

Sympathetic Landscapes: an aesthetics for the Leslie Street Spit

by

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I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

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ABSTRACT

The Leslie Street Spit is a five kilometre rubble breakwater on the eastern waterfront of Toronto. Built during the mid-twentieth-century as an infrastructural add-on to the existing Port Lands Industrial District, the artificial peninsula was a lakefilling project made to realize the city's ambitious desire for economic prosperity and world-class prestige by expanding its existing harbour facilities. With the decline of Toronto's shipping industry, the Leslie Spit remained an active dump site for urban clean fill until it was unexpectedly colonized by flora and fauna during the 1970s. The site is now recognized as an important local and international environmental resource.

Visitors to the Leslie Spit experience a diverse landscape of ecosystems and industrial rubble held by the city as a symbol of environmental revival within a former industrial region undergoing another phase of urbanization. While the local aesthetic experience of the headland is pleasurable and aligns with the reinvention of Toronto as an environmentally conscious and sustainable city, human visitors remain psychologically and physically removed from the inhabiting non-human life. Occasionally, the desire to conserve and preserve the natural world requires a separation between humans and non-humans.

This relationship is carried out in varying degrees on the Leslie Spit. This thesis documents events at the headland where the human/non-human divide is rigidly enforced or left ambiguous. The purpose of the thesis is not to treat the headland as an eccentric spectacle, but to investigate the unexpected coexistence between humans and non-humans.

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Fig. 1.1: Municipal site plan of Toronto Region highlighting Leslie Street Spit.

An aerial of the Toronto region with the Leslie Street Spit highlighted in a red circle.

INTRODUCTION

The Leslie Street Spit is a rubble breakwater projecting southward off the end of Leslie Street along the eastern waterfront of Toronto. The use of “spit” to describe the headland is a colloquial misnomer because unlike the Toronto Islands to the west, it is not a natural geological feature, but an artificial landscape produced by over fifty years of urban lakefilling. The site is officially known as the Outer Harbour Eastern Headland; it was originally intended to be a harbour breakwater outside of Toronto’s Inner Harbour. However, since the decline of the city’s shipping industry, the Leslie Spit has devolved into a dump-site that—by the miracle of successional ecology—is now a public park.

The headland was built through the practice of lakefilling. This technique is common throughout the Great Lakes Region because the urban density of cities like Toronto restricts on-site disposal of excavated soil and construction waste material. Unlike the suburban sprawl at its periphery, the City of Toronto must rely on lakefilling as an inexpensive form of waste disposal and land production. Professor of architecture and urbanism, Pierre Belanger states that despite the unique social, ecological and historical aspects of the Leslie Spit, the site is a generic landscape typology common amongst many coastal cities throughout the Great Lakes Region.¹ While the headland appears to be an inevitable byproduct of regional industrialization, this reading mystifies the specific social, ecological and historical relations between the site and the City of Toronto. However, the physical landscape of the headland presents an eccentric history that denies any sense of passivity. The thin rubble crust that stretches south into Lake Ontario is a product—what professor of

¹ Belanger, Pierre. “Landscape Infrastructure.” *Landscape Journal*. 28:1 (2009): 79-95. Print.

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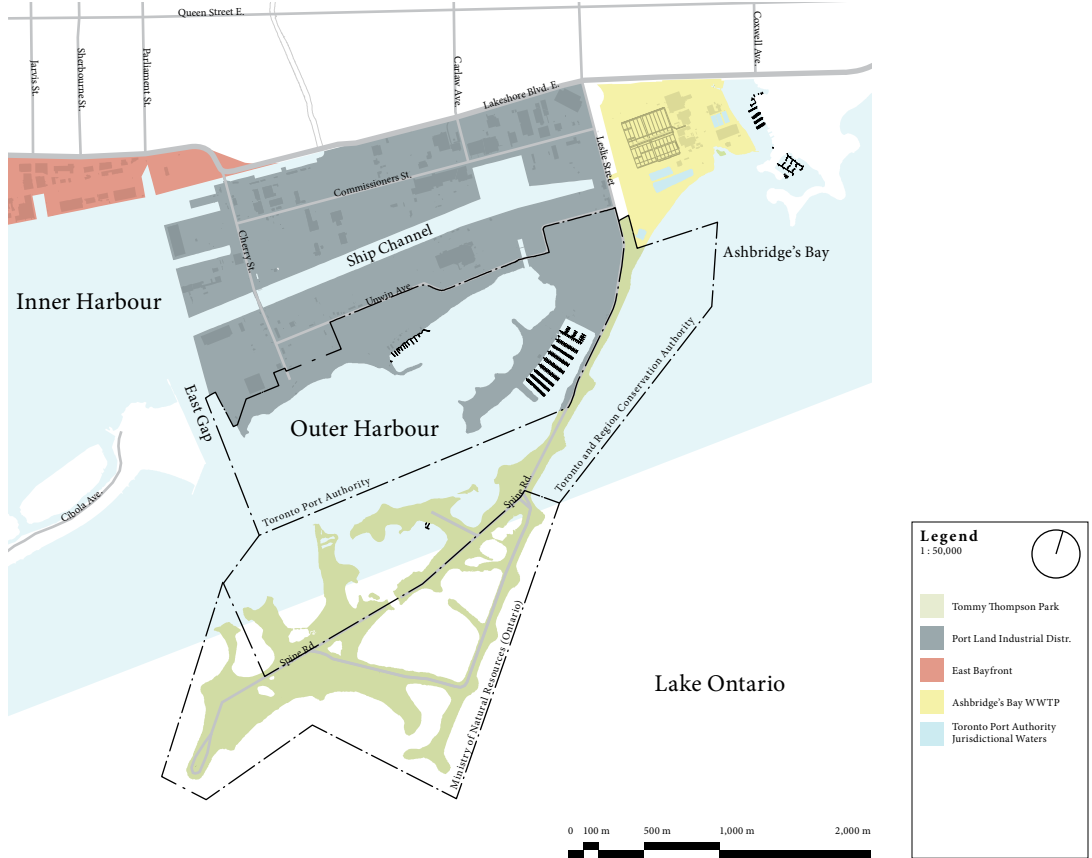


