling of the lake occurred along the entire apartment strip from Mimico Creek in the east to about Miles Road in the west, and just west of the foot of Royal York Road on the former Fetherstonhaugh Estate. This material was probably the result of excavations for the apartment buildings, but may have been supplemented with fill from outside of the area. No soil or groundwater testing is known to have been carried out on these lands.

In the Town of New Toronto, lakefilling occurred in connection with the construction of the R.L. Clark Water Filtration Plant on the westerly portion of the Hospital Grounds in 1968, and the expansion of two waterfront parks (Rotary Park and Prince of Wales Park).²¹⁶ No soil or groundwater testing is known to have been carried out on these lands.

In Long Branch, the owners of the Long Branch Hotel site filled in their waterlot to allow for the construction of apartment buildings in 1963. However, the Town of Long Branch was able to acquire the property, and turn the recently lakefilled area into Long Branch Park.²¹⁷ No soil or groundwater testing is known to have been carried out on these lands.

In 1972, the Metropolitan Toronto and Region Conservation Authority (MTRCA) began a number of major lakefilling projects in South Etobicoke. Humber Bay Park East and West were constructed on either side of the mouth of Mimico Creek. When complete, these two parks added 40 hectares (99 acres) of recreational lands to the area.²¹⁹ In 1983, the MTRCA began construction of Colonel Samuel Smith Park.²²⁰ Today this park has added another 28.5 hectares (70 acres) of parkland to the area.²²¹

Though these activities have created new wildlife habitat lands along the waterfront there are environmental costs associated with lakefilling. The greatest of these costs is the introduction of contaminated soils into contact with the waters of Lake Ontario. And "[w]hile there is some debate about the precise degree of contamination, there can be no doubt that lakefilling activities have been



MAP 6

LANDS CREATED THROUGH LAKEFILLING
IN SOUTH ETOBICOKE

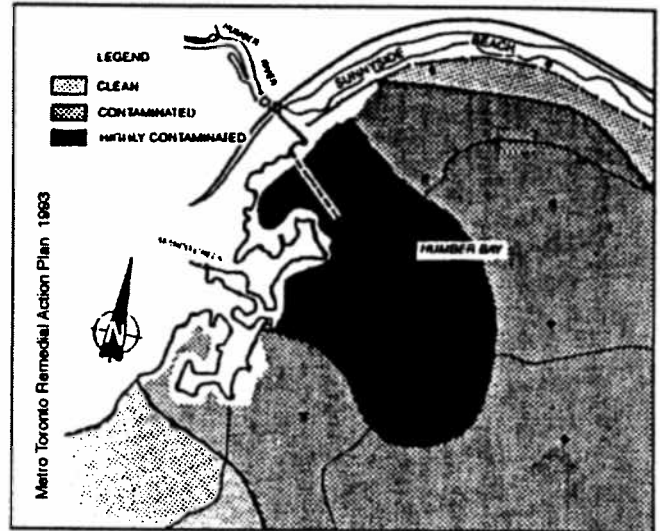
LAKEFILL AREA

0.5 0 0.5 Kilometers

contaminating lake water by introducing toxic substances into it."²²² In response to this and other criticisms of lakefilling, the province instituted the Lakefill Quality Control Program in 1988, which is administered by the MTRCA.²²³ In 1992, the province brought in new more stringent guidelines which govern all lakefilling projects in Ontario except for the Leslie Street Spit.²²⁴ These new guidelines are designed to prevent contaminated soils from being disposed of in lakefilling projects.

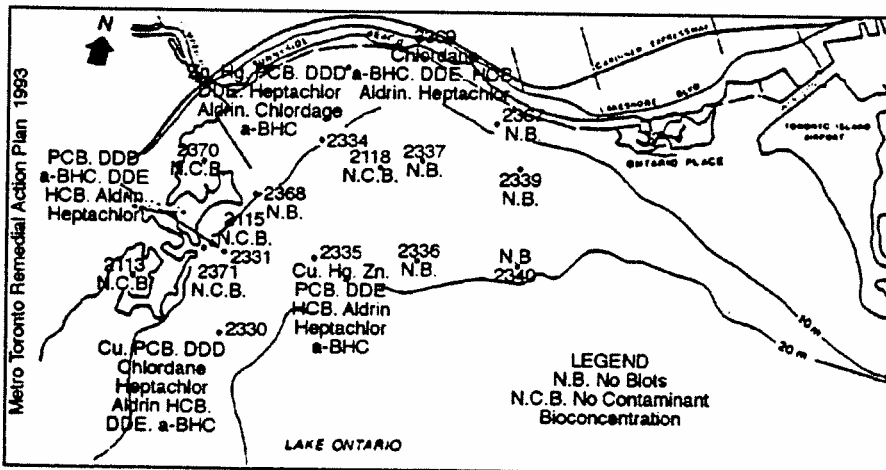
5.3 Sediments

Past studies by the Ministry of Environment have determined that the sediments lying on the bottom of Humber Bay near the mouth of the Humber River are highly contaminated with "organic material, nutrients, metals, solvent extractables, and PCB's."²²⁵ This highly contaminated zone extends "from the Humber River around the Humber Sewage Treatment Plant outfall over to Mimico Creek."²²⁶ It is believed that these sediments have been contaminated due to a number of factors including the Humber River,²²⁷ Mimico Creek, storm sewers in the area, and the Humber Sewage Treatment Plant.²²⁸



Humber Bay Sediment Quality.

Of these sources however, the predominant factor appears to be the Humber Sewage Treatment Plant (HSTP).²²⁹ Each year the HSTP releases about 25,000 kg of heavy metals such as lead, copper, chromium, mercury, cadmium, nickel and zinc; and about 768 kg of organic contaminants such as lindane, 2,4-D, DDT, cresol, xylene and others into the waters of Humber Bay.²³⁰ These contaminants originate from the users of the system. Sewage treatment plants can deal with the natural organic waste produced by living things, but are not designed to deal with chemical wastes. When chemicals arrive at the plant they simply pass through the system and into Lake Ontario.²³¹



Chemicals Found in Humber Bay Sediments That Can Enter the Food Chain.

It has also been determined that recent lakefilling projects, particularly the large ones created by the MTRCA, have also had a hand in the contamination of local sediments. This occurs as a result of the importation of contaminated fill, and the creation of embayments that interfere with normal lake currents, creating areas of calm water where contaminants settle.²³² This has certainly been the experience for the areas in

and around the Humber Bay Park lakefills,²³³ and Colonel Samuel Smith Park.²³⁴

For these and other reasons, the area of Humber Bay has been identified as one of 42 "Areas Of Concern" by the International Joint Commission (IJC), in accordance with the Canada-US Great Lakes Water Quality Agreement.²³⁵

Sediment samples taken offshore of Marie Curtis Park have also shown elevated levels of lead, mercury, zinc and PCB's above MOEE guidelines.²³⁶

5.4 Surface Waters

Surface waters within South Etobicoke include Etobicoke Creek, Mimico Creek, the Humber River and Lake Ontario, but also portions of the remnant creeks in the area including North Creek and Jackson Creek. Water quality within the above surface waters are mainly a product of the watershed within which they sit, emphasizing the importance of planning and remediation work on a watershed basis.

5.4.1. Etobicoke Creek

The Etobicoke Creek watershed covers a total of 205 square kilometres of which only 25% is in the city of Etobicoke.²³⁷ The balance of the lands lie in the cities of Mississauga and Brampton. In 1988 Wilkins reported that the water quality in Etobicoke Creek "fails to meet the PWQO [Provincial Water Quality Objectives]...suspended solids and nutrient levels are high with the average phosphorus level five times the desirable level....[and] [f]aecal coliform bacteria levels..[at] more than 20 times the PWQO."²³⁸ Faecal coliform bacteria are primarily responsible for the closing of beaches during the summer months. The majority of the contaminants that flow into Etobicoke Creek are a result of contaminated stormwater from areas within the creek's watershed.²³⁹ The trend over time has seen a decrease in the phosphorus levels recorded at the mouth of Etobicoke Creek²⁴⁰ but faecal coliform levels appear to be on the increase,²⁴¹ emphasizing the need for the treatment of stormwater in the area.

Two known historic landfill sites exist upstream of the study area on Etobicoke Creek and one of its tributaries.²⁴² The latter is Centennial Hill at Centennial Park. In 1993 the City of Etobicoke installed a system to collect the leachate leaking from the former landfill site when testing revealed that "it exceeded standards" allowed in stormwater.²⁴³ The former is a landfill site lying just north of The Queensway. In 1991 it was discovered that the contents of this old landfill site had begun to erode into the creek. Testing of the site determined that there were no harmful chemicals flowing into the creek, but work to stabilize the bank had to be undertaken in order to prevent any more waste material from entering the creek.²⁴⁴

One of the larger contributors to water quality in Etobicoke Creek is the Lester B. Pearson International Airport. The headwaters of Spring Creek, a tributary of Etobicoke Creek, begin on the airport property (the airport also has an impact on the nearby Mimico Creek). Impacts from the operations of the airport include the use of de-icing fluids during the winter months, the use of urea and sand to prevent ice build-up on the runways, fire fighting training sessions and accidental fuel spills.

