

Toilet to Tap

Water Sanitation on Toronto's East Waterfront

This walk, developed to celebrate World Toilet Day and the International Decade of Water for Life, shows the many ways that we are connected with and depend on the waters of Lake Ontario. It starts at Jonathan Ashbridge Park, Queen Street East and Woodward, and will take about two hours.

Walk Map



The Beach Neighbourhood was once home to seven small creeks and the Ashbridge's Bay, a large coastal wetland that was separated from the lake by a sandbar. The marsh was an important fishing ground for First Nations and for immigrants in the British era when it was called Fisherman's Island. The Eastern Beach was known for sandy hills (part of a sandbar formed on glacial Lake Iroquois about 12,500 years ago) and beautiful beaches. One early resident described an idyllic life among the oaks, white pines, sassafras and lupines. Over the years residents kept a strong connection with the beautiful landscape, creating resorts at the waters edge that are now part of the public park system.

The landscape we see today has been greatly altered, through landfilling and industrialization, and because of changes that took place after the mid-1800s when the water-borne nature of cholera was discovered. Today, the creeks are mostly in sewers, and the Beach is home to the main infrastructure for Toronto's watery life support system: the Ashbridge's Bay Sewage Treatment Plant and the R.C. Harris Water Filtration Plant. Ambitious plans are underway for improvements to the management of sewage at Ashbridge's Bay, and for an enhanced park system along the shoreline, supported by advocacy and activism by many local citizens .to restore a healthy lake.

- 1 Jonathan Ashbridge Park
Ashbridge's Bay and Creek
- 2 Historic Pump Houses
and Pump House Park
- 3 Ashbridge's Bay Sewage
Treatment Plant
- 4 Coatsworth Cut
- 5 Woodbine Beach
Bathing Station
- 6 Original Filter Beds at
Woodbine Avenue
- 7 Eastern Beaches Deten-
tion Tanks
- 8 E. coli Pollution and
Animals in the City
- 9 Kew Gardens Park and
its Lost River
- 10 Basement Flooding in
the Beach
- 11 Glen Stewart Creek and
Ravine
- 12 Private Amusement
Parks and Beaches
- 13 Protection of the Eastern
Beaches
- 14 R.C. Harris Water Filtra-
tion Plant
- 15 Water Treatment and
Source Water Protection

? Please refer to Glossary on the back cover for definitions.

1 Jonathan Ashbridge Park Ashbridge's Bay and Creek

You are standing near the north edge of the former Ashbridge's Bay - virtually all the land to the south is landfill. Here, until the early 1900s, there was a small estuary at the mouth of Ashbridge's Creek. In the 1800s, the bay and creeks were polluted by human, animal and industrial waste. Toronto's privately operated water and sewage disposal systems failed repeatedly, causing cholera epidemics and deaths. Finally, from 1911 to 1941, R.C. Harris oversaw the creation of a publicly owned system for sewage treatment and the provision of safe drinking water.



1904, City of Toronto Archives, Series 376, File 4 Item 63

Ashbridges Bay in 1904

Walk south through the park, turn east onto Eastern Avenue and look south.

2 Historic Pump Houses and Pump House Park

The two buildings on the south side of Eastern Avenue are pumping stations, which help deliver 700,000 m³ of sewage a day to the Ashbridge's Bay Sewage Treatment Plant. The older building in front of you was the main Sewage Treatment Plant from 1911 until the 1950s, when it was converted. The round modern building was built in 1971. The open spaces are being redeveloped into Pump House Park, which will include playing fields, hundreds of trees, innovative stormwater management and water conservation measures, improved sewer infrastructure, and protection from contaminated soils through capping.

Continue east on Eastern Avenue and turn south on Coxwell.

Woodbine Park, east of Coxwell, includes ponds that reflect the history of the site as a marsh, and that help to clean and filter storm water.

Cross Lakeshore Boulevard and stop at the water on your right.

3 Ashbridge's Bay Sewage Treatment Plant

From this point, look west for an excellent view of the Ashbridge's Bay Sewage Treatment Plant. In this plant wastewater from 1.5 million people is processed. Solids (sludge) are separated from fluids in multiple stages. Disinfected fluids are discharged to the lake, and processed sludge is primarily disposed of to landfill (43%), incinerated (23%), pelletized (16%) and applied to land (11%). This requires large inputs of water, power, chemicals, air, and money.

In 2003 a Landscape Site Design Plan was completed for the entire Ashbridge's Bay Treatment Plant (ABTP). As well, there is a long term plan to reduce the environmental impacts of plant operations. The Ashbridge's Bay Neighbourhood Liaison Committee was instrumental in advocating for these changes.

4 Coatsworth Cut

This inlet is known as Coatsworth Cut. In 1888, an attempt was made to deal with the pollution in Ashbridge's Bay by breaching the Fisherman's Island sandbar to allow polluted water to be diluted and dispersed into the lake. The "Dilution Solution" was not successful. Today, untreated stormwater and sewage from Combined Sewer Overflows (CSO's) cause water quality problems here. The large concrete opening below the road is the outfall for three combined sewers. As well as introducing lot-level stormwater management practices, the city has plans for detention tanks to hold overflows and a constructed wetland to clean and filter the water at this site.

Check the RiverSides website for more about managing stormwater at the property level – actions you can take at home to prevent run-off and help restore the natural water cycle.

5 Woodbine Beach Bathing Station

This Blue Flag Beach is the most popular bathing spot in Toronto. The Blue Flag is a voluntary eco-label awarded to over 3,200 beaches and marinas in 37 countries. Beaches must meet specific criteria concerning water quality, environmental management, safety, services and environmental education.

Fisherman's Island

In 1837, the Bay “was home to thousands of wild fowl, ..the terrapin, or small turtle of the lake; ... lake salmon, the bass and the pickereen” (Anna Jameson 1837). First Nations fish camps were found along the sand bar (see map) during the fishing season. Their fishery was taken over despite treaty rights, and by the mid 1800's European immigrants had established a colony of fishing huts on the sandbar, which became known as Fisherman's Island. This section of the Boardwalk is almost exactly in line with the old Fisherman's Island sandbar. As plans were made for a park along the beach and a lakefront boulevard, the huts were expropriated by the Toronto Harbour Commission in 1914, and were leased until their removal in 1927.

6 Original Filter Beds at Woodbine Ave

In the late 1800's, filter beds (or septic tanks) were built west of Woodbine Avenue. Sewage was passed through beds of sand, gravel and coke. Modern filter beds, or wetland systems, together with composting toilets are an emerging technology for lot level wastewater treatment. Pathogens are removed on site, water and energy are conserved, and organic matter is returned to the natural cycle or reused.



Filter Beds at Woodbine Ave.

1897, City of Toronto Archives, Series 376, File 5, Item 51

Follow the boardwalk to the tennis courts at the foot of Kenilworth Avenue.

7 Eastern Beaches Detention Tanks

Old combined sewers like the one on the course of Norway Creek (below Kenilworth Avenue) was a source of contamination on the beach for many years. In the 1990s, two underground detention tanks were built in the Eastern Beaches to prevent CSO's into the lake. One is here under the boardwalk at the foot of Kenilworth Avenue. This has significantly improved the water quality and reduced E. coli readings in the nearby beaches.

8 E. coli Pollution and Animals in the City

Animal waste is another major source of E. coli pollution on Toronto's beaches. Geese are the main culprits. To deal with this issue, the City employs specially trained dogs to chase geese away from the beaches in the summer months. Dogs are banned from this beach in the summer to minimize E. coli pollution and to protect its Blue Flag status, but are allowed off leash in the winter.

Turn north (left) on park path running between the hockey rink and the washrooms.

9 Kew Gardens Park and its Lost River

Look north east towards the park. At one point, Kew Creek meandered through this park to reach the lake. When Toronto created this public park in 1932, Kew Creek was buried. It now serves as a sewer that leads into the Kenilworth detention tank. The path of the creek can be seen in the hills and small valleys of the park.

Look at the map to notice a number of other lost creeks that used to meander through this neighbourhood to flow into Lake Ontario.

Walk toward the historic Gardener's Cottage in the park, facing Lee Ave.

10 Basement Flooding in the Beach


In the early 20th century the Beach was a popular cottage locale for Torontonians. Because the water table was so high south of Queen Street, many houses were built without basements. The sewers in the Beach, especially in former marshland and in the valleys of buried creeks, still back up and flood basements when there is heavy rain. In 2009 basements on streets around Kenilworth and Lee Avenues were badly flooded.

Walk north to Queen St., turn right, then left on Wineva, right on Isleworth and down a set of stairs at the dead end of Isleworth. (The dip on Isleworth marks the headwaters of Kew Creek)

11 Glen Stewart Creek and Ravine

Formerly, in this ravine three ponds were fed by fresh water springs. In the 1930s, the creek system was diverted into the sewers and ponds drained, but the stream still runs above ground in parts of the Glen Stewart Ravine. The houses surrounding the ravine are built in the Arts and Crafts style, many designed by Eden Smith. The emphasis of the Arts and Crafts movement on living in harmony with nature may explain why this ravine was saved when others (e.g. Kenilworth, Neville Park) were not.


Follow Glen Manor Dr. south to the beach.

 *South of Bonfield Ave, on the east side of the street you will notice crooked houses that indicate a foundation built in unstable fill on a buried creek.*

12 Private Amusement Parks and Beaches

Early Beach residents established private nature parks, beach facilities and amusement parks. After 1910, Kew Gardens, Munro Park, Scarborough Beach Park, Balmy Beach and Victoria Park were purchased by the city, and in 1932 the publicly owned Beaches Park was opened, extending from Nursewood Road to Woodbine where it connects with Woodbine Beach.

Walk east along the boardwalk.

 *Under the boardwalk between Maclean and Balsam, the second Eastern Beaches detention tank protects water quality by capturing and treating stormwater, while diverting CSOs to the main treatment plant.*

13 Private Amusement Parks and Beaches

The sands on the beach here were eroded from the Scarborough Bluffs and carried west on a shoreline current. Old pictures show that the beach sands go through cycles of building up and being washed away. In 1905, Balmy Beach was a very narrow strip outside the clubhouse – just enough to pull up the canoes. Groynes - the rocky features at right angles to the beach - are an attempt to prevent the loss of beach sand.

At the end of the boardwalk, turn left and climb the slope to the bottom of Nursewood Rd. At the top explore the R.C. Harris filtration plant.

14 R.C. Harris Water Filtration Plant

Constructed between 1932 and 1941, this plant was designed in Art Deco style by Thomas Pomphrey and named after R.C. Harris, Toronto's Commissioner of Works who supervised its construction. This unique public works building has marble floors, herringbone tiles, art deco clocks and pump signals. It plays a starring role in "In the Skin of a Lion" by Michael Ondaatje who called it "the Palace of Purification".

15 Water Treatment and Source Water Protection

The intake pipes, located 2.6 km offshore, draw water from deep in Lake Ontario and supply 60% of Toronto and York Region water. Water treatment consists primarily of particulate filtration and chlorination to kill bacteria. While chlorination was controversial in the early 1900s, it was viewed as a lower cost alternative to treating sewage. As availability of unpolluted water sources dwindled, it became commonplace. The Ontario Clean Water Act (2006) set a comprehensive plan to reduce contamination of drinking water at its source, prior to treatment and filtration.

Glossary

Combined sewer – A sewer pipe that carries both stormwater and sanitary waste to the sewage treatment plant.

Combined Sewer Overflow – Discharge to a water body from a combined sewer as a result of the sewer capacity being exceeded during heavy storms.

Contaminated soil capping – Process used to prevent movement of pollutants by minimizing contact between rain or surface water and the contaminated soil.

Groyne – A wall built out from a shoreline to prevent beach erosion.

E.Coli – One of several types of bacteria that normally inhabit the intestine of humans and animals. Some strains of E. coli are capable of causing disease.

Lost River – A river or creek buried underground and/or turned into sewers.

Lot level stormwater management – An approach to treat stormwater where it falls by creating conditions to allow stormwater soak into the earth.

Particulate filtration – Filtering process where water passes through particulates such as sand to remove impurities.

Sandbar – A ridge of sand formed along a shore by the action of waves or currents.

Sewage – Liquid and solid waste carried by sewers.

Source Water Protection – Protection of drinking water at its source.

Spring – A point where the aquifer meets the ground surface, at which groundwater flows out of the ground.

Stormwater – Rainwater after it hits the ground surface.

Thirsty City is a series of walks exploring Toronto's historic and current water issues.

Discover the secret life of water in the city! You will learn about the remarkable water system that brings clean water to our taps, and the sewer system that takes polluted water – both sewage and stormwater – away. You will also rediscover ancient aquifers, springs and the network of creeks that once supported life here, and are now buried under the surface.

For more information about Thirsty City and more walks like this one visit www.thirstycitywalks.ca



RiverSides is a Toronto-based non-profit organization dedicated to helping communities protect and restore urban watersheds through stormwater pollution prevention.

www.riversides.org



Lost Rivers is a project of the Toronto Green Community to encourage understanding of the city as a part of nature rather than apart from it, and to appreciate and cherish our heritage.

www.lostrivers.ca

Support for this self-guided tour has been generously provided by



ENVIRONMENTAL | DEFENCE