Fig. 1.2: Site plan of site with jurisdictional boundaries.

The Leslie Street Spit is an intersection between many different territorial and jurisdictional boundaries. The name Leslie Street Spit is used to describe the physical landscape south of Unwin Street. Initially identified as the Outer Harbour Eastern Headland, the Leslie Spit is now known as Tommy Thompson Park. The current urban designation accounts for most of the Leslie Spit apart from the area known as the baseland. The park itself is divided into two areas. One is managed by the Toronto and Region Conservation Authority (former the Metropolitan Toronto and Region Conservation Authority) while the other is leased to the Toronto Port Authority (formerly the Toronto Harbour Commissioners). The entire headland is owned by the Ontario Ministry of Natural resources.

geography Erik Swyngedouw describes as ‘socio-nature’—made from human and non-human activities. In other words, it is a place of participation.

The key paradigm of the post-industrial waterfront of Toronto in twenty-first century is in its ecological recovery and management. The Toronto Region Conservation Authority (TRCA) and the Friends of the Spit (FOS) believe that the Leslie Spit is valuable solely because of its recent colonization by flora and fauna. Consequently, the social origins of the headland have been largely ignored at the expense of being an environmental amenity for public recreational purposes. Historically, the urban residents of Toronto used to have an integral social and economic connection with their waterfront; the bay was a place for quotidian and recreational activities. In the latter half of the twentieth century, a complete reprogramming on the city’s waterfront transformed the shoreline into a weekend destination for leisure recreation.² The Leslie Spit partially embodies these values through its compartmentalized programming as a restricted construction site on the weekdays and a public environmental reserve on the weekends—nature and city are psychologically separated despite inhabiting the same space. An appearance of naturalization hides the substantial consequences of lakefilling underneath a thin layer of ecology. The excess of urban development is an externality—an ‘outside’—within society’s perceptual framework.

This rigid dualism between human and non-human spaces is only exclusive to humans. This separation creates utopian ideals like ‘Nature’ and ‘wilderness’ whose conceptual ‘purity’—their very non-humanness—reinforces a sense of security.³ However, the headland is not unique for its perceived differences, but its unseen inconsistencies. The Leslie Spit profoundly influences the hydrological, ecological and social processes of the Toronto waterfront. This is why the perceptions of the Spit as a natural preserve are of little importance within the context of ecology and the complicated coexistence between human and non-humans. ‘Nature’—the Western social construct offering humans a consistent and coherent vision of the natural world as a non-human realm—is an ontological condition whose conceptual conceits are susceptible to inconsistencies. Fortunately, what is or is not natural speaks little about the relations between things.

² Reeves, Wayne C. *Visions for the Metropolitan Toronto Waterfront. II: Forging A Regional Identity, 1913-68*. Major Report No. 28. Toronto: Centre for Urban and Community Studies, University of Toronto, 1992. Print.

³ Zizek, Slavoj. “The End of Nature.” *The New York Times*. 2 Dec. 2010. Web. 16 Nov 2011.

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Fig. 1.3: Map of Leslie Street Spit Land Ownership.

The Leslie Spit is divided into three areas: the Baselands, the Tommy Thompson Park and the Endikement. The Baseland is west of Spine Road near Unwin Avenue. This area is separated into three properties that are owned separately by the Toronto Port Lands Company, the city, and the Toronto Port Authority. The 247 hectares of water and land of Tommy Thompson Park is owned by the Toronto Region Conservation Authority. However, areas like the Endikement that are still under construction are owned by the Ontario Ministry of Natural Resources and leased to the Toronto Port Authority to manage lakefilling activities. In 2013, ownership of this 224 hectare area will be transferred to the conservation authority.



Fig. 1.4: The Important Bird Area and Environmentally Sensitive Area boundaries

The Important Bird Area (IBA) of Tommy Thompson Park supports a globally and nationally significant number of colonial waterfowl; Black-crowned Night-Heron, Ring-billed Gull, Double-crested Cormorant and Common Tern, and the large concentration of songbirds.

The area covers approximately 700 ha and is set at an elevation of 0m. The habitat composition of the area is comprised of 5% temperate deciduous woods, 8% scrub, 32% freshwater bodies, 16% rocky flats, 19% urban parks, and 20% other habitats.