The application of de-icing chemicals (glycol's) to aircraft during the winter months is a necessary operation in order to allow the aircraft to take-off safely. Use of such chemicals has increased over the years with a recorded use of 952,477 litres in 1974-75 increasing to 1,762,263 litres in 1986-87, the last year for which data is available.²⁴⁵ It is estimated that approximately 64% of this total has the potential to run-off into Etobicoke Creek. While studies have indicated that the toxicity of glycol based de-icers is low, the chemicals do break down in the creek and are high users of oxygen. As such, during heavy loadings the high demand for oxygen could result in the suffocation of fish and other aquatic life.²⁴⁶ This was confirmed by studies undertaken in late 1989 and 1990 when monitoring indicated that runoff from the airport had a high demand for oxygen, especially between December and May when levels were often between 50 and 100 times the acceptable guideline of 20mg/l.²⁴⁷ Currently only Terminal 3 is equipped with holding tanks to recapture de-icing fluids and prevent their discharge to local watercourses.

The use of urea to prevent the formation of ice on the runways also has an impact on water quality in Etobicoke Creek. Such chemicals produce nitrogen when they break down and therefore can lead to "excessive plant growth" which can also use up the oxygen in the water and thereby lead to the suffocation of aquatic life.²⁴⁸ As the chemical breaks down it also releases ammonia, which is also toxic to aquatic life. The use of sand during the winter months can also cause a problem. Approximately 2,719

tonnes of sand per year are applied to paved surfaces at the airport. During the spring run-off this material is swept into the creek resulting in high turbidity levels.²⁴⁹

In order to ensure the safe operation of the airport it is important that rescue crews be ready for any situation. In order to ensure a high amount of readiness the crews are trained on a regular basis. Approximately two exercises are conducted every week, usually in the summer months. The use of foams containing glycol, chemicals such as potassium bicarbonate and potassium chloride, and residual unburnt fuel can cause problems if they are carried into Etobicoke Creek. However, currently all material is contained in a lined dike, and treated before release.²⁵⁰

Another potential impact on Etobicoke Creek are accidental spills which occur at the airport. On average there are approximately 94 spills per year and the average amount spilled is 5,661 litres. The airport has a spills management plan to prevent this material from entering local watercourses, but the potential remains that such occurrences can happen and have a detrimental impact on Etobicoke Creek.²⁵¹

Conclusions reached from the study of stormwater runoff from the airport indicated that "while some stormwater quality parameters are within standards and guideline limits, certain others, particularly BOD [Biological Oxygen Demand], phenols, phosphorus, suspended solids and ammonia, consistently exceed these limits by considerable margins. Many of the high levels appear to be associated with winter de-icing activities using glycol for aircraft and urea for pavement surfaces".²⁵²

5.4.2 Mimico Creek

The Mimico Creek watershed covers about 90 square kilometres, and extends into the city of Mississauga.²⁵³ The flow of Mimico Creek is mainly the product of run off from areas within its watershed. During dry weather conditions "faecal coliforms, suspended solids and copper" were found to exceed the Provincial Water Quality Objectives (PWQO).²⁵⁴ However, the water quality of the creek was found to worsen during the spring runoff and during wet weather. Under these conditions, water quality in the creek was found to exceed the PWQO for faecal coliforms, phosphorus, suspended solids, cadmium, copper, lead and zinc.²⁵⁵ In addition, past investigations have discovered that trace organic compounds are more frequently found in Mimico Creek than in other watersheds in Metro Toronto. Compounds detected include BHC, chlordane, dieldrin, oxychlordane, PCB's, DDE, 24D, dicamba, HCB, tetrachlorophenol, trichlorophenol and pentachlorophenol.²⁵⁶ The trend over time has seen a decrease in the phosphorus levels recorded at the mouth of Mimico Creek,²⁵⁷ but faecal coliform levels appear to be on the increase.²⁵⁸

Operations at Pearson International Airport also have an impact on Mimico Creek as described above.

One former landfill site is also known to exist in the upper reaches of Mimico Creek near present day Disco Road and Carlingview Road.²⁵⁹ However, no information is available to assess what impact, if any, it has on water quality.

5.4.3 Humber River

The Humber watershed is the largest in the Toronto area covering 897 square kilometres, and extending up to Oak Ridges Moraine, the northern boundary of the Greater Toronto Bioregion.²⁶⁰ Water quality in the upper reaches of the river consistently exceed the PWQO for faecal coliform, phosphorus and heavy metals such as copper, lead and cadmium. The lower portion of the river suffers from much the same condition, though the concentrations are higher, especially during wet weather events when the river is inundated with stormwater runoff.²⁶¹ The trend over time has seen a decrease in the phosphorus levels recorded at the mouth of the Humber River,²⁶² but faecal coliform levels appear to be on the increase.²⁶³

Fourteen former landfill sites are known to exist in the Humber River watershed within the boundaries of Metropolitan Toronto, which may have an impact on the river's water quality.²⁶⁴

5.4.4 North Creek

North Creek is only a remnant of its former self. Robbed of much of its flow by impediments such as roads and storm sewers, its flow is intermittent along much of its course except for the lower end which flows through the Hospital Grounds into the wetland system in Colonel Samuel Smith Park. Today all that can be seen of the upper reaches of this remnant creek is a small portion in Laburnham Park. After flowing through a sewer line the creek re-emerges on the Hospital Grounds. On the Hospital Grounds property the creek is separated into two distinct portions. The northerly portion just south of Lake Shore Blvd. W. flows intermittently. The southerly portion is the most natural portion of the whole watercourse, and retains much of its tree cover. Here the flow is relatively constant, providing important habitat for birds and other wildlife.

5.4.5 Jackson Creek

Today Jackson Creek is also a remnant of its former self, and only flows intermittently through a very small portion of its former watercourse. The only remnants of this creek still above ground flow through Douglas Park south of Evans Avenue, and along the western boundary of Father Redmond High School (former Alderwood Collegiate) on Valermø Drive. These two portions of the watercourse are totally devoid of any vegetation, and are essentially grassed ditches.

5.4.6 Bonnar Creek

Bonnar Creek is also only a remnant of its former self. Much of the watercourse has been forced to flow through underground sewer lines, until it surfaces south of the CNR rail line embankment just west of Mimico Creek. From there it flows along the western boundary of the former Metro Works site (the old Etobicoke Sewage Plant) before turning easterly and then flowing in a south easterly direction into Mimico Creek.

5.4.7 Lake Ontario

Water quality of Lake Ontario is dependent on a number of factors. As the last in the chain of Great Lakes, the quality of its waters is dependent on the activities taking place in all the other Great Lakes and their associated watersheds. However, not all of the pollution in the Great Lakes is the result of local and regional sources. Up to 50% of the toxic chemicals in Lake Ontario come from the air.²⁶⁵ These chemicals have travelled hundreds, and even thousands of kilometers before falling back to the earth.²⁶⁶ Locally, it is estimated that atmospheric deposition is responsible for the addition of up to 200 kg of lead, 168 kg of zinc, 5kg of cadmium, 41 kg of copper, 17 kg of nickel, and 0.07 kg of PCB's plus other organic compounds into Humber Bay each year.²⁶⁷ However, these are rough estimates only, and it has been noted that these figures are probably on the low side, and that "the true atmospheric deposition to Humber Bay could be as much as fivefold higher than the [estimated] values".²⁶⁸

Local water quality is a result of inputs from a number of sources including Etobicoke Creek, Mimico Creek, the Humber River, the Humber Sewage Treatment Plant and direct discharges of stormwater to the lake. Studies undertaken in 1992 and 1993 found that flow from the storm sewers in Etobicoke was contributing a large amount of contaminants to Lake Ontario including bacteria, heavy metals, organochloride pesticides, and PAH's.²⁶⁹ Storm sewers also provide a quick path for industrial spills of fuel and chemicals, deliberate dumping by homeowners of oil, paint and other materials, and pesticides and herbicides sprayed on lawns to the lake and other bodies of water in South Etobicoke.²⁷⁰

As described above, each of these contributes its own share of contaminants to Lake Ontario, and it is a combination of these factors which results in the poor quality of the nearshore environment along the Etobicoke waterfront.

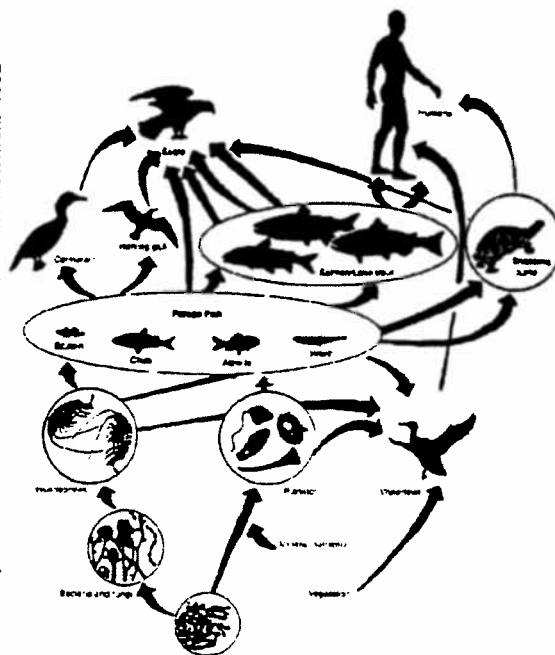
5.5 Aquatic Biota

Past studies have indicated that the important bottom dwelling communities in Humber Bay are composed mostly of pollution tolerant worm species. In fact, the pollution at the outfall of the Humber Sewage Treatment Plant is so extreme that no life exists within a 120,000 m³ area.²⁷¹ Research has indicated that these bottom dwelling organisms, which are the basis for the food chain in the area, are also accumulating heavy metals and other toxic chemicals in their bodies from the contaminated sediments that they live in. These contaminants become concentrated in the bodies of the fish that feed on them,²⁷² and from there are passed onto the organisms that catch and eat them including humans.

