

# City of Toronto's Tommy Thompson Park

## Background

In the heart of Toronto's Harbourfront lives Tommy Thompson Park, a 500-hectare constructed landform. The park is home to diverse aquatic and terrestrial species, including herptiles, mammals, butterflies and other invertebrates, birds and fish. It's also home to hundreds of plant species, nature trails, and lookouts.

Tommy Thompson Park is located on the Leslie Street Spit. This area was initially commissioned as a breakwater for Toronto's Outer Harbour and a land base for port-related infrastructure, such as warehouses, in the 1950s to support an expected increase in port activity. Earth, brick, and large rubble from construction and demolition sites around the city, as well as dredging materials, such as sand and silt, from the harbour were used to create the Leslie Street Spit over multiple decades.

Following the signing of the Great Lakes Water Quality Agreement in 1972, open water disposal of polluted dredged material was banned. The Toronto Harbour Commission developed a plan to create Confined Disposal Facilities (CDFs, also referred to as Cells) at the Leslie Street Spit to manage contaminated sediment. This eventually led to the creation of three CDFs at the site.

## Key insights

- Tommy Thompson Park was formed after the abandonment of the initial plan to create Confined Disposal Facilities (CDFs), giving way for the naturalization of the site to create an 'accidental wilderness.'
- Toronto and Region Conservation Authority (TRCA) was tasked with restoring the site, which was created by natural succession to remove the contaminated materials from dredging and improve drinking water quality.
- Using technical lessons learned in Cell 1 and research on the biological and coastal processes of Lake Ontario, TRCA was able to restore Tommy Thompson Park. This led to multiple co-benefits.
- The lessons learned from the restoration of Tommy Thompson Park include designing with human use in mind, the importance of collaboration, connecting underwater to above-water realms, and utilizing adaptive cycles in undertaking restoration projects.





By 1991, 10 million cubic meters of dredging materials had been collected and deposited at the site. However, the increased port activity never materialized and the project was abandoned. Over time, the Leslie Street Spit began to naturalize as plants and animals took advantage of this new landform. Eastern cottonwood trees and other early successional species started arriving on their own. This eventually led to the birth of an “accidental wilderness.” Tommy Thompson Park is now a popular urban park and one of the largest greenspaces on Canadian waterfronts.

## Challenges

Although the Leslie Street Spit began to naturalize on its own, there remained some key issues of concern. Two of the CDFs contained contaminated materials as a result of being partially created through the dredging of Toronto’s Inner Harbour. This was a concern not only to the local ecosystem but also to drinking water, since Lake Ontario is the source of drinking water for the City of Toronto. Additional challenges were posed by the need to figure out how to isolate polluted materials and the need to redesign the area to restore the ecological, aquatic and ecosystem life while still preserving social and community benefits.

## Approach

In August 1973, the Ontario government gave the Toronto and Region Conservation

Authority (TRCA) “the responsibility of being the Province’s agent concerning the proposed Aquatic Park [Tommy Thompson Park] and the preparation of a master plan.” In 1977, this was expanded to include not only the preparation of a master plan, but also development and interim management — including public access, nature interpretation, and wildlife management — of the area.

Once established as a site in need of restoration, TRCA supplemented the existing naturalization process with more targeted interventions through a lens of restoration. A range of projects were pursued at Tommy Thompson Park with the overarching goal of ecological restoration and water quality. Starting with Cell 1, lessons learned were identified along the way and these helped inform future restoration work on the additional CDFs.

The technical lessons learned from Cell 1, as well as research and studies on biological and coastal processes of Lake Ontario, informed the adaptive approach used on the second site which was called Cell 2. Such lessons learned included how the capping material selected (sand versus clay) can impact water clarity and the establishment of vegetation, as well as how incorporating a greater variation in underwater topography and site design can allow for a more diverse habitat. Designing for the underwater realm can also be incorporated into other restoration and construction projects, even those including hardscaping, such as dock walls.





## Co-benefits

The restoration initiatives implemented by TRCA and its many partners led to a number of co-benefits. Since the space's new design keeps people in mind, people are able to utilize the site in ways and in locations that do not conflict with the sensitive restoration work.

"If you don't plan with people in mind, they may use the space in their way which might conflict with your project's desired goals," says Victoria Kramkowski, government and community relations specialist at TRCA.

Keeping this in mind, the design of Tommy Thompson Park incorporates trails, lookouts and fishing nodes that can all be used without affecting the restoration work at the site.

The project led by TRCA also led to the creation of a community of practice that helped to successfully implement projects. Strategic partners included key players like Coca-Cola Canada, Toronto Water, Environment and Climate Change Canada, Fisheries and Oceans Canada, PortsToronto, and the local community.

## Lessons learned

- **Design with human use in mind:** People will create their access points to water, scenic lookouts or natural amenities. It is

important to recognize these human desires and offer opportunities for recreation and views in environmentally appropriate locations.

- **Design at the nexus of underwater and above water realms:** Waterfront construction and restoration offers opportunities to design for the underwater realm and provide or improve aquatic habitat. This can be done where the above-water and below-water realms meet, even with hardscaping (e.g., dock walls).
- **Collaboration is key:** By planning for multiple co-benefits, there is an opportunity to bring multiple partners to the table, which can increase funding opportunities and broader stakeholder buy-in. Complementary co-benefits can include wildlife habitat, water quality or quantity improvement, recreation and public greenspace, and active transportation connections.
- **Principle of conservation by design:** Through the purposeful act of supporting the natural regeneration of wetlands, meadows and shrub communities, the habitat now supports the increased biodiversity of fish and wildlife species. The adaptive cycle that is being utilized in the restoration techniques during the design process supports the creation and enhancement of terrestrial and aquatic habitats.