The decision by the TRCA and FOS to hide or remove any sign of the headland's social origins is questionable. The landscape of the Leslie Spit adheres to a 'non-design' aesthetic that emphasizes its naturalism through appearance of raw wildness; the more unkempt the headland appears, the more authentic and legitimate it becomes. The FOS believe that architecture is a sign of human hubris that distracts visitors from the surrounding landscapes. As a result, the environmental shelter by Montgomery Sisam Architects (MSA) suppresses its appearance as a building by hiding underneath a robust green roof. Furthermore, the environmental shelter is a framing device designed to teach visitors how to look at the natural landscapes beyond, emphasizing the concept of Nature by bringing it into focus. However, the negation of architecture does not necessarily produce a more honest or accurate representation of the non-human, but limits another form of expression from which to mediate the complicated relations between humans and non-humans.

A new aesthetics, poetics or spirituality is needed to acknowledge the uneasy ecological coexistence between two isolated ontological categories. This is what is described as sympathy. Architecture can create 'sympathetic' relations—in the literal sense, to "suffer with"—from which humans can feel for and with non-humans. The elliptical readings of the headland's eccentric details and minutia tries to open up the landscape beyond its conceptualization as an antithesis to society.

The first chapter is a historical survey of the headland as an infrastructural extension of the Industrial Port Lands. This narrative provides the social context for the headland as a product and producer of urban development. The second chapter details the process of lakefilling, confined disposal facilities and ecological construction. All three processes have unexpected consequences of the Leslie Spit has on the Toronto waterfront. The third chapter examines examples of socio-nature—instances where the human and non-human divide temporarily collapses—through the Double-crested Cormorant and the recently completed environmental shelter. This last chapter explores the constant uncertainty surrounding ecology—its contingency to and with humans—at face value. The Leslie Spit becomes a frontier of the always changing, not a solid edge to preserved, but one that is constantly shifting and changing.

BUILDING THE EASTERN WATERFRONT

In the opening pages of his 2007 novel, *Consolation*, author Michael Redhill characterizes the modern advancement of Toronto's shoreline as a "city, walking on water" where buildings seem to spur out of the ground like weeds.¹ There is a wild vitality associated with lakefilling—the act of land creation is symbolically charged with a speculative dream promising growth and substantial gain from what does not yet exist. The desire for global significance has driven the city to permanently alter its waterfront; a median of rubble fill now sits between the city and the lake. This dream of economic prosperity and world-class prestige is at the forefront of every modern vision of the Toronto waterfront. Currently, the city has rationalized the history of its waterfront development in a dualistic narrative between two successive phases of development. The first phase involves Toronto's rapid industrialization during the late nineteenth century to the late twentieth century. The second era is still ongoing and is characterized by a radical shift towards environmental conservation and modernization.

More than a century removed, the industrialization of Toronto's waterfront is held responsible for destabilizing the ecology and hydrology of the city's natural shoreline. The current period is a redemptive, but critical alteration of Toronto's past urbanization. The 'errors' of the past are being actively remedied with new large-scale environmental sensitive development. The Lower Don Lands redevelopment project by Michael Van Valkenburgh Associates is the clearest example of this methodology.

¹ Redhill, Michael. *Consolation*. Anchor Canada. 2006: 2. Print.
The Friends of the Spit use a similar metaphor—"create a piece of land and schemes will sprout like mushroom after rain"—to describe how the Leslie Spit is frustratingly under the constant threat of development.



Fig. 2.1: Winter scene on Toronto Bay, looking from Taylor's Wharf looking east towards Gooderham & Worts' windmill, 1835.

A watercolour painted in 1835 by John George Howard. The view is from Taylor Wharf, the wood dock in the foreground on the lower left corner, looking east to the Gooderham & Worts' windmill and the Ashbridge's Bay on the far shore. The scene portrays Torontonians making use of the frozen waters of the Toronto Bay during the winter; men in the foreground are shown cutting ice blocks for the summer while others are sleighing, skating and walking.

The dreams of urban grandeur are still prevalent and above reproach, albeit under a different guise. Due to a relatively high building density and lack of accessible landfills, the urban centre of Toronto continues to extend its borders south. This has heavily influenced the desire to “reconnect with the lake” by reaching out to it rather than drawing it into the city itself. There was once a time when the daily lives of Torontonians were intimately connected with Lake Ontario. The original shoreline that once existed at Front Street was a place for work and recreation [fig. 2.1]. This diversity and complexity no longer physically exists on the Toronto waterfront nor is it envisioned in any of its reimaginings.

This chapter tries to position the Leslie Street Spit within Toronto’s legacy of additive waterfront growth. The headland is a vector of growth outwards from Toronto. This directionality is important to understand the physicality of its artificial landscape—its limits and potentials—and why the urban branding of “public urban wilderness” is so persuasive. However, first a historical overview of the Leslie Spit is needed to set the context for how these ideas formulated.