Fish species in the area have been increasing since a low point reached in the 1960's, however many of the historic fish species that once existed in the area may never be re-established.²⁷³ Approximately 64 species of fish can be found in Metro area waters, however recordings at Etobicoke locations have only indicated a maximum of approximately 25 species, with Marie Curtis Park ranking the lowest of the studied areas with only about 15 species present.²⁷⁴ Two rare species, the Redside dace and Central stoneroller, have been found in the Humber River, but generally, the resident fish community is dominated by pollution tolerant, generalist species.²⁷⁵ Studies indicate that fish species are also being affected by contamination along the Etobicoke waterfront. On-going testing of young-of-the-year fish has been undertaken at a number of locations in the Metro Toronto watershed since the 1980's. Young-of-the-year fish reside in the area in which they were born for their first year, and therefore are excellent indicators of local environmental conditions. Testing for PCB's indicated that all three Etobicoke watercourses had significantly higher concentrations than other Metro area streams.²⁷⁶ Of the seven locations tested in Etobicoke Creek, six exceeded the Aquatic Life Guideline for PCB's established by the International Joint Commission (IJC). A particularly high level of PCB's was discovered downstream of the Queensway General Hospital, just north of the study area.²⁷⁷ Results from two locations on Mimico Creek, including one just below the QEW within the study area, also indicated levels exceeding the IJC guidelines. However, it should be noted that levels at Lake Shore Blvd. W. have been dropping steadily since 1981, and therefore progress seems to have been made.²⁷⁸ Results for the six locations in the Humber also exceed the IJC guideline, however, while the other locations in Etobicoke have seen PCB concentrations steadily decline over the last number of years, concentrations at a number of locations on the lower Humber have increased slightly.²⁷⁹ Older fish are also affected. *The Guide To Eating Ontario Sport Fish* has placed restrictions on eating Brown Trout caught in the Humber marshes greater than 45 cm in length.²⁸⁰ Within Humber Bay restrictions have also been placed on eating Lake Trout and Brown Trout greater than 45 cm in length.²⁸¹

Recent lakefilling projects along the Etobicoke waterfront have had an ambivalent impact on the aquatic environment. Detrimental impacts have included the destruction of habitat for bottom dwelling communities through the process of filling to create the new land, as well as the creation of embayments which trap and retain contaminated sediments.²⁸² However, such lakefilling projects have also allowed for the creation of sheltered habitats along the exposed shoreline of Lake Ontario that are increasingly popular, and provide habitat for a number of warm water fish species.²⁸³ Northern Pike have been observed at the Humber Bay Park lakefills²⁸⁴ and at Colonel Samuel Smith Park, along with Rock, Smallmouth and Largemouth Bass.²⁸⁵

Royal Commission on the Future of the Toronto Waterfront 1992



Simplified Great Lakes Food Chain.

5.6 Terrestrial Biota

The main natural areas and corridors in South Etobicoke are found mainly in the valleys of the Etobicoke and Mimico Creeks, as well as the Humber River, but also in some of the lakefill parks such as Humber Bay Park East and Colonel Samuel Smith Park.

The study area, and most of the area in Metro south of the 401, lies at the northerly limit of the Carolinian Forest Zone, which is characterized by tree species such as oak, hickory, walnut, sycamore and sassafras.²⁸⁶ The remnants of the forest that once covered the area now lie almost exclusively within the valleys of the Etobicoke and Mimico Creeks, as well as the Humber River. These valleys provide important habitat for wildlife including birds, mammals, amphibians and reptiles and insects such as butterflies.²⁸⁷ The provincially significant marshes along the lower Humber River are particularly important, and provide habitat for many types of terrestrial wildlife and fish species.²⁸⁸

The importance of major waterfront parks created through lakefilling are also being recognized as areas of significant wildlife habitat.²⁸⁹ Both Humber Bay Park East and Colonel Samuel Smith Park along the Etobicoke waterfront are recognized as providing important habitat for all types of wildlife, as well as being important feeding and staging areas for birds during the spring and fall migrations. Recent wetland and other habitat creation projects in Colonel Samuel Smith Park have been particularly successful.²⁹⁰

5.7 Ecosystem Health

It is clear from the results of this study that the ecosystems in South Etobicoke are under stress. Air quality continues to be a problem, especially during the summer months, when ground level ozone and other contaminants result in poor air quality which can pose a danger to individuals with respiratory problems. While the hours of unacceptable air quality seem to be decreasing, new studies documenting the movement and deposition of atmospheric contaminants have raised new concerns.

It is equally clear that soil and groundwater resources within the South Etobicoke area have been contaminated through past industrial activities, waste management facilities, alteration to the terrestrial environment through the importation of fill, and the creation of new lands through lakefilling. However, what impact this has had on the larger environment of South Etobicoke is difficult to determine as testing has only been carried out on a limited number of sites.

It is also clear that the watercourses within the study area (Humber River, Etobicoke Creek and Mimico Creek) are suffering from problems of contamination, as are the surface waters of Lake Ontario. And while some contaminants such as phosphorus seem to be on the decline, the problem of persistent chemicals continues, and will have to be dealt with.

Bottom sediments across the Etobicoke waterfront are also contaminated with heavy metals and organic contaminants, especially in Humber Bay around the Humber Sewage Treatment Plant outfall where extremely high levels have been detected. The lake bottom community is made up mostly of pollution tolerant species, and the movement of contaminants in the sediments through the food chain has resulted in the restriction on eating certain sizes and species of fish.

However, it is also clear that some improvements have occurred over the last few years. The river valleys and some of the major lakefill parks continue to act as core natural areas, extending as green fingers northward from the lake, and providing the diversity of habitat necessary to support a host of wildlife species. However, these habitats are isolated and lack strong east-west connections between them.

In conclusion, South Etobicoke presents two strikingly different images of ecosystem health. The core natural areas along the lake, and their river valley extensions are in relatively good health, and provide excellent habitat for plant and animal species. But other areas, including the former industrial sites, and other areas of known contamination, such as the sediments in Humber Bay, are in relatively poor health.

Overall, the assessment makes it clear that the area will have to deal with and overcome some serious problems in order to address the issue of ecosystem health. Opportunities to deal with some of these problems through the restoration of the environment are dealt with in Section 7.

5.8 Human Health

Human health is directly related to ecosystem health. Such a fact is becoming more and more clear to scientists as they continue to study the interaction of chemicals in the environment. For many years such studies have concentrated primarily on wildlife, but now scientists are beginning to focus on human impacts.

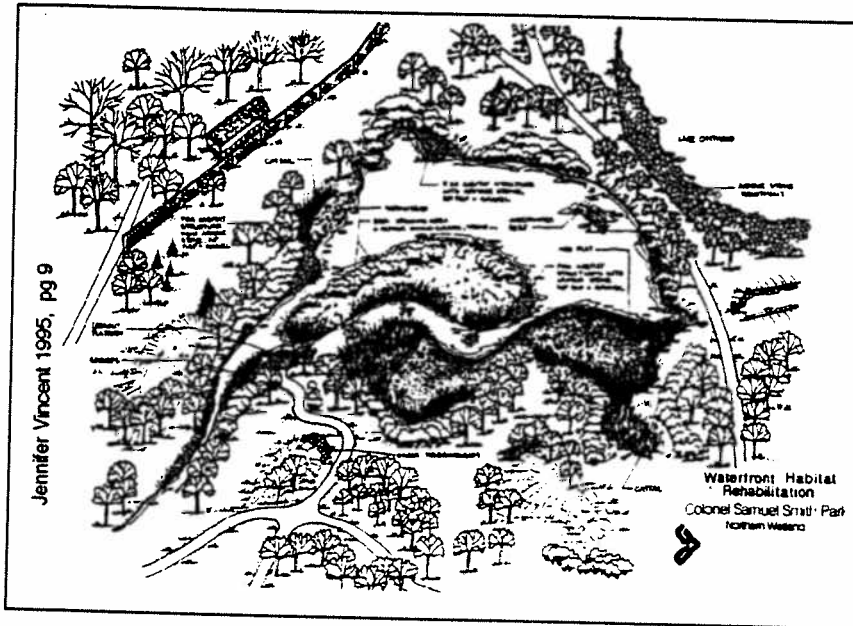
The impact of cancer causing chemicals (carcinogens) in the environment was examined as part of the work of the Ontario Task Force on the Primary Prevention of Cancer. Created by the former provincial government, the Task Force was given the mandate to advise the Minister of Health "with respect to the development of an action-based, effective and feasible plan for the primary prevention of cancer".²⁹¹ As part of their comprehensive look at the causes of cancer in humans, they reported on the impact of carcinogens in the environment. These persistent toxic substances do not break down and accumulate in the body over time, through exposure to contaminated air, water and food products. However, the impact of these chemicals on the human body is currently a matter of hot debate. In the words of the Task Force: "While it would be desirable to have precise, conclusive information on all known and suspected carcinogens in the biophysical environment, the central issue facing those involved in the primary prevention of cancer attributable to environmental sources is how much evidence is required and how strong the evidence must be before remedial action is taken to reduce or eliminate exposures." To assist in getting over this intellectual hurdle, the report recommends that new research should be geared toward "a weight of evidence approach" that synthesizes evidence obtained through a number of approaches including laboratory and wildlife research, in order to gain a "greater understanding of the nature and effects of suspected environmental carcinogens."²⁹² In the meantime, the Task Force recommends the phasing out and eventual banning of the production of persistent toxic substances. Of these substances, organochlorines such as DDT, PCB's and other substances made from chlorine were selected for particular attention due to their carcinogenic affects.

More alarming is the recent scientific work pointing to the disruptive effects of persistent chemicals on the body's endocrine system, the system that regulates the production of hormones in the body. Evidence of the disruptive effects of these chemicals first began appearing in fish, birds and animals, but its hidden impact on humans is only now coming to light. On average each one of us has about 250 different chemicals stored in our body fat.²⁹³ So far about 51 of the synthetic chemicals have been found to be endocrine disrupters.²⁹⁴ However, the greatest impact of these chemicals is not on us but on our unborn children. The research found that even small amounts of these chemicals can disrupt the growing fetus, especially at the early stages of growth when it is most vulnerable.²⁹⁵ For example, women who ate Great Lakes fish while pregnant had children with lower birthweights and smaller heads than those who did not eat fish. In addition, as these children were followed through the early stages of their growth they developed learning difficulties.²⁹⁶ In another study, children of mothers who ate modest amounts of Lake Ontario fish (40 pounds of salmon over a lifetime) were found to have a larger number of abnormal reflexes, and reacted more negatively to repeated disturbances than children of mothers who did not eat Lake Ontario fish.²⁹⁷ However, most alarming is the growing evidence that such persistent chemicals are responsible for the reduction in sperm counts world-wide among men.²⁹⁸ The most disturbing point to be taken from recent studies is that no level of regulation may be safe, as even small amounts of persistent chemicals such as dioxins can cause irreversible harm.²⁹⁹

While the solutions to these wide ranging problems cannot be solved by this report, and will require co-operation between industry, government and citizens, it is hoped that this brief description of the problem will provoke further research and action among the readers of this study.

6.0 Current Initiatives

Within the study area a number of ecological restoration activities and initiatives are already underway. These include the habitat creation projects at Colonel Samuel Smith Park, and Humber Bay Park West by the MTRCA; the Stormwater Management Initiative by the City of Etobicoke, and its particular application on the Motel Strip; the Fisheries Compensation Project to be implemented as part of the redevelopment of the Motel Strip by the MTRCA; and the Parks Naturalization Program being undertaken by the Etobicoke Parks & Recreation Department and Metropolitan Toronto. Where appropriate, recommendations have been made to enhance or give further direction to these initiatives.



6.1 Habitat Creation Projects

The Metropolitan Toronto & Region Conservation Authority, in partnership with other provincial and federal agencies, has undertaken two habitat creation projects on the Etobicoke waterfront in Humber Bay Park West and Colonel Samuel Smith Park. Both projects include the creation of wetland systems which are important "in the maintenance of several essential ecological processes and life support systems. This includes the role of wetlands as spawning and nursery areas for fish, as nesting and staging sites for birds, and as habitat for large numbers of reptiles and amphibians, mammals and plants."³⁰⁰

At Humber Bay Park West, the MTRCA began a wetland habitat creation project in 1992 within an embayment off of Mimico Creek close to Lake Shore Blvd. West. Initially 252 m² was planted with wetland plants, to which 555 m² of new plantings was added in 1993.³⁰¹

Habitat creation projects began in Colonel Samuel Smith Park with the creation of the northern wetland in 1993, to which the boat basin wetland was added in 1994,³⁰² and to which another wetland is to be created along the southern edge of the boat basin in 1996. Other unique habitat creation features in the park include two hibernacula for the garter snakes found on the site (including the rare melanistic form of the snake),³⁰³ two amphibian ponds,³⁰⁴ and other enhancement features for the fish community including cobble and gravel spawning beds and log stumps.³⁰⁵ The diversity of the fish and wildlife populations in the park are a tribute to this successful project.

The MTRCA continues to monitor both of these projects in order to gain experience and knowledge which will assist in future habitat creation projects elsewhere in the Metro Toronto area.

6.2 Stormwater Management

In 1992 the City of Etobicoke adopted a *Storm Water Management Policy* that recognizes storm water as a resource that can be utilized to "improve our physical environment"; and has since embarked on a programme that seeks to manage storm water in "a manner designed to reduce pollution in the receiving

waters while enhancing the physical environment".³⁰⁶ Since then the city has spent or committed a total of \$2.3 million to implement storm water management projects throughout the city, and it is now common practice for the city to require all new developments in the city to institute a stormwater management plan acceptable to the city and the MTRCA. The city's proactive policy has been held up as an example for other cities to emulate by a number of provincial and federal ministries and agencies.

In 1992 the city of Etobicoke began to accept cash-in-lieu for small redevelopment sites³⁰⁷ with the funds being placed in a special account to be used for stormwater management projects in the future.

Recognizing that stormwater is one of the major causes of beach closures on the lake, the city began the process of consolidating stormwater outfalls along the lake in 1992 with a pilot project in the New Toronto area. An interceptor sewer line was constructed along Emerald Crescent and the five existing outfalls were consolidated into one new outfall at the foot of Fifth Street. Construction on a stormwater treatment tank to treat the stormwater before release to the lake was due to be constructed in 1994.³⁰⁸ Funding of the project was to be carried out through debentures, but this was conditional on a portion of the funds also coming from the provincial and federal governments. However, due to a cancelling of the grant program by the new provincial government the contemplated provincial funding collapsed, and along with it the corresponding grant from the federal government. As such, the project was removed from the city's Capital Budget Priority List and remains on hold. It is time that the project was revisited and an alternative implementation mechanism was formulated.

A "Storm Water Management Rehabilitation Plan" that would consolidate all the outfalls discharging directly to the lake in each drainage area, and then treat the stormwater before discharge to the lake, was produced by the Etobicoke Works & Environment Department in 1995.³⁰⁹ The department is now in the process of setting up a computer modelling program in co-operation with other Metro municipalities. This new program will enable the city to see the impacts of stormwater, and the contaminants that it carries, on the Etobicoke waterfront. The results will be used by the city to evaluate various remedial works and then prioritize where they would have the greatest impact toward cleaning up the Etobicoke waterfront. Once this model is up and running it should be used to re-evaluate the "Storm Water Management Rehabilitation Plan". Once that has occurred, action in the department should be directed strongly toward implementation of this plan to clean up the waterfront.

Overall policy to deal with stormwater in the rest of the city should be directed toward prudent and cost efficient ways to deal with the limited stormwater management funding available. This can be achieved through the:

- the retention of roadside ditches that allow natural infiltration into the soil at no cost in appropriate areas
- installation of the exfiltration system in appropriate areas (residential areas with porous soils) as part of the installation of all new storm sewers.

The addition of the exfiltration system, which would effectively deal with stormwater by allowing it to infiltrate naturally into the soil, would only result in about a 10-15% increase in the overall budget. In industrial areas, or areas that contain clay soils however, the installation of tanks would still have to be used to deal with the problem.

One major project that has full funding, and is required to be implemented as part of the redevelopment of the Etobicoke Motel Strip, is a unique flow balancing stormwater management system to treat runoff from this new urban area. Here the proposal is to construct a system that will treat stormwater runoff from the entire Motel Strip at a fraction of the cost of more conventional treatments such as tanks, while allowing opportunities for wetland creation. The system will be installed in the most westerly embayment between the Motel Strip and Humber Bay Park East, and will consist of a series of cells, constructed of heavy weight plastic sheeting held afloat by a framework of floating docks. Four cells will be created along the

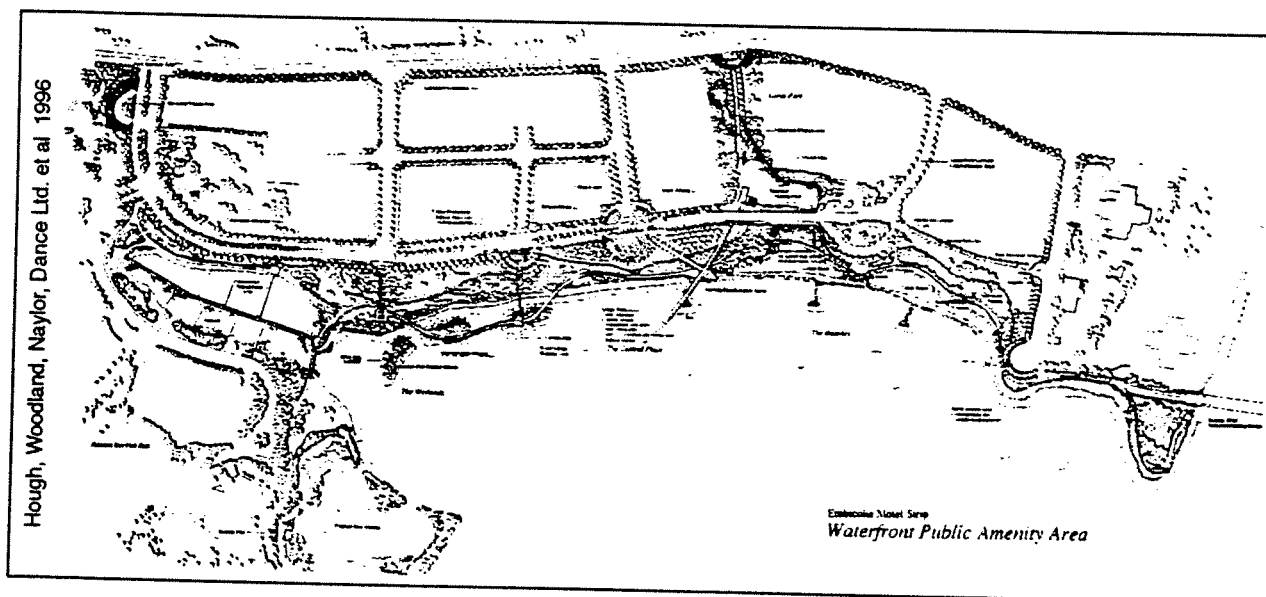
northerly portion of the embayment which will allow for the control of sedimentation before the water flows into a wetland system created along the southerly portion of the embayment which will polish the water before it is discharged to the lake.³¹⁰

Recommendation: That the City of Etobicoke should

- Promote the natural infiltration of stormwater through the retention of road-side ditches throughout the city, where appropriate
- Install exfiltration systems in appropriate areas as part of storm sewer replacement
- Construct the New Toronto Stormwater Tank (or other effective method) as soon as possible
- Implement a storm water management rehabilitation plan for the Etobicoke waterfront

6.3 Fisheries Compensation Project - Motel Strip

The proposed redevelopment of the Motel Strip requires that a waterfront park be created along its entire length. The creation of this park will result in the destruction of approximately 6.32 ha of fish habitat. In order to comply with the "No-Net-Loss" requirements of the Federal Fisheries Act, the MTRCA was required to produce a Fisheries Compensation Plan to offset the loss of habitat to be expected from the creation of the waterfront park. The plan, released in 1995, calls for the creation of a number of habitat creation projects in order to provide new habitat for fish and wildlife in the area. The main features of the plan include a cobble beach along the easterly end of the Motel Strip; offshore islands along the westerly end of the Motel Strip; and the creation of a large wetland with underwater structural features and pike spawning area within the westerly embayment of Humber Bay Park East.³¹¹ More recently, the consultants working on the final park plan for the new waterfront park on the Motel Strip have proposed a number of changes to enhance habitat opportunities in the area, as well as provide a more natural shoreline along the water's edge.³¹²



6.4 Parks Naturalization - Etobicoke Parks Department

The Parks & Recreation Department of the City of Etobicoke has identified a number of programs in response to environmental concerns, and expressed these in a document entitled, *Foundation For The Future: Etobicoke Parks and Recreation Services Master Plan 1992*.³¹³ The components include:

- Design a program, in conjunction with M.T.R.C.A. and M.O.E., preserving and enhancing City owned watercourses and waterfront.
- Determine most effective and most environmentally friendly chemical systems and programs.
- Design ecologically diverse urban settings.
- Design for a diversity of flora and fauna.
- Preserve our natural areas/parks.
- Treat open space areas such as parks, urban squares and road corridors as extensions of natural areas.

In addition, there are also the recommendations of the City of Etobicoke Parks & Forestry Advisory Committee which has produced a *Planning Document For Environmental Action*. This document contains a number of excellent recommendations including the objective to "Promote, establish, protect and enhance naturalized areas", and to "Promote the restoration and preservation of native vegetation and open spaces" among others.³¹⁴

However, despite these high principles there has been little progress in the intervening years. So far, most restoration and habitat creation projects in South Etobicoke have been spearheaded by other levels of government including the MTRCA. Currently there is one small regeneration area in the easterly extension of Grand Avenue Park, but this will soon be joined by another project in Alderwood Memorial Park.

This project, spearheaded by the Etobicoke Parks & Forestry Advisory Committee, under the "Communities in Bloom" program, is due to be completed in 1997 with funds being contributed by the City of Etobicoke, Tree Canada Foundation & Canada Trust's Friends of the Environment Foundation. Plans for the park call for the creation of a number of small depressions to provide areas for runoff to collect and infiltrate naturally into the soil instead of flooding the adjacent private properties. Wet meadow type species will be planted in these low lying areas. Plantings of native tree, shrub and wildflowers will be provided along the new wet meadow habitat to provide important habitat for birds and other wildlife.

It is hoped that this project will spawn other initiatives involving other parks in the city.

Recommendation: That the City of Etobicoke should implement the above programs as expressed in the *Etobicoke Parks and Recreation Services Master Plan 1992* and the *Planning Document For Environmental Action*.

6.5 Parks Naturalization - Metro Parks & Culture

The Metro Parks Department manages all of the regional parks in South Etobicoke including Humber Bay Parks (East & West), Colonel Samuel Smith Park, and Marie Curtis Park; as well as being responsible for the parkland located in the valleys of Etobicoke Creek and the Humber River.

Metro Parks formally began its naturalization program in 1990. The program, which has evolved since its first project in 1990 is described in the *Metro Parkland Naturalization Compendium* which was released in the fall of 1996.³¹⁵ As part of the Naturalization Model the department has developed a set of program goals and objectives, many of which are complementary to the objectives of this report. A few of these are to: re-establish biological diversity and integrity; enhance wildlife habitats, protect and enhance environmentally significant area; and establish linkages throughout the valley lands and along the waterfront. As part of the future activities of the department, new sites appropriate for naturalization will be sought out. Section 7.2 of this report addresses potential areas for naturalization in South Etobicoke including lands owned by Metropolitan Toronto.

One current project in South Etobicoke is the former Lakeshore Psychiatric Hospital Grounds. In the fall of 1996 Metro Parks planted over 450 trees and shrubs on the site. Many of these are native to the area, but Metro has also agreed to restore the former apple orchards on the site as a reminder to the orchards that were once attended to by the Hospital patients.

Recommendation: That Metropolitan Toronto consider the projects identified in Section 7.2 as potential sites for future naturalization projects.

6.6 Local Environmental Groups

There are a number of environmental groups active in South Etobicoke working on environmental issues. These include the Alderwood Environmentalists, the Citizens Concerned About The Future Of The Etobicoke Waterfront, and Action to Restore A Clean Humber.

The Alderwood Environmentalists are a group of residents active in the Alderwood area who are concerned mainly with the Etobicoke Creek Valley. They are active on restoration and regeneration activities along this stretch of the Etobicoke Creek. In 1994 the group was successful in obtaining a \$ 4,500 grant from the Shell Environmental Fund to produce and install a number of interpretative signs along the creek pointing out areas of natural and scientific interest. One of their goals is to have the Toronto Golf Club weir removed from this stretch of the creek. The weir is used by the Club to collect water to water the golf course. However, it prevents the free movement of fish. In addition, the groups would like to see the trail system extended north of the QEW to link up to Centennial Park. Further information on the group can be obtained by calling (416) 253-7870.

The Citizens Concerned About The Future Of The Etobicoke Waterfront (CCFEW) an incorporated non-profit group is active on environmental planning and policy issues involving the Etobicoke waterfront. The group has had an active role in the decision making process on the Etobicoke Motel Strip for a number of years, and has also been involved in the habitat creation projects in Colonel Samuel Smith Park. In 1995 the group was successful in securing a \$25,000 grant from Canada Trust's Friends of the Environment Foundation for the production and installation of interpretative trail signage in Colonel Samuel Smith Park which points out important habitat features in the park. Further information on the group can be obtained by calling (416) 255-9718.

Action to Restore a Clean Humber (ARCH) is an Etobicoke based non-profit corporation active on issues dealing with the Humber River and works closely with a number of other agencies and groups in the restoration and rehabilitation of the Humber River and its watershed. Two ARCH initiatives include the StreamWatch and SCRUB programs. StreamWatch helps the community understand the values and conditions of the local waterway and its role in the wider ecosystem, and then motivates public involvement in actions of prevention, restoration, advocacy and monitoring. The SCRUB program, which stands for Stormwater Clean-up by Restored Urban Biosystems, is designed to showcase pilot projects aimed at using natural and other low cost methods to deal with stormwater. Further information on the group can be obtained by calling (416) 741-5346.

7.0 Ecological Restoration Opportunities

This section will outline potential restoration projects that could be carried out on public lands in South Etobicoke. These recommendations will focus on a conceptual approach that will concentrate on a description of what type of projects could be undertaken. The approach will be a balanced one, and it is intended that restoration projects will only take place in appropriate areas. The detailed planning and investigation necessary to determine the feasibility of such projects would be undertaken at a later stage in partnership with private foundations, non-profit non-governmental organizations, other levels of government and their agencies, and the public.

Suggestions on how private landowners can manage their lands in an ecologically sustainable manner which benefits the environment will also be discussed.

7.1 Guiding Principles for Restoration Projects in South Etobicoke

- **protect existing habitat nodes**

Existing habitat in South Etobicoke should be protected and preserved. Important habitat nodes in South Etobicoke include the valleys of Etobicoke and Mimico Creek, as well as the Humber River. Habitat nodes also exist on the grounds of the former Lakeshore Psychiatric Hospital/Colonel Samuel Smith Park, and Humber Bay Park East. These nodes of existing habitat act as important reservoirs and house a diversity of plant and animal species that can be used to colonize other areas. The need to identify such locations is acute and should be addressed as part of the review of the Etobicoke Official Plan.

- **create new habitat nodes**

New habitat nodes should be created where opportunities exist through redevelopment or restoration activities in order to provide more habitat for plants and animals. New nodes will increase the overall amount of habitat in a given area, and hence should lead to an increase in species diversity.

- **create corridors between existing habitat nodes**

Corridors between habitat nodes are critical to ecosystem health, offering opportunities for the movement of plants and animals. Such north/south corridors exist in South Etobicoke along the valleys of Etobicoke and Mimico Creek and along the Humber River, but east/west connections have been severed by modern development. Establishment of new corridors, especially along the waterfront should be a priority. Such corridors can be created along rail lines, hydro corridors, road allowances, through parklands or in other creative ways.

- **use redevelopment/development opportunities to improve on habitat and corridor systems**

Opportunities created through redevelopment/development activity should be used to create new habitat nodes, and implement corridors between existing nodes whenever possible. Such actions can be identified by municipal governments through Secondary Planning processes (or other policy methods), and can be implemented through development review and site plan agreements.

7.2 Potential Ecological Restoration Projects in South Etobicoke

The following projects are suggestions of possible restoration projects that could be undertaken in South Etobicoke (see Map 7). As such, they are a first step in the process, and are meant to generate discussion between the local community and the various levels of government and their agencies.

Potential restoration projects will be examined under three broad categories: naturally occurring corridors such as stream, creek and river valleys; waterfront lands, and; other public lands not covered by the first two categories.

7.2.1 Corridors

Naturally occurring north-south corridors to and from the Etobicoke waterfront include the three complete systems of the Etobicoke and Mimico Creeks, and the Humber River, as well as the incomplete corridors of the North, Jackson, Superior and Bonnar Creeks. Restoration activities will concentrate on improving existing corridors as well as examining the possibility of restoring lost corridors. The former activities will take place mostly in the Etobicoke and Mimico Creeks, as well as the Humber River. The latter activities will concentrate on the North, Jackson, Superior and Bonnar Creeks.

7.2.1.1 Etobicoke Creek

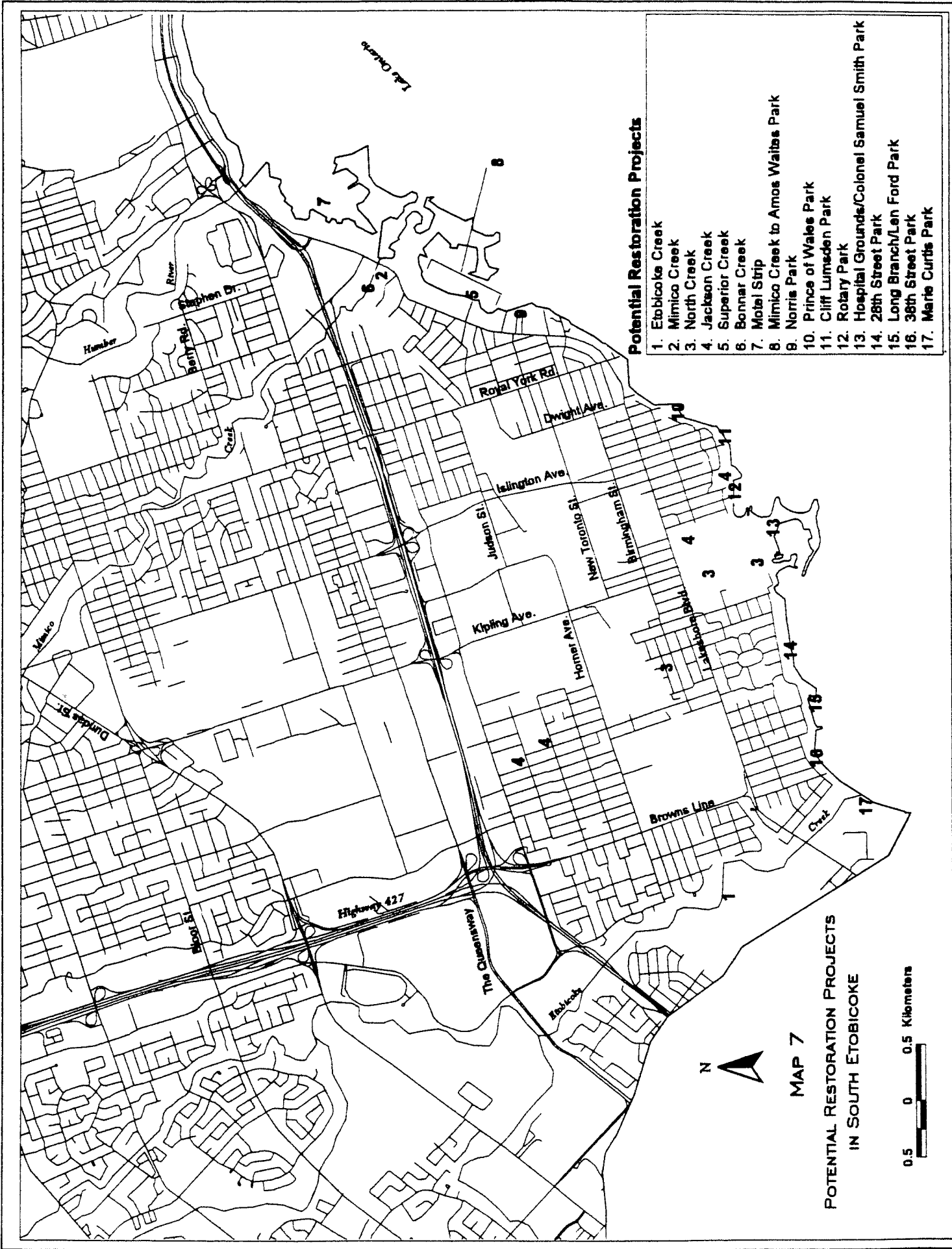
As an important habitat node in the study area, the Etobicoke Creek Valley should be protected and preserved. Opportunities to enhance habitat and provide for a greater diversity should be undertaken. Such projects could include additional plantings of Carolinian species and naturalization of the valley system. In addition, the opportunity to remove the weir which currently blocks the movement of fish in the creek should be examined, while taking into consideration the needs of the Toronto Golf Club. It is proposed that Metropolitan Toronto be the lead partner in this project in co-operation with the City of Etobicoke, the MTRCA, the Ministry of Natural Resources, the Waterfront Regeneration Trust (WRT) and the Alderwood Environmentalists.

7.2.1.2 Mimico Creek

Just north of Lake Shore Blvd. W. on the west side of Mimico Creek is a large piece of property owned by Metropolitan Toronto. This property could be utilized to restore the Mimico Creek Oxbow (wetland) habitat that formerly existed on the site, and the former forest cover in this area, which was famous as one of the main nesting areas of the Passenger Pigeon. Priority should also be given to the implementation of a trail system up the Mimico Creek Valley concurrent with the redevelopment of the former McGuiness Distillery site. Issues such as the removal of present blockages to the movement of fish, naturalization of the corridor, and other issues could also be examined at the same time. Consideration should also be given toward the clean-up of the old Mimico/New Toronto Sewage plant and the addition of these lands-zoned open space in the approved Secondary Plan- to the park. It is proposed that Metropolitan Toronto be the lead agency for this project, in co-operation with the City of Etobicoke, the MTRCA, the WRT and CCFEW.

7.2.1.3 North Creek

North Creek is a remnant creek that flows through sewers for most of its length. The southerly portion of the watercourse, though also highly modified, has fared better, and flows above ground through Laburnham Park, and then through the Hospital Grounds. Here it is separated into two sections by a storm sewer in the centre of the site. Of the two portions, the southerly section of the creek is in a more natural state and provides for constant flow into the wetland systems of Colonel Samuel Smith Park. Activities here should concentrate on the re-establishment of vegetation along what is left of the creek's watercourse, as well as the re-establishment of the creek system in its entirety through the Hospital Grounds. The City of Etobicoke would be responsible for the upper reaches of North Creek as it flows through Laburnham Park. On the Hospital Grounds itself, due to the fragmentation of land ownership, a number of partners would be involved including the City of Etobicoke, the Metropolitan Separate School Board (MSSB), Metropolitan Toronto, the MTRCA, the WRT as well as CCFEW.



7.2.1.4 Jackson Creek

Jackson Creek, another remnant creek, was greatly altered through the urbanization of the South Etobicoke area. However, portions of the creek still flow through the area north of the study area, through Douglas Park and along the western boundary line of Father John Redmond High School (formerly Alderwood Collegiate). For these upper portions of the creek, restoration activities should concentrate on the revegetation of the creek's watercourse. Such a project could be taken on as part of the school curriculum at Father John Redmond providing important lessons for students interested in sustainable development and restoration activities. In the lower portion of the watercourse opportunities exist to exhume the creek through the swale on the former Lakeshore Psychiatric Hospital grounds (as recommended in the Master Design and Implementation Plan for the site) and through the portion of Rotary Park east of 11th Street. The City of Etobicoke will be the lead agency in the restoration of Jackson Creek, especially as it relates to both the upper and lower portions (Rotary Park) of the creek which flow through city parks. Additional partners would include the Etobicoke School Board and the MSSB for the portion flowing through the leased grounds of the former Alderwood Collegiate, and the MTRCA and Metropolitan Toronto for the portion flowing through the swale on the Hospital Grounds. Assistance from the WRT should also be sought.

7.2.1.5 Superior Creek

Superior Creek has suffered the most damage of the remnant creeks in the area as it now flows totally through storm sewers within the study area. As part of the implementation of the waterfront trail system and the temporary boat docking facility at the foot of Superior, the opportunity to exhume Superior Creek and restore its mouth with a wetland component should be examined. This project could be carried out as part of the City of Etobicoke's stormwater management initiative to treat all stormwater before discharge to Lake Ontario. The main agency responsible for the restoration of Superior Creek would be the City of Etobicoke, in partnership with the MTRCA, Metropolitan Toronto, the WRT and CCFEW.

7.2.1.6 Bonnar Creek

Bonnar Creek, a tributary of Mimico Creek, formerly flowed through the northern part of Mimico, across the McGuinness site and under the CNR rail line to Mimico Creek. Today only the lower portion of the creek below the CNR rail line flows above ground. Restoration activities in this area should be co-ordinated with the proposed restoration of the Mimico Creek Oxbow wetland which formerly existed in this area including the restoration of the original forest cover. The lead partner in this proposed project would be Metropolitan Toronto, along with the MTRCA, the WRT and CCFEW.

7.2.2 Lakefront Lands

As recommended in *Regeneration*, the final report of the Royal Commission on the Future of the Toronto Waterfront, a shoreline management plan should be produced for the Etobicoke waterfront. Such a plan would address the needs of fish and wildlife habitat while at the same time addressing the needs of property protection and public safety. The following paragraphs suggest ways in which such a plan could be formulated and implemented over time for specific areas of the Etobicoke waterfront.

7.2.2.1 Humber River to Mimico Creek

This area is covered by the Etobicoke Motel Strip, and will soon be the subject of much redevelopment activity. As part of the redevelopment of this area, the MTRCA will be undertaking some limited lakefilling to create a new waterfront park. Habitat improvements to the area include the creation of new wetland habitat, as well as shoreline naturalization. Consideration should be given to salvaging appropriate plant and tree material from future development sites for use in the new waterfront park. See section 6.4 for a further description of this project. The main partners in this project include the Province of Ontario, the MTRCA, the City of Etobicoke and Metropolitan Toronto. In addition the implementation

strategy for the project also proposes that an important role be played by community groups such as CCFEW.

7.2.2.2 Mimico Creek to Amos Waites Park (Mimico Avenue)

The City of Etobicoke, in co-operation with the MTRCA is working on a plan to extend the waterfront trail behind the Mimico apartment strip linking Amos Waites Park with the existing Humber Bay Promenade, which leads into Humber Bay Park West. The implementation of this trail would provide the opportunity to naturalize the shoreline along the strip, providing habitat for fish and other wildlife. Included in this project is the construction of a temporary boat docking facility at the foot of Superior Avenue. The land base for this project could provide opportunities for terrestrial habitat improvements such as the planting of Carolinian species. Some improvements to the buried Superior Creek should also be examined as part of this project (as discussed above). The lead agency for this project is the City of Etobicoke, in partnership with the MTRCA, the WRT and CCFEW.

In addition, the City of Etobicoke should rezone the former Mimicombo site as open space. Purchased by the city in 1991 the property, adjacent to Amos Waites Park, provides critical and important open space along the waterfront, and satisfies all three criteria of the *Policy Guidelines and Priorities - Lakefront Property Purchases for Parkland* subsequently passed by Council in December 1992. Specifically, the acquisition of this site is "adjacent to existing parkland or open space", "establish[es] a view corridor" where none existed before, and facilitates "connections and linkages to existing parkland/open space in a manner which would enable the future development of a continuous waterfront trail".³¹⁶ For these reasons the lands should be rezoned from their current designation to open space in order to secure these lands for future park use.

Recommendation: That the City of Etobicoke rezone the former Mimicombo Property to Open Space and add the entire property to Amos Waites Park

7.2.2.3 Norris Park

This large park along the waterfront between Summerhill Road and Norris Crescent offers many opportunities for habitat creation. Such action should focus on the establishment of terrestrial habitat including the planting of Carolinian tree and shrub species, as well as wetland creation at the mouth of the stormwater sewer discharge in this area. As a local park the City of Etobicoke would be the lead agency for this project in co-operation with the MTRCA, the WRT and CCFEW.

7.2.2.4 Prince of Wales Park

This large waterfront park between Second and Third Streets in New Toronto offers many opportunities for habitat creation. Future action should be focused on the establishment of terrestrial habitat including the planting of Carolinian tree and shrub species, especially in connection with shoreline naturalization activities. As a local park the City of Etobicoke would be the lead agency for this project in co-operation with the MTRCA, the WRT and CCFEW.

7.2.2.5 Cliff Lumsden Park

Cliff Lumsden Park is a small waterfront park running along the lake between Fifth and Seventh Streets. Future action should be focused on the establishment of terrestrial habitat including the planting of Carolinian tree and shrub species, especially in connection with shoreline naturalization activities. As a Metro park Metropolitan Toronto would be the lead agency for this project in co-operation with the MTRCA, the WRT and CCFEW.

7.2.2.6 Rotary Park

The large waterfront park running east from Eleventh Street in New Toronto includes the former watercourse for Jackson Creek. The current park offers many opportunities for the establishment of terrestrial habitat in connection with the restoration of Jackson Creek (as discussed above) through the planting of Carolinian plant, scrub and tree species. The re-establishment of Jackson Creek through the area would also allow for a diversity of habitat including wetlands, wet meadows subject to seasonal flooding, as well as more upland forested areas. The lead agency for this project would be the City of Etobicoke in co-operation with the MTRCA, the WRT and CCFEW.

7.2.2.7 Lakeshore Psychiatric Hospital Grounds/Colonel Samuel Smith Park

The future of the former Lakeshore Psychiatric Hospital Grounds/Colonel Samuel Smith Park will be governed by the Master Design and Implementation Plan completed in 1996. This plan outlines areas where restoration activities can take place. Also included in the plan is a recommendation that the restoration of the two creek systems on the site be investigated (North Creek, Jackson Creek). As part of the redevelopment of this site for institutional and parkland purposes, specific restoration activities have been proposed including the use of wetlands to treat stormwater runoff from the site, and to gradually replace much of the non-native vegetation of the site with native species. With fragmented land ownership any actions on the former Hospital Grounds would be in co-operation with the partners involved on the site. These include the City of Etobicoke, Metropolitan Toronto, the Province of Ontario, Humber College and the MSSB. In addition, citizen groups such as CCFEW would also be involved.

7.2.2.8 Twenty-Eighth Street Park

Twenty-Eighth Street Park is a small waterfront park at the foot of Twenty-Eighth Street. Opportunities to enhance terrestrial habitat through the planting of Carolinian trees and shrubs should be pursued along with other naturalization opportunities. As a local park the City of Etobicoke would be the lead agency for this project in co-operation with the MTRCA, the WRT and CCFEW.

7.2.2.9 Long Branch Park/Len Ford Park

Long Branch Park and the adjacent Len Ford Park are situated along the southern side of Lake Promenade west of Thirty-First Street to Thirty-Sixth Street. Future regeneration here should be directed toward the re-establishment of native Carolinian terrestrial habitat, as well as the introduction of a wetland habitat into the embayment on the western edge of Long Branch Park. As a local park the City of Etobicoke would be the lead agency for this project in co-operation with the MTRCA, the WRT and CCFEW.

7.2.2.10 Thirty-Eighth Street Park

Thirty-Eighth Street Park is a small waterfront park at the foot of Thirty-Eight Street. Opportunities to enhance terrestrial habitat through the planting of Carolinian trees and shrubs should be pursued along with other naturalization opportunities. As a local park the City of Etobicoke would be the lead agency for this project in co-operation with the MTRCA, the WRT and CCFEW.

7.2.2.11 Marie Curtis Park

The redesign of Marie Curtis Park has recently been undertaken as part of the park planning process for the adjacent Canadian Arsenal Lands, which have been acquired for parkland use. The park plan recommends that the edges of the creek be revegetated; that much of the western portion of the park be naturalized to create grasslands and butterfly meadows; and that the existing wetland corridor be enhanced through additional plantings. These proposals are supportable and respond to many of the principles expressed above. In addition, consideration should also be given to the creation of some sand dune habitat which historically existed in the area along the western edge of the park. Such habitat is rare

along the north shore of Lake Ontario, and would provide an opportunity to enhance the diversity of wildlife in the park, while providing important learning opportunities for park visitors. Such a project could be modelled on the sand dune restoration project currently being undertaken in Burlington. As a Metro park the lead partner would be Metropolitan Toronto in co-operation with the MTRCA, the WRT and citizen groups such as CCFEW and the Alderwood Environmentalists.

7.2.3 Other Public Lands

Other public lands not within or adjacent to the naturally occurring north-south corridors of the creek/river valley systems or along the Etobicoke waterfront can also play an important part in the restoration of the natural environment. Opportunities to naturalize all, or portions of, other public lands should be examined. Such naturalization provides an overall and incremental increase in the habitat available for wildlife in the area, with the added benefit of lowering costs related to maintenance. The lead agencies for this project would depend on the current owners of the lands. Specifically, Etobicoke would be responsible for city owned lands and Metropolitan Toronto would be responsible for Metro owned lands. Local citizen groups such as CCFEW and the Alderwood Environmentalists would also be involved. The submission of this report to Etobicoke and Metropolitan Toronto Council will include a request that these lands also be addressed in their response.

7.3 Ecological Restoration Principles

The guiding principles to be applied to the detailed restoration projects which will be undertaken on the conceptual projects outlined in this section are as defined in *Restoring Natural Habitats: A Manual For Habitat Restoration In The Greater Toronto Bioregion*.³¹⁷ They are as follows:

- **Respect regional identity**

Each place is different than another. Restoration projects should be tailored to reflect the unique character of each area.

- **Recognize the unique ecological character of each site**

During the formulation of restoration plans it is important to understand the specific ecological principles at work on the site. This includes such features as the interaction between soils, hydrology, and existing plant and wildlife communities.

- **Protect significant natural features**

Restoration projects should preserve, protect and enhance any significant physical, biological or cultural features on the site.

- **Establish priorities for restoration efforts**

Restoration activities should be prioritized in order to gain the greatest benefit for the least cost.

- **Create low-maintenance, ecologically self-sustaining solutions.**

Restoration projects should result in the establishment of plant communities that are ecologically self-sustaining and which require minimal human intervention. Projects should be designed in such a way that natural processes take over the management of the new plant community.

- **Use native species**

Native species suitable for the area, and gathered from local seed sources, will have the best chance of

survival, thus respecting the regional identity of the area, and resulting in the most cost effective solution.

- **Accommodate human use**

Restoration plans should accommodate human uses where they are appropriate and likely to occur (i.e. walking trails, playgrounds, etc..).

7.4 Private Lands

In addition to the naturalization and restoration activities on public lands, private landowners can also play an important part in the restoration of the environment in South Etobicoke. This is especially important for those individuals who own waterfront property, as the naturalization of the waterfront portions of their lots would provide an important east-west connection along the water's edge. However, the naturalization of any land provides an overall and incremental increase in the habitat available for wildlife in the area.

One initiative recently begun by the Etobicoke Parks & Forestry Advisory Committee, is the "Nature In My Yard" program. Under this program private homeowners interested in naturalizing their properties can call 394-6099 and order a "Nature In My Yard" habitat gardening information kit. The kit contains information on local native plant species, a list of places that sell them, information on invasive alien plants to avoid, maps of local watersheds, and advice on creating butterfly gardens among others.

Industrial lands in South Etobicoke make up a large part of the total land area. As such, naturalization of just a fraction of the total acreage would provide for significant increases in total wildlife habitat in the area. Companies would benefit through increased public exposure as a company that cares about the environment, as well as overall lower maintenance costs for landscaping.

In addition, naturalization would also be beneficial to landowners with vacant properties. Such properties can be an eyesore. Planting of native grasses, wildflowers and other vegetation can make the site more attractive to potential purchasers, as well as cutting down on the amount of potentially contaminated dust and soil blown off the site due to its exposed condition. Opportunities to remediate the soils through bioremediation at the same time could also be pursued.

7.4.1 Elimination of Herbicides/Pesticides

Recent evidence has concluded that the use of 2,4-D, the most commonly used chemical by lawncare providers, is linked to a rare form of lymphatic cancer.³¹⁸ In addition, the use of chemicals cannot distinguish between harmful and beneficial insects, and therefore kills everything including beneficial micro-organisms and earthworms. Thus, once spraying has begun, and all the natural and beneficial insects are killed, lawns become dependent on chemicals and require them to remain pest free.³¹⁹ The elimination of spraying also prevents these chemicals from being washed away by rainwater and ending up in the lake after being flushed through storm sewers.

The following helpful publications are available from the Etobicoke Public Library:

- Bennett, Jennifer. *The Harrowsmith Northern Gardener*. Camden House, 1982.
- Johns, Glenn F. *Lawn Beauty: the organic way*. Emmaus PA: Rodale Books, 1970.
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- Franklin, Stuart. *Building a healthy lawn: a safe and natural approach*. Pownal VT: Storey Communications, 1988
- Shultz, Warren. *The Chemical-Free Lawn*. Emmaus, PA.: Rodale, 1989.
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7.4.2 Naturalization

Private landowners can assist in the environmental recovery of South Etobicoke by naturalizing their properties. Such activities can increase wildlife habitat in the area, resulting in an increase in wildlife numbers and diversity, as well as attracting birds and animals. The three basic principles in the naturalization of land is to be able to provide food, water and shelter. Food and shelter can be provided by the selection of natural species of vegetation; while water can be supplied though either a pond or simple bird bath. The Ontario Ministry of Natural Resources provides an excellent booklet entitled *Landscaping for Wildlife* which outlines how homeowners can landscape their property to increase habitat for birds and animals, and thereby attract them to their backyards. The booklet also includes tips on what flowers should be planted to attract hummingbirds and butterflies.

For further reading we suggest the following publications available from the Etobicoke Public Library:

- Cox, Jeff. *Landscaping With Nature: Using Nature's Design to Plant Your Front Yard*. Emmaus PA: Rodale Press, 1991.
- Creasy, Rosalind. *The Complete Guide to Edible Landscaping*. San Francisco: Sierra Club Books, 1982.
- Druse, Ken. *The Natural Habitat Garden*. New York: Clarkson Potter, 1994.
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8.0 Next Steps

Implementation of the specific recommendations, as well as the overall conceptual regeneration and restoration projects will require co-operation and a partnership between various levels of government, their agencies, business, non-profit non-governmental citizen based organisations such as CCFEW, and the general public. In order to initiate the process of discussion and the formation of partnerships on specific projects this report will be submitted to:

- Etobicoke City Council
- Council of Metropolitan Toronto
- Metropolitan Toronto & Region Conservation Authority
- Etobicoke School Board
- Metropolitan Separate School Board

Along with the report will be a request that it be submitted to staff for a report to address the specific recommendations within their jurisdiction, and to address future partnerships on the proposed ecological restoration projects.

Currently within Etobicoke, municipal responsibilities are divided between the local city level of government and the upper tier Metro government. However the provincial government is currently contemplating the amalgamation of the six municipalities in Metro Toronto. If this takes place the new City of Toronto will be the sole government responsible for all matters. Should the amalgamation take place, the report, along with the staff reports generated from the first submissions, will be formally resubmitted to the Council of the new City of Toronto.

Monitoring will be an important step of the report. In order to gauge progress on the recommendations made in this report, CCFEW will produce a yearly report monitoring the actions of the past year.

8.1 Priorities

There are a number of priority items which should be dealt with during the 1997 calendar year so that they occur before the proposed amalgamation and creation of a new City of Toronto (should this occur as contemplated). These include:

- the formal submission of the report to the City Council of Etobicoke, Council of Metropolitan Toronto, the Metropolitan Toronto & Region Conservation Authority, the Metropolitan Separate School Board and the Etobicoke School Board with a request that a staff report addressing the items raised in this report be completed along with suggestions and possible partnerships for implementation of the various proposed restoration projects.
- the rezoning of the Mimicombo site on the Etobicoke waterfront to "Open Space" and addition of the property to the adjacent Amos Waties Park.
- the implementation of the programs identified in the *Etobicoke Parks and Recreation Services Master Plan 1992*, including the need to identify natural areas in the City of Etobicoke through a proper planning study, thus fulfilling the commitment made in Section 7.1.4 of the Official Plan.

In addition to these issues, there are a number of ongoing projects which should take account of the potential restoration projects identified in this report. These include the recommendations for the Mimico

Creek Valley which can be considered as part of the current work being undertaken to implement the trail system up the Mimico Creek Valley; and the recommendations related to the lands of the former Lakeshore Psychiatric Hospital as part of the current process related to the formulation and adoption of the Master Design and Implementation Plan for the area. Finally, there is the work being undertaken by the City of Etobicoke and the MTRCA related to the development of a temporary docking facility at the foot of Superior Park. The recommendations related to the potential improvements in the terrestrial habitat of this area, plus the restoration of the creek system through the park should be considered in the current work on this project.

9.0 Final Words

In producing this report the Citizens Concerned About the Future Of The Etobicoke Waterfront began with a vision of a clean, green and prosperous South Etobicoke. We firmly believe that the recommendations in this report can act as an important catalyst in the realization of this vision.

It is our hope that the production of this report will be the first of many steps which will lead to the regeneration of the South Etobicoke community.

End Notes

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