

ACTION 1.2

SOURCES OF ADDITIONAL INFORMATION:

Waterfront Regeneration Trust. 1995.
*A Natural Heritage Strategy for the Lake
Ontario Greenway*

Brownell, V. 1993.
*Waterfront Natural Areas. Part I: An Overview of
Natural Areas along the Lake Ontario Waterfront
from Burlington to Trenton*

Brownell, V. 1993.
*Waterfront Natural Areas. Part II: A Biological
Inventory and Evaluation of 28 Natural Areas
along the Lake Ontario Waterfront from Newcastle
to Trenton*

Hilts, S., and R. Reid. 1993.
*Creative Conservation: A Handbook for
Ontario Land Trusts*

Ontario. Ministry of Municipal Affairs. 1994.
Comprehensive Set of Policy Statements

- Waterfront natural core areas not currently protected should be given high priority with a range of mechanisms including planning designations, stewardship, and acquisition. Protection techniques should incorporate a buffer of adjacent lands, with a width adequate to protect natural features and processes from adjacent land uses.
- Additional landowner contact and stewardship programs are needed to encourage landowner participation in protecting and restoring a broad range of natural areas, including those in urban areas.
- Provincial parks and other public lands which include the most outstanding natural core areas should have approved management plans in place quickly to guide future management, and should be encouraged to discontinue conflicting activities such as waterfowl hunting.

Related implementation mechanisms in Chapter 4:
A.1, A.6, B.2, B.3, C.2



Gage Creek, Port Hope

Robert Merrick, Waterfront Regeneration Trust

Action 1.3:

Protect bioregional habitat corridors and connections

Regeneration of the waterfront cannot take place in isolation from the remainder of the Bioregion. Many species of fish and wildlife spend only part of their life cycle within the Greenway; frequent local extinctions in fragmented habitats (especially within urban areas) must be countered by re-colonization from habitat connections; and the re-population of new or restored habitats depends on these bioregional connections.

Examples of progress to date:

- Most of the 35 valleys identified as significant corridors (see Map 10 and Appendix A) are partially protected through conservation authority ownership and flood and hazard regulations, and through increasing municipal recognition of their natural values. Valleys are also identified for protection through the Provincial *Comprehensive Set of Policy Statements*.
- The protection of significant habitat blocks and corridors in headwater areas has been partially addressed through the Niagara Escarpment Plan and the Oak Ridges Moraine Strategy.

Steps to come

- The critical importance of bioregional habitat corridors connecting to the Greenway should be fully recognized through municipal planning documents and any future Provincial greenlands initiatives. Of particular significance are the woodlands, wetlands, and source areas associated with the former Lake Iroquois shoreline, which provide vital regional connections in many places where the current waterfront has little habitat remaining. As well, the importance of habitat connections within the Oak Ridges Moraine should be fully recognized in provincial policies for that landscape feature.
- The ecological values, particularly habitat linkage values, of the valley and forest corridors identified within and adjacent to the Greenway should be recognized and protected in future planning documents and in watershed plans. Where they occur, existing east-west habitat corridors should be protected and strengthened, including natural habitats associated with:
 - Scarborough Bluffs
 - Rouge-Duffins wildlife restoration corridor
 - Bond Head Bluffs
 - Gage Creek Marsh-Carr Marsh
 - Spicer to Lakeport forest corridor
 - Salem-Presqu'ile-Carrying Place forest/wetland corridor

ACTION 1.3

**SOURCES OF
ADDITIONAL
INFORMATION:**

Waterfront Regeneration Trust. 1995.
*A Natural Heritage Strategy for the Lake
Ontario Greenway*

Ontario. Ministry of Municipal Affairs. 1994.
Comprehensive Set of Policy Statements

Oak Ridges Moraine Technical Working
Committee. 1994.

*The Oak Ridges Moraine Area Strategy for
the Greater Toronto Area*

Action 1.4:*Protect water quality from further deterioration*

As outlined in Chapter Two, considerable progress has been made in the past two decades in curtailing pollution problems along the waterfront, but aquatic ecosystem health remains a significant concern. Protecting water quality from further deterioration is an important part of a broader effort to restore beneficial uses in the lake.

Examples of progress to date:

- Several programs of the provincial and federal governments, under the umbrella of the Great Lakes Water Quality Agreement and the Canada-Ontario Agreement, have made considerable progress in reducing lake-wide loadings of nutrients and toxic chemicals. Further steps needing immediate implementation have also been identified, such as those needed to achieve the goals of the Lake Ontario Toxics Management Plan.
- The protection of headwater source areas to maintain surface water quality and quantity in tributaries feeding into the waterfront has been incorporated as part of both the Niagara Escarpment Plan and the Oak Ridges Moraine Strategy. Protection of these areas is an essential foundation for regeneration of both the watercourses and the waterfront itself. Mechanisms to implement the Oak Ridges Moraine Strategy are under discussion; they are vital to the future health of the Bioregion.

- Watershed and subwatershed plans which will assist in protecting future water quality in tributaries are underway in a number of watersheds, including Sixteen Mile Creek, Credit, Humber, Don, Rouge, Oshawa, Harmony/Farewell and Ganaraska.

Steps to come:

- Watershed and subwatershed plans should be developed throughout the Bioregion to ensure that development and land use activities do not further increase pollutant loadings to tributaries and ultimately to Lake Ontario waters. Even in advance of these comprehensive plans, best management practices for stormwater and for agricultural activities should be implemented. Priority in developing subwatershed plans should be given to:
 - areas of imminent land use change in newly-developing areas, where these plans should be required as a pre-condition to Official Plan amendments;
 - areas where water quality monitoring programs have identified impairment problems.
- Improvements to the process of developing subwatershed plans should be examined, to streamline the process and make it more cost-efficient.



Sixteen Mile Creek, Milton

Halton Region Conservation Authority



WARNING! SWIM AT YOUR OWN RISK

Along the Lake Ontario Greenway there is a new twist on an old saying: "You can lead a cyclist to water but you can't let him swim." A refreshing dip in the lake is a delight on a hot summer day. Unfortunately, our beaches are sometimes posted during the summer because the treatment plants cannot cope with the high levels of combined storm-water and sewage. The combined sewer overflows (CSOs) spill untreated into the lake and the familiar "Warning: polluted waters" signs go up.

The Eastern Beaches of Toronto were once plagued by CSOs. In the heat and humidity frustrated residents and visitors attracted to the lake could only stare at the inviting water. But swimmers now have something to look forward to since the City's Department of Public Works and the Environment completed construction of two underground detention tanks. The idea is to catch CSOs before they reach the lake and store them until the Main Sewage Treatment Plant at Ashbridge's Bay can handle them.

These detention tanks were constructed in two phases. The first tank, buried under park land at the foot of Kenilworth Avenue in 1990, reduced the amount of bacteria and

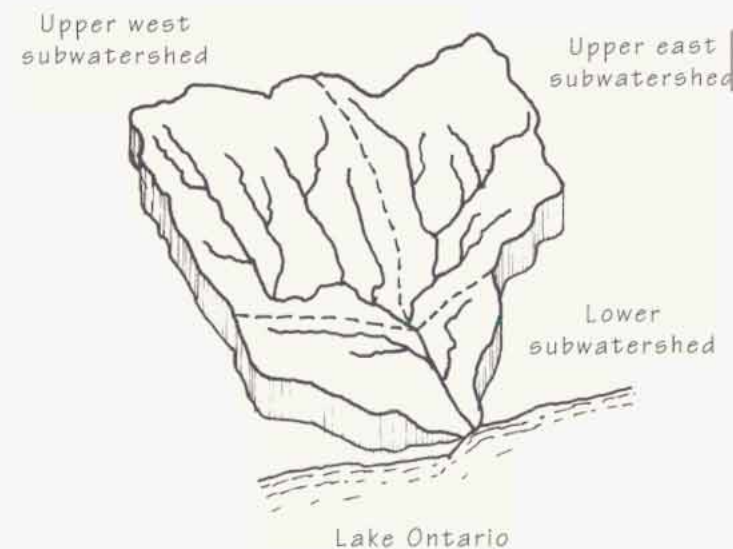
other pollutants entering the lake. This greatly improved water quality in the nearshore areas of Woodbine Beach and Beaches Park. CSOs, however, continued to be discharged into the lake to the east forcing all area beaches to close after periods of heavy rain.

In 1994, a second detention tank was constructed under the beach at the foot of McLean Avenue. This helped to improve nearshore water quality at Kew and Balmy Beach, and other beaches to the west. A monitoring programme revealed that bacteria levels exceeded provincial standards only once at Woodbine Beach during the summer of 1994. This compares to sixteen occurrences of excessive levels in 1989.

The Eastern Beaches detention tanks have the capacity to prevent CSO discharges after all but the heaviest rainfalls, which typically occur once a year. Though the "Warning" signs have not been permanently retired, the City of Toronto has taken two important steps toward improving the health of Lake Ontario and ending the frustration of hot summer visitors. There has never been a shortage of bathing suits on the Eastern Beaches; now it's a safe bet that many of them will actually get wet.

LAKE ONTARIO GREENWAY STRATEGY

- Continued efforts are needed to reduce sediment and pollutant loadings from agricultural areas and developing areas, through incentive programs and landowner contact programs affiliated with the Remedial Action Plans or with provincial programs such as Clean Up Rural Beaches (CURB).



Watershed and subwatersheds

- Integration of monitoring programs of the biota (fish, fish-eating birds, etc) of both the nearshore and open lake should be supported and encouraged as an ecologically-sound way to detect emerging contaminant problems at an early stage and to measure the effectiveness of remedial actions underway.

Related implementation mechanisms in Chapter 4: A.1, A.2, A.4, A.5, C.1, C.2,



Robin Powell

Humber River

ACTION 1.4 SOURCES OF ADDITIONAL INFORMATION:

Metro Toronto and Region Remedial Action Plan. N.d.
Clean Water, Clear Choices: Recommendations for Action

Ontario. Ministry of Environment and Energy. 1994.
The Niagara Escarpment Plan

Ontario. Ministry of Environment and Energy, and
Ontario. Ministry of Natural Resources. 1993.
*Integrating Water Management Objectives into Municipal
Planning Documents*

Ontario. Ministry of Environment and Energy, and
Ontario. Ministry of Natural Resources. 1993.
*Water Management on a Watershed Basis:
Implementing an Ecosystem Approach*

Ontario. Ministry of Environment and Energy, and
Ontario. Ministry of Natural Resources. 1993.
Subwatershed Planning

Ontario. Ministry of Environment and Energy. 1994.
*Stormwater Management Practices Planning and
Design Manual*

Ontario. Ministry of Environment and Energy. 1983.
*Levels of Treatment for Municipal and Private Sewage
Treatment Works Discharging to Surface Waters*

Ontario. Ministry of Natural Resources. 1994.
Fisheries Guidelines for Developing Areas

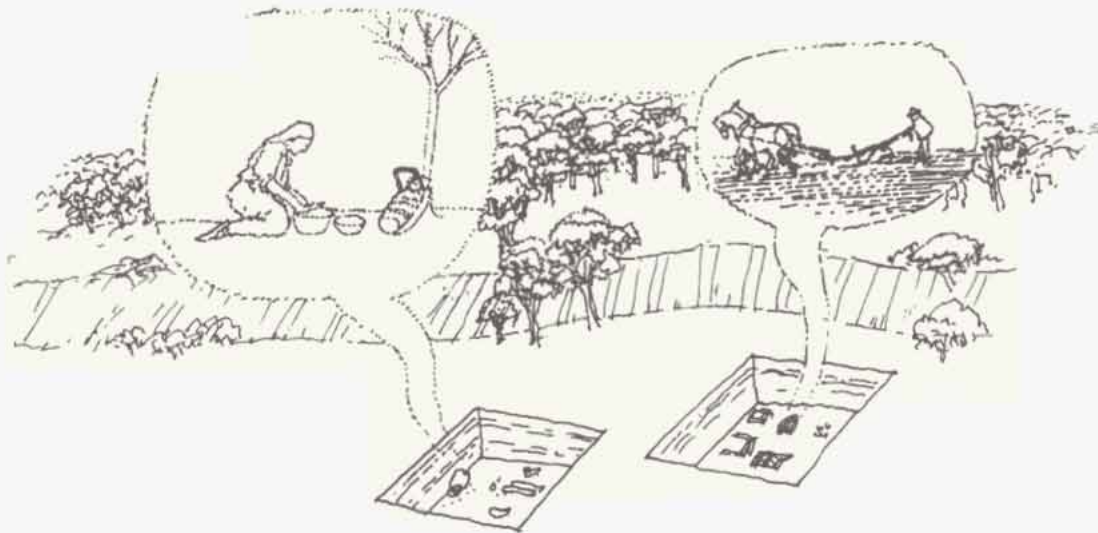
Canada. Environment Canada. 1993.
Lake Ontario Toxics Management Plan

Metropolitan Toronto and Region Conservation
Authority. Don Watershed Task Force. 1994.
Forty Steps to a New Don

Action 1.5:

Protect places of archaeological, historic and cultural significance

The rich and diverse cultural heritage of the Lake Ontario waterfront provides a link to the past, a sense of continuity for present communities, and a source of meaning for interpretive and educational programs. Places of significance in today's landscape reflect the history of human activities in the past, as well as cultural activities in the present.



Archaeological sites along the shore provide insights into our cultural heritage

Examples of progress to date

- Some 577 registered archaeological sites along the Greenway have been recorded and mapped in the provincial data base; a total of 541 historic structures have been designated by municipalities under the provisions of the Ontario Heritage Act.
- In recent years, the retention of historic structures for sympathetic modification or adaptive re-use has become increasingly common. Examples include the use of the Adamson Estate in Mississauga by the Royal Conservatory of Music, and the use of Victoria Hall in Cobourg and Haldimand Township Hall in Grafton for municipal purposes.
- Through the background report *Settling the North Shore*, 203 cultural heritage landscapes have been identified and mapped, illustrating human activities or traditions prior to 1950.
- At least 32 cultural venues, where current fairs, festivals, shows, concerts and theatre productions occur, have been identified within the Greenway.



LYNDE CREEK—AN ANCIENT GATHERING PLACE

We tend to associate the origins of the waterfront's cultural diversity with the arrival of the first European settlers over 300 years ago. In fact, people have been arriving on the North Shore from other parts of the continent for at least 10,000 years. At Whitby's Lynde Shores, the richness and diversity of the ecosystem would have offered a rich harvest of game and fish for early travellers.

The extensive cultural heritage recently unearthed near the estuary of Lynde Creek provides many valuable clues about who has lived on the waterfront since the last ice age. More significant perhaps, the discovery provides an understanding and appreciation of the relationship prehistoric cultures had with their environment. It also lends support to the archaeological exploration of other river and creek mouths that feed into Lake Ontario.

During the Late Paleo-Indian period, between 9,900 and 10,300 years ago, Whitby's shoreline was about 11 miles further south than it is today. Artifacts dating from this period suggest that seasonal camps were located near Lynde Creek on a ridge that might have been a path for Caribou traveling through the pine-dominated forest. For perhaps 2,000 years, until about 6000 B.C., the area was principally a place for hunting and gathering by aboriginals.

By the end of the Middle Archaic period (6000-2500 B.C.) the Lake Ontario shoreline was close to where it is today. Oak, elm, ash, maple, and beech had greatly increased their presence. People from the Midwest of the present-day United States were probably attracted by opportunities for hunting, gathering, and fishing, which eventually became a principal activity. Walleye, lake whitefish, Atlantic salmon, and trout likely populated the waters at different times of the year. Base camps were probably established near the creek's estuary to take advantage of the abundant plant and wildlife. The recovery of a large groundstone gouge, a tool used to build dugout canoes, provides a clue that native people stopped here for a while.

During the Woodland period (1000 B.C.-1650 A.D.), when pottery and corn agriculture were introduced by cultures south of the Great Lakes, native people preferred to settle on the creek's east bank. Since then the wetlands at Lynde Shores have changed little in appearance.

From the archaeological sites around the Lynde Creek estuary we get a glimpse of the North Shore's long and fascinating prehistory. Because the shoreline gradually moved a distance of 13 kilometres, we have learned from

one place what people were doing inland over 10,000 years ago and at the water's edge 3,000 years ago. Our understanding of how cultures adapted to the changing environment of Lynde Shores not only expands our knowledge, it also influences our perceptions of and attitudes toward the natural world near the water's edge.

The mouths of creeks and rivers are obvious places to begin looking for prehistoric cultures. Artifacts have already been discovered near Sixteen Mile Creek in Oakville and Carruthers Creek in Ajax. When new development is proposed for the waterfront, required archaeological studies will reveal more buried cultural treasures from the past. We should not wait for such random opportunities. By unearthing significant aboriginal heritage sites well before urbanization threatens them, communities can take steps to promote and protect their heritage or ensure it is integrated into future land uses. The findings at Lynde Creek are an important step in the right direction.