

HEALING AN

URBAN WATERSHED:

THE STORY

OF THE DON



The stream that once gurgled through cool forests and flashed with salmon is a storm sewer today. It is fed by filthy water flushed off the city's pavements and by the effluent of a sewage treatment plant. Much of what was once a lovely valley is now a transportation corridor and a repository for road salt, dirty snow, and illegally dumped garbage. The river's lower stretch is strait-jacketed in steel and concrete,

while chain-link fences discourage strolls along its degraded banks. Long gone is its natural mouth, an expansive delta that once teemed with life. Instead, a contorted right-angle turn and a tangle of expressways and railway tracks mark the river's entrance into the lake.

But with help, this sad watershed can regenerate, creating healthier human communities as it does so.



The existing mouth of the Don

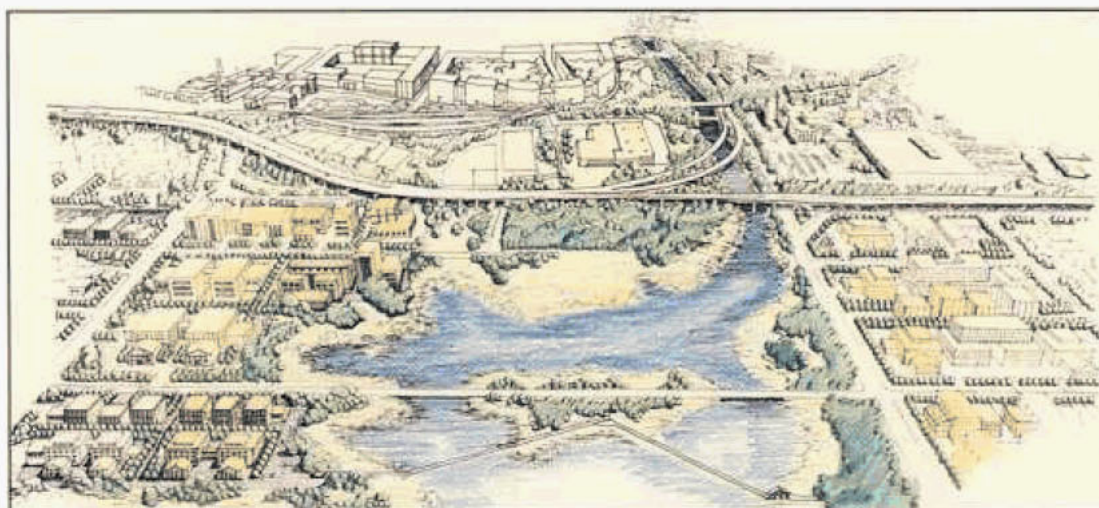


Figure 1 A restored Ashbridge's Marsh

The Don River runs through the heart of Toronto. The Don is similar to most of the urban rivers of North America. Everywhere, city building, industrial development, and suburban sprawl have left a legacy of lost woods, wildlife, and countryside, poisoning the natural environment on which our cities and our own health depend.

systems is a newer and harder task. Yet the Don is not a disgrace throughout. Some headwater streams still trickle through shady woods, the river's entire length is a migratory corridor for birds and other wildlife, and ducks paddle in the oily waters of its mouth. Such signs of life — to be found, if one only looks, along most urban rivers — give



A pond at the source of the Don

But Toronto's Don watershed has many friends, advocates with a vision for restoring it. They are residents who live nearby, from the headwaters to the mouth 38 kilometres (23.6 miles) to the south. They are school-children attuned to the environment, and seniors who remember the valley in better days. They are naturalists, scientists, planners, and engineers whose expertise is needed to heal the Don. All of them are focusing on the Don because, of Metro's several rivers, it is the most degraded, accounting for much of the chemical, heavy metal, and nutrient pollution in Toronto's harbour. For Torontonians, this river has become a symbol of environmental neglect.

People know how to preserve pristine natural places, but restoring degraded natural

the Don's advocates hope. They attest to nature's own powerful, regenerative life force. Restoring a natural system means working with, not against, such natural processes; it means nature becomes a priority in making planning decisions. For a watershed, it means healing the whole, not just some of its parts.

LINKS TO THE PAST: THE NATURAL HISTORY OF THE DON

The Don River is one of the 60 rivers and major streams in the Greater Toronto bioregion that flow south from the Oak Ridges Moraine into Lake Ontario. This whole watershed is part of the Great Lakes



Keating Channel; mouth of Don. Inset: Mark Wilson, chair of, and Michael Hough, consultant to, the Task Force to Bring Back the Don, explain their ideas for the regeneration of the river to Prince Charles during his 1991 visit to Toronto.

Basin, the most massive concentration of fresh water in the world and home to 35 million people. Air, water, nutrients, and, alas, pollutants cycle repeatedly through the whole basin. That is why restoring the Don will not only improve Toronto's local environment, it will help heal the Great Lakes ecosystem of which it is a part.

In assisting the Don to regenerate, it is necessary to seek connections, not just with other parts of the larger bioregion, but with the watershed's past — its origins and functions in the natural system before the arrival of the first European settlers.

At various times, the Toronto area was covered with shallow seas, glaciers thousands of metres thick, and freshwater lakes and rivers that had basins larger than those of today. Different plants and animals have inhabited the area, responding to changes in climate and land migration routes. Each left its own signature of sedimentary deposits and fossils in the geological record.

Toronto's bedrock was laid down 450 million years ago in the Ordovician period as sediments in shallow seas. These solidified into the blue-grey shale of the Georgian Bay formation. Geologists have found evidence of ancient rivers that once cut through this bedrock, but the Don and its sister rivers in the Toronto area are much younger.

During the Pleistocene epoch, which began one million years ago, three successive waves of glaciation buried the bedrock beneath thick glacial till. The Don was born at the end of that time, only 13,000 years ago. The alternating freezing and thawing of two glacial lobes north of Toronto squeezed a porous, water-filled ridge of glacial debris between them — the Oak Ridges Moraine. As the glaciers retreated, streams began flowing south from the moraine, cutting valleys through the glacial drift. The Don has not reached bedrock yet.

In their early days, the two streams that form the modern Don River's east and west

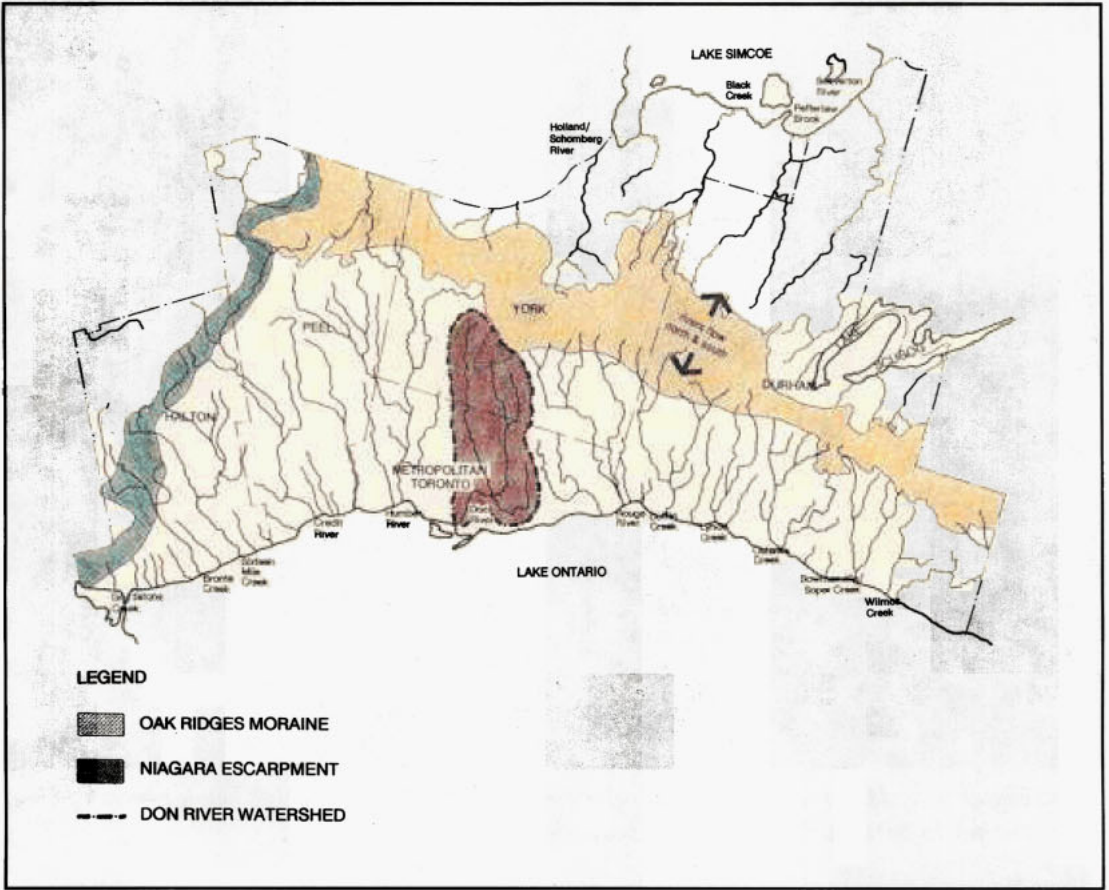


Figure 2 Greater Toronto bioregion

branches ended several kilometres north of the present mouth (Figure 4) at the shores of Lake Iroquois, formed from glacial meltwater, which was larger than its successor body of water, Lake Ontario. Wave action and westward shoreline currents built up a sandy baymouth bar where the young east and

west Don entered Lake Iroquois; sands, silts, and clays were deposited in a protected lagoon behind the bar.

As the glaciers continued melting, the land began slowly lifting up, and the St. Lawrence channel, previously blocked with ice, opened up. Gradually, Lake Iroquois



Figure 3 The retreat of the Wisconsin glaciers