The Harbour Commissioners and the 1912 waterfront plan

In the latter half of the nineteenth-century, Toronto dramatically improved its civic and economic standings as a financial, commercial and secondary manufacturing centre amongst other cities within the Great Lake Region.² Relative to other neighbouring cities, Toronto was late to industrialize. The city followed Montreal’s example by developing of its waterfront properties east of the Don River into a leading industrial centre. Conducted at the tail end of Toronto’s strongest era of social reform, the waterfront development demonstrated the economic potential and financial solidarity of the city’s private sector.³ However, this urban project was inhibited by three conditions that arose during Toronto’s rapid industrialization. First, the city harbour was incompetently run by a largely inactive Harbour Trust and a self-interested municipal government that were both incapable of overseeing a large-scale development project. Second, the railway companies had privatized the majority of the waterfront to monopolize on freight and passenger transportation. The continuous ribbon of tracks owned by the

² Desfor, Gene, Michael Goldrick & Roy Merrens. “A Political Economy of the Waterfrontier: Planning and Development in Toronto.” *Geoforum*. 20:4 (1989): 488. Print.

³ *ibid.*



Fig. 2.2: Summer crowds crossing tracks at Bay Street, 1912,

This photo shows the wide railway crossing that divides the city from the lake. This is one of the conditions that resulted after the railway companies took over the majority of Toronto's waterfront properties.

railway companies limited the available space needed for industrialization and obstructed the public and commercial access to the water's edge integral to the civic well-being of Toronto citizens.⁴ Lastly, after years of draining raw human sewage, and agricultural and industrial waste directly into the waters of the Ashbridge's Bay, the once vibrant marsh land had become an unsanitary cesspool viewed by the public as a health and safety hazard.

The Toronto Harbour Commissioners (THC) was founded in 1911 as a federal port agency independent of the Toronto city council and outside of provincial law. Unlike the nine other harbour commissions in Canada, the THC was unconventional in that its authority did not derive from the national legislation governing Canada's ports and harbours nor was it subject to the environmental assessment and financial accountability of federal legislation. Responsible for much more than the name commission implies – harbour management was only a secondary concern – the THC was a development agency with the corporate constitution to “own, lease and sell land and to raise required financial resources.”⁵ Rather than setting legislative policies, the commission used an action-orientated strategy.⁶ With the jurisdiction of virtually all the properties of the city's urban waterfront, the THC was work “in the public interest” through development and land production.⁷

Within less than a year after its establishment, the THC produced for the City the *Toronto Waterfront Development, 1912-1920*, a speculative strategy to comprehensively change its entire waterfront between the Humber River to the west and Woodbine Ave to the east. The 1912 plan prominently featured the construction a new industrial district for manufacturing and warehousing built over top of the existing Ashbridge's Bay. The lakefilling circumvented the issue of limited space and sanitation. Even for its massive scale and short design period, the 1912 waterfront plan was approved by three levels of government without major revisions or delays and enthusiastically endorsed by both public and local press as “exciting and attractive.”⁸ The uncontested acceptance and

4 Greenberg, Ken and Gabriella Sicheri. *Toronto's Moveable Shoreline*. Working Paper no. 5, Canadian Waterfront Resource Centre. Toronto: Royal Commission on the Future of the Toronto Waterfront. 1990: 4. Print.

5 Desfor, Gene, Lucian Vesalon, & Jennefer Laidley. “Establishing the Toronto Harbour Commission.” *Reshaping Toronto's Waterfront*. eds. Gene Desfor & Jennefer Laidley. Toronto, Buffalo, London: University of Toronto Press. 2011: 59. Print. *Toronto Star Weekly*. 1931. “Two Harbors for Toronto!” 14 March: 1.

6 O'Mara, James. *Shaping Urban Waterfronts: The Role of Toronto's Harbour Commissioners, 1911-1960*. Discussion paper no. 13. Toronto: Department of Geography, York University. 1976: 31. Print.

7 Desfor, Gene. *Urban Waterfront Industry: Planning and Developing Green Enterprise for the 21st Century*. Toronto: Royal Commission on the Future of the Toronto Waterfront. 1990: 9. Print.

Royal Commission on the Future of the Toronto Waterfront. *Interim Report*. Ottawa: Minister of Supply and Services Canada. 1989: 101. Print.

8 Desfor, Gene. “Planning Urban Waterfront Industrial District: Toronto's Ashbridge's Bay, 1889-1910” *Urban History Review*. 17:2. (1988): 77. Print.



Fig. 2.3: Toronto's 1912 waterfront master plan, 1912.

Despite its scale, the 1912 plan was a conservative masterplan that amalgamated many widely accepted master planning ideas and techniques. The pink shaded area to the right indicates the the proposed industrial district while the green indicates the proposed parklands. Only a small portion of the Ashbridge's Bay remained between the new reclaimed land and Woodbine Avenue.

broad public appeal of the plan was partially due to its wholesale aggregation of design elements and ideas taken from the City's earlier waterfront plans. Many of these concepts like filling in the Ashbridge's Marsh for cheap industrial real estate were already accepted as conventional wisdom.⁹ To finance the construction of the Port Lands, the THC issued a \$25 million in debentures—today's equivalent of approximately \$500 million Canadian dollars—on the assumption that the firms located on the Port Lands would “generate a need for more shipping and an expanded harbour; and increased shipping tolls and land rents would repay the expense of constructing the industrial land.”¹⁰ Observing the urban waterfront developments of other North American cities like New York, Chicago and Pittsburgh, the THC concluded that the highest revenues in land sales and property taxes were in manufacturing and shipping. The agency allotted two-thirds of the Port Lands waterfront to private industrial development while the shipping industry and proposed public park lands were left to be “subordinate to the issue of private development.”¹¹

A public campaign headed by the Board of Trust articulated a “waterfront problem” to convince the public in the 1911 referendum of the necessity for the THC. Part of the campaign centred on perceiving the Ashbridge's Bay as a dangerous cesspool that needed to be filled in. Ignoring the reduced circulatory flow caused by man-made landscape interventions and the discharge of industry and urban waste in its marshland, the Ashbridge's Bay became a public-health issue that exploited and further mystified the public hysteria surrounding cholera.¹² This fear facilitated the desire for an urban development that promised a cleaner and brighter future – “hygiene is the modern project's supreme act.”¹³ Engineer Kivas Tully qualified the Ashbridge's Bay, as an endemic source of cholera; “a positive evil” whose reclamation would be a beneficial profit for the city.¹⁴ This attitude was typical of the early industrial era; nature was an imperfect and terrifying

O'Mara, James. *Shaping Urban Waterfronts: The Role of Toronto's Harbour Commissioners, 1911-1960*. Discussion paper no. 13. Toronto: Department of Geography, York University. 1976: 36. Print.

9 Desfor, Gene. “Planning Urban Waterfront Industrial District: Toronto's Ashbridge's Bay, 1889-1910” *Urban History Review*. 17:2. (1988): 77. Print.

10 Desfor, Gene, Lucian Vesalon, & Jennefer Laidley. “Establishing the Toronto Harbour Commission.” *Reshaping Toronto's Waterfront*. eds. Gene Desfor & Jennefer Laidley. Toronto, Buffalo, London: University of Toronto Press. 2011: 54-66. Print.

11 O'Mara, James. *Shaping Urban Waterfronts: The Role of Toronto's Harbour Commissioners, 1911-1960*. Discussion paper no. 13. Toronto: Department of Geography, York University. 1976: 37. Print.

Toronto Star Weekly. 1931. “Two Harbors for Toronto!” 14 March: 1.

12 Desfor, Gene, Lucian Vesalon, & Jennefer Laidley. “Establishing the Toronto Harbour Commission.” *Reshaping Toronto's Waterfront*. eds. Gene Desfor & Jennefer Laidley. Toronto, Buffalo, London: University of Toronto Press. 2011: 58. Print.

13 Lahiji, Nadir and D. S. Friedman. 1997. “Introduction.” *Plumbing: Sounding Modern Architecture*. New York: Princeton Architectural Press. 1997: 7. Print.

14 Jackson, Paul S.B. “From Liability to Profitability: Ashbridge's Bay.” *Reshaping Toronto's Waterfront*. eds. Gene Desfor & Jennefer Laidley. Toronto, Buffalo, London: University of Toronto Press. 2011: 88-89. Print.

Patriot. 1853. 10 February.



Fig. 2.4: Ashbridge's Bay looking northeast from north bank of cut, 1904.

Taken in 1904, this is one of the few photos that shows Ashbridge's Bay before it was filled in. In the nineteenth century, wetlands were regarded as stagnant cesspools that were responsible for germinating local diseases. Despite being vibrant ecological habitats for flora and fauna, the Ashbridge's Bay was considered by early Torontonians as unhealthy places festering with disease. While this perspective is not unfounded; those who lived near marshes did get sick, the reason explaining the illness was often misunderstood. Marshlands were sometimes referred to as miasmas; landscapes that were inherently poisonous. This view completely ignores the real reasons behind the poor conditions of the Ashbridge's Bay. The marsh was considered immovable, until the 1930s, when the city declared that the marsh could be completely removed with the construction of the Port Lands Industrial District. At the time, the loss of the marsh was considered a progressive move towards a healthy, sanitized city.

wilderness that required the civilized, domesticated touch of western society to transform it into a productive and inhabitable territory.¹⁵

World Wars, land sales, and the beginning of the Outer Harbour

Construction for the Port Lands Industrial District began in 1914 and ended in the 1940s, two decades after its scheduled date of completion. The outbreak of World War I pressured the commissioners to hasten the reclamation of the Ashbridge's Bay to produce more land for munitions factories. However, shoddy land production depleted the board's initial debenture and the THC had to refinance in 1916.¹⁶ By 1918, the THC had suffered considerable financial losses that were further exasperated when the expected industrial development activity did not materialize during the sluggish peacetime economy.¹⁷ Only after the victory of World War II did the Port Lands experience a massive resurgence of industrial activity. Mindful of the economic downturn and the Great Depression that followed World War I, the THC, determined to profit in any manner possible, promoted their development policies as never before.¹⁸

Beyond the lack of economic activity on the waterfront during the inter-war years, the pressure on the THC to alleviate losses through one-time only revenues selling land on a piecemeal basis provided diminishing returns, undermined the civic integrity of 1912 plan, and would continually obstruct future urban development in the twenty-first century.¹⁹ Throughout its 75 years of operation, the commission has always been selling land – it was the basis of its financial and institutional independence – and the decision by the city council to sell 1.6 hectares of land to Imperial Oil Ltd. in 1917 set a precedent “that selling publicly owned waterfront land was permissible.”²⁰ In

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- 15 Tuan, Yi-Fu. "Wilderness." *Topophilia: A Study of Environmental Perception, Attitudes and Values*. New York: Columbia University Press, 1974: 109-112. Print.
- Krieger, Martin H. "What's Wrong with Plastic Trees?" *Science*. 179:4072 (1973): 448. Print.
- Kaika, Maria & Erik Swyngedouw, "Fetishizing the Modern City: The Phantasmagoria of Urban Technological Networks." *International Journal of Urban and Regional Research*. 24:1 (2000): 121. Print.
- 16 O'Mara, James. *Shaping Urban Waterfronts: The Role of Toronto's Harbour Commissioners, 1911-1960*. Discussion paper no. 13. Toronto: Department of Geography, York University. 1976: 38-39. Print.
- 17 Desfor, Gene. *Urban Waterfront Industry: Planning and Developing Green Enterprise for the 21st Century*. Toronto: Royal Commission on the Future of the Toronto Waterfront. 1990: 4-9. Print.
- Desfor, Gene, Lucian Vesalon, & Jennefer Laidley. "Establishing the Toronto Harbour Commission." *Reshaping Toronto's Waterfront*. eds. Gene Desfor & Jennefer Laidley. Toronto, Buffalo, London: University of Toronto Press. 2011: 67. Print.
- 18 O'Mara, James. *Shaping Urban Waterfronts: The Role of Toronto's Harbour Commissioners, 1911-1960*. Discussion paper no. 13. Toronto: Department of Geography, York University. 1976: 49. Print.
- 19 Desfor, Gene & Jennefer Laidley. "The Waterfront's Sad History of Errors." *The Toronto Star*. 2011. Web. February 13, 2013.
- 20 Desfor, Gene. *Urban Waterfront Industry: Planning and Developing Green Enterprise for the 21st Century*. Toronto: Royal Commission on the Future of the Toronto Waterfront. 1990: 9. Print.
- Desfor, Gene, Michael Goldrick & Roy Merrens. "A Political Economy of the Waterfront: Planning and Development in Toronto." *Geoforum*. 20:4 (1989): 495. Print.



Fig. 2.5: Plan of the 1928 Revision by the THC of the 1912 waterfront plan, 1928.

The site plan indicates the plans of the THC to take back the city-owned parklands along the southern edge of the Portlands Industrial District. The three mile by 1000 foot parcel of land was given to the public as an incentive for supporting the THC and the 1912 waterfront plan. However, by the 1920s the THC believed that the parcels of parkland had outlived their usefulness because they did not produce revenue. The commissioners proposed developing the lots into port and industrial facilities that would make existing Port Land properties attractive to interested firms.

1928, the THC revised the 1912 waterfront plan to persuade the City to sell and rezone the two large parcels of parkland remaining on the Port Lands [fig. 2.7]. The two properties were recreational spaces influenced by the ‘City Beautiful’-inspired city plans proposed in 1905, 1909 and 1911. The two properties formed a 1,000 foot wide by three mile long strip parkland at the water’s edge. It was bequeathed to the public in return for their support of the THC and the 1912 plan. While the land parcels were a much-valued amenity to the city [fig. 2.8-9], the two properties had long outlived their usefulness for the THC because they neither produced revenue or a saleable commodity with high yields.²¹ Met with much public resistance, the city initially turned down the revision until 1949 when they sold the land to the THC.²² Nothing came of these sites – one remained undeveloped and the other had a mothballed electric generating station built – but the sales laid the ground work for realizing the Outer Harbour Eastern Headland at the end of the 1950s.²³

Post-war prosperity and over extension

The 1950s were an decade of sustained growth for both the city and the THC; the first five years land sales and leases had reached a record high. After the economic lull of the past two decades, the THC were determined to maximize profits. The idea for an Outer Harbour was first introduced in the 1920s and subsequently revisited throughout the decades, but the city remained unconvinced for the need of more harbour facilities. In 1960, the city was finally convinced by the THC that the Outer Harbour would increase the “flexibility and financial capabilities of the Port.”²⁴ The THC never considered the Outer Harbour a goal in itself; it was a method for making the Port Lands Industrial District more attractive in marketing terms.

The Outer Harbour first required the construction of a breakwater sheltering a body of water. The THC began constructing the breakwater in 1959 without any predetermined development programme or specific goal.²⁵ There was no certainty about the headland—what form it was

21 Merrens, Roy. “Port Authorities as Urban Land Developers: The Case of the Toronto Harbour Commissioners and their Outer Harbour Project, 1912-1968.” *Urban History Review*. 17:2 (1988): 26. Print.

22 Desfor, Gene, Michael Goldrick & Roy Merrens. “A Political Economy of the Waterfront: Planning and Development in Toronto.” *Geoforum*. 20:4 (1989): 488-489. Print.

23 *ibid.*

24 Merrens, Roy. “Port Authorities as Urban Land Developers: The Case of the Toronto Harbour Commissioners and their Outer Harbour Project, 1912-1968.” *Urban History Review*. 17:2 (1988): 99. Print.

25 *ibid.*: 95-99.



Fig. 2.6: Urban residents enjoying the Leslie Beach during the end of summer, 1935.

The photo was taken on August 19, 1935 by Arthur Goss. It shows the Leslie Beach before it was lost to the construction of the Leslie Street Spit in 1959. From the photo, the beach appears to be a vibrant local destination for urban residents hoping to escape the hot summer weather. It is understandable why the plans to expropriate the properties from the city was met with much public resistance.

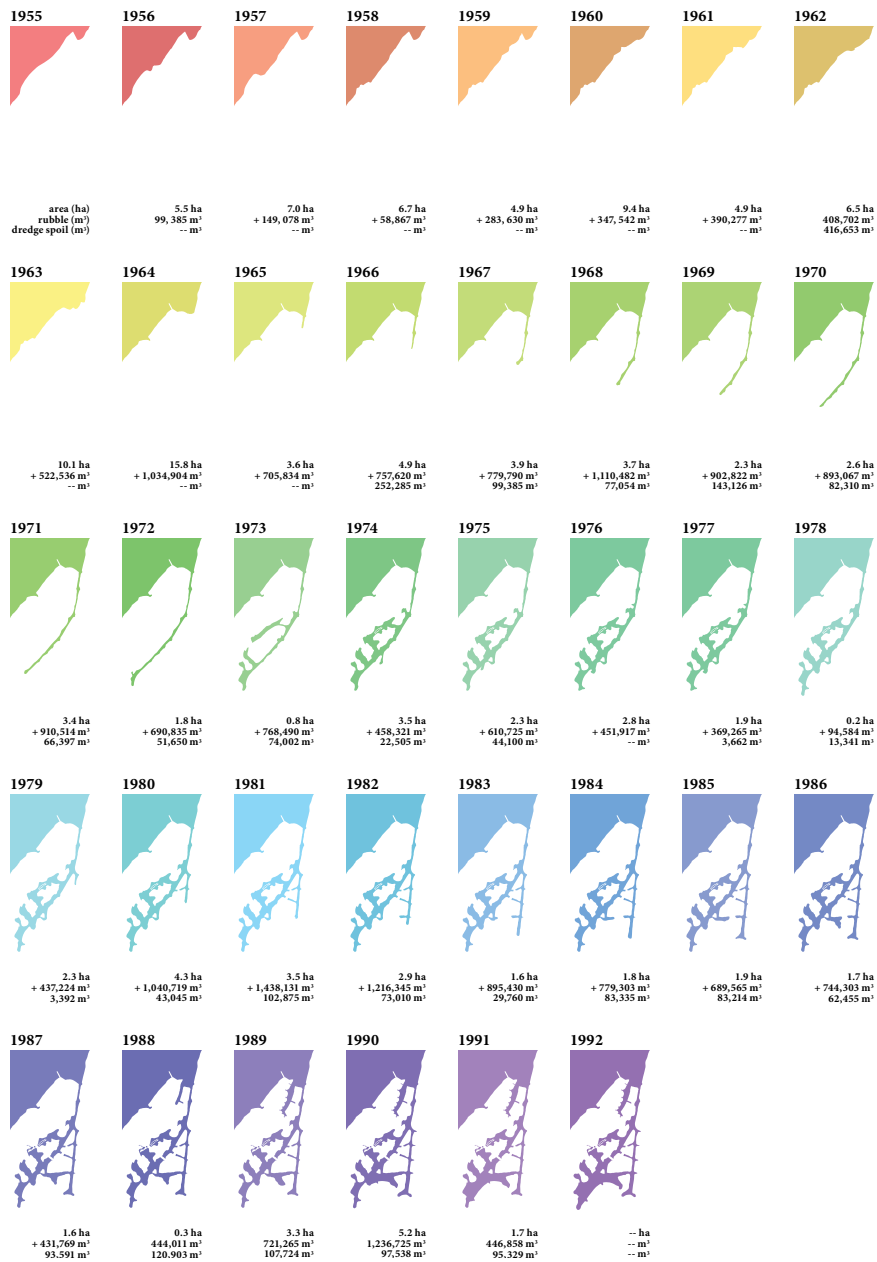


Fig. 2.7: Diagram of annual growth of Eastern Headland between 1959-1992, 1989.

Diagram by author illustrating the existing and projected terrestrial growth of the Leslie Street Spit from 1959 to 1992.



Fig. 2.8: Illustration of Outer Harbour in the Toronto Star Weekly, 1931.

The illustration was in the Toronto Star Weekly on March 14, 1931. Notice the initial design of the Outer Harbour that required two breakwaters. The darker, black regions indicate existing reclaimed land. The article has an important interview with THC engineer Edward L. Cousins where he states that the Outer Harbour was not a critical component to the revised 1912 plan. The Outer Harbour was supposed to encourage industrial and commercial development while harbour activities were secondary. In the 1960s, there was no indication that Toronto needed a new harbour. Much like the Port Lands, images of the Outer Harbour were visually striking but offered no substantial means as to how it would be realized or what impact it would have on the community and environment as a whole.¹

¹ O'Mara, James. *Shaping Urban Waterfronts: The Role of Toronto's Harbour Commissioners, 1911-1960*. Discussion paper no. 13. Toronto: Department of Geography, York University. 1976: 36. Print.

to take, how much time was needed to build it and by what methods to do so; construction was ad hoc and on a trial-and-error basis.²⁶

The lack of planning barely hindered the THC; the agency reclaimed approximately one hundred and twenty acres of land in five years. This was a testimony to pragmatism and flexibility of the project; growth was driven by the constant supply of construction materials in need of disposal. It is assumed that the THC hastily began construction to take advantage of the large influx of unwanted demolition material, excavated earth and unwanted construction rubble generated by downtown urban operations.²⁷ The Eastern Headland was essentially of a lakefill dumping programme that serendipitously resulted in a breakwater. The free material reduced raw material costs and sidestepped the need for federal funding.

The commission formulated an official plan in 1965 on basic shape and method for building the outer harbour.²⁸ By dumping earth, brick and large rubble into Lake Ontario, the THC refined the process of deep-water harbour mole construction. Moles are massive stone walls designed so that water cannot flow freely underneath. They are constructed at sea and used to enclose and protect an anchorage or harbour.

As a massive land production that would permanently alter the littoral transport of the Toronto Region, the construction of the headland attracted virtually no attention from the public because of its location at the periphery of Toronto and the tightly controlled public relations of the THC.²⁹ The commissioners were not initially forthcoming with their plans for the Outer Harbour. The THC informally disclosed to the public vague ideas of using the Outer Harbour for pleasure crafting and recreational water activities when waterfront industries began winding down in the mid-1960s [fig. 2.9]. The Outer Harbour plan was officially disclosed to the public in a 1968 presentation to the Metropolitan Toronto Waterfront Advisory Board by the Commission entitled *A Bold Concept for the Redevelopment of the Toronto Waterfront*. Referencing the title of its 1912 predecessor and sharing the heroic, high-tech architectural iconography as Montreal's Expo '67, the new Toronto waterfront plan was both a product of its time and of earlier ideas [fig. 2.10]. The fulcrum of the plan was the reorganization of

²⁶ *ibid.*: 99.

²⁷ *ibid.*

²⁸ *ibid.*

²⁹ *ibid.* 100-101.

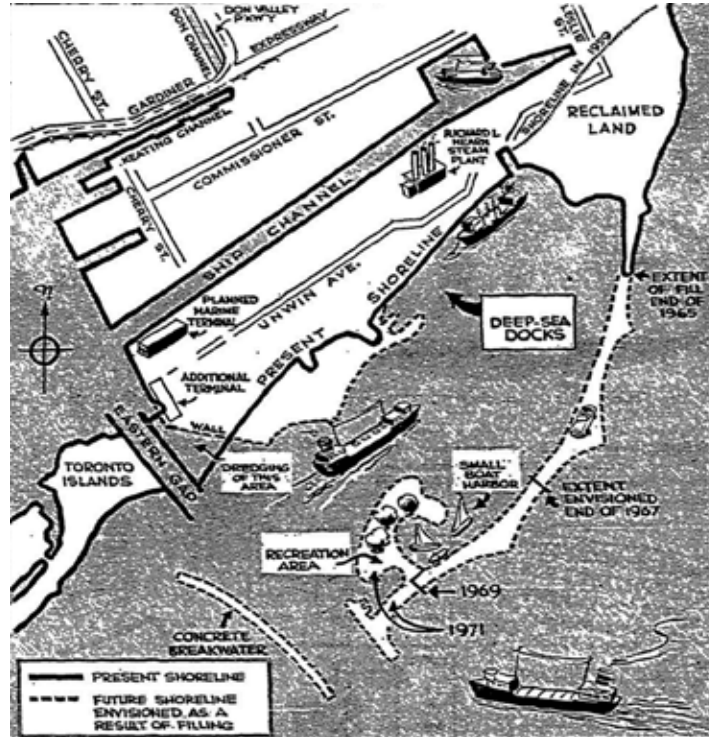


Fig. 2.9: Illustrations of future plans for the Outer Harbour, 1966.

This cartoony illustration was in the *Toronto Daily Star* on January 14, 1966. The outer harbour was advertised by the commissioners as being “dirt cheap.”¹ They projected that the harbour and its rubble breakwater could be built at a minimal cost of \$1,000,000: an amount estimated to be six percent of a conventional concrete breakwater. The breakwater would also permanently eliminate the annual need to dredge the neighbouring East Gap by deflecting westward alluvial currents.

The clarity and simplicity of the illustration identified the specific features of the scheme, reflecting its multi-purpose approach that addressed a broad range of interests. Described in the article as an “artificial Florida Key,” the breakwater was a deep-sea dock and a recreational area with a small boat harbour. The Outer Harbour was for business as well as pleasure. The project was also expected to be finished in 1971.

1 *Toronto Daily Star*. “Our new harbor is dirt cheap.” January 14, 1966. Print.

the central waterfront of Toronto involving three key features: the Outer Harbour, a new airport and Harbour City, a new 400-acre residential project of spacious, informