



CHAPTER 3: WATER

Early in its work, the Royal Commission realized that it could not consider the Greater Toronto waterfront in isolation from the area surrounding it. Ecological principles tell us that it will both affect areas outside itself and be affected by external influences. Moreover, the Greater Toronto waterfront is part of a much greater whole — in fact many greater “wholes”. First (and closest to home), it is linked ecologically to the Greater Toronto bioregion by the river valleys and streams flowing south to the lake.

At the same time, as Map 3.1 makes clear, water quality along the Greater Toronto waterfront is tied to that of Lake Ontario, and the Lake Ontario Basin. The basin drains an area of about 64,000 square kilometres (24,710 square miles) in south-eastern Ontario and northern New York State.

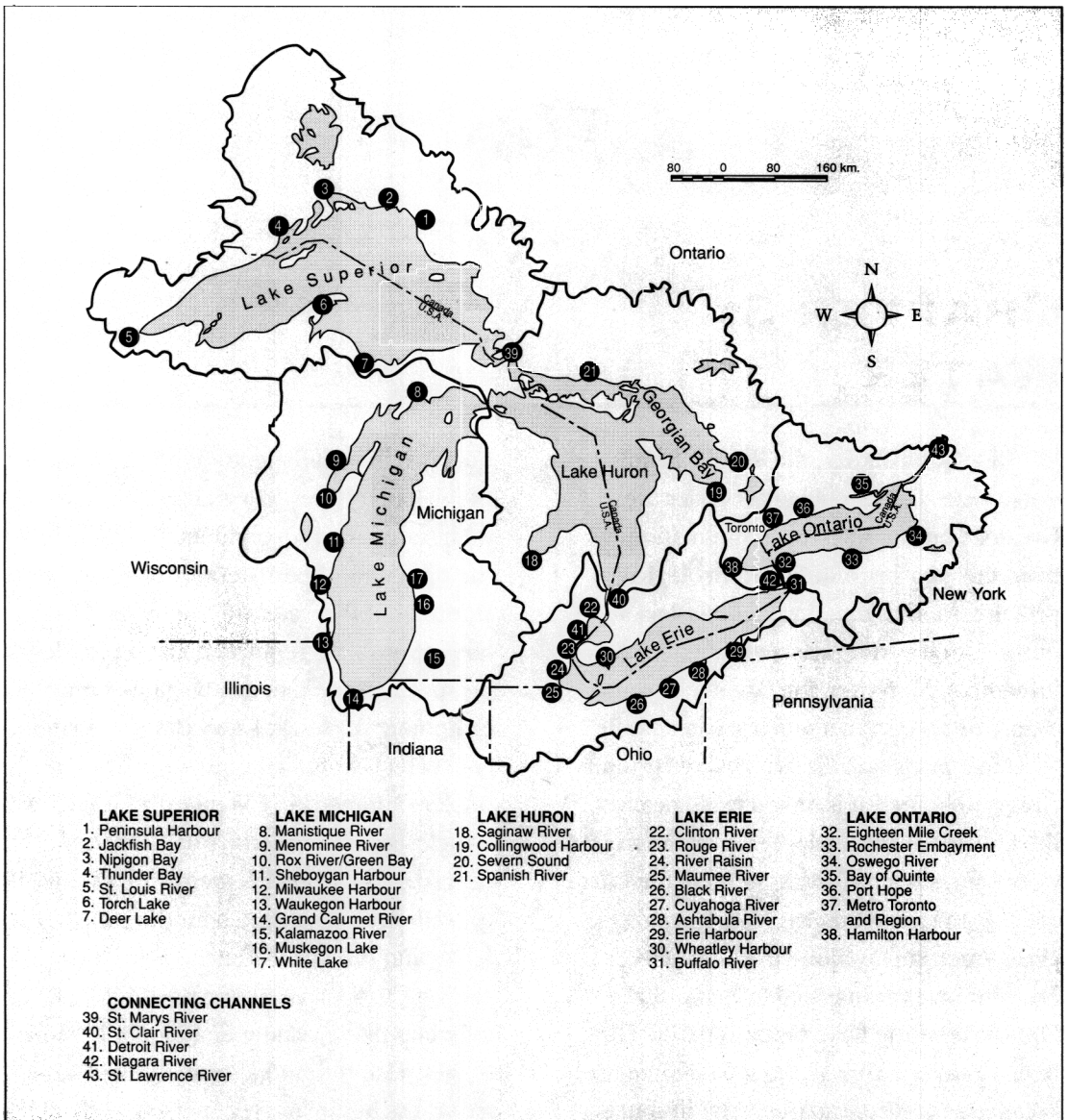
But Lake Ontario does not sit in isolation. It is the fifth and most downstream in the chain of Great Lakes. About 80 per cent of the water entering it comes from upstream through the Niagara River. Although there is much that must and can be done in and around Metropolitan Toronto’s waterfront, restoration of water

quality is in part dependent on the health of the Great Lakes. For example, we can do little, acting independently, to tackle the problems of persistent toxic chemicals throughout the waters of the basin. That kind of problem requires a much broader perspective, one that can be gained only by examining the Great Lakes Basin ecosystem.

The Greater Toronto waterfront is but 250 kilometres (155 miles) of what has sometimes been called “North America’s fifth coast” — 8,000 kilometres (5,000 miles) of continuous coastline bounding the Great Lakes and the St. Lawrence River. The earliest European explorers and settlers sailed up that coastline looking for a “land of plenty” and found almost unimaginable natural riches in an area sparsely settled by native people. The lakes provided a seemingly inexhaustible supply of fresh water for drinking. Stands of timber stretched as far as the eye could see. The rivers draining into the lakes could be used for transportation into the interior and floating timber out for powering grist and sawmills.

Wetlands, inland and at the mouths of rivers, supported thriving communities of fish, reptiles, and waterfowl. The forests

Map 3.1 The Great Lakes Basin, areas of concern



that touched the Great Lakes shores were home to fur-bearing mammals, which could be trapped, and to deer, which were hunted for food. The lakes supported an abundance of fish — lake trout and herring, whitefish and sturgeon, Atlantic salmon and American eel, and many others.

Small wonder people flocked here. Today, 10 per cent of the American

population and almost a third of all Canadians live in the Great Lakes Basin, which is the economic heartland of Canada. It includes 28 cities with populations of more than 50,000 people, as well as 13,400 manufacturing and industrial plants. Those who live in the basin depend on the Great Lakes for water used for drinking, irrigation, industry, waste receiving, power generation,

transportation, and recreation, as well as for fisheries and wildlife habitat.

Now, almost two hundred years after European settlement began in earnest, the Great Lakes Basin has been dramatically transformed by human activities. Most of the great forests that once lined its shores were logged in a frenetic flurry of activity that lasted from 1850 to 1920. Development and the loss of habitat drove large mammals such as bear and deer inland. As the result of overfishing, dam construction, and habitat destruction, many once-abundant species of fish became rare or extinct. However unwittingly, the decision to build canals and the international movement of goods and people opened the door to the sea lamprey, purple loosestrife, and other exotic non-native species. In 1890 and 1891, one man's somewhat eccentric idea of importing into New York species of all birds mentioned by Shakespeare introduced the ubiquitous European starling to North America while, more recently, the release of bilge water from a foreign vessel brought us the zebra mussel. With few natural enemies, such opportunistic species have flourished in the basin and elsewhere, and have pushed out less hardy native species.

Natural areas — woodlands and wetlands — as well as valuable agricultural land have been gobbled up by indiscriminate development. Rivers have been befouled, and streams placed underground or paved over. One legacy of the intense resource extraction and manufacturing activities carried out in the basin is the presence of heavy metal and chemical pollutants; these can be found in the Great Lakes waters, in the sediments on the bottom of lakes and rivers, in landfill sites dotted across the landscape, and in soil and groundwater on industrial sites.

The landscape today is very different from the one that greeted European explorers. Natural resources, once so rich, are sadly diminished. This chapter briefly describes the state of the Great Lakes, particularly water quality and the health of humans and wildlife, and examines why there has been so little progress in restoring the Great Lakes ecosystem, which is crucial to the regeneration of the Greater Toronto waterfront.

THE STATE OF THE LAKES

An exhaustive review of the state of the Great Lakes is beyond the scope of this report; moreover, many excellent books have recently been published on the subject. This section focuses on three specific environmental problems in the Great Lakes

Beginning with the nineteenth-century cities and continuing through our post-war reshaping of cities, suburbs, and countryside, we have been making changes in the environment at an unprecedented rate. Today's world not only looks very different from the eighteenth-century world but also sounds very different and smells very different. Whatever else these changes have brought us in the way of human benefits or environmental degradation, they have offered us an unparalleled chance to look at how our health and well-being are affected by changing what we can experience in a place.

Hiss, T. 1990. *The experience of place*. New York: Alfred A. Knopf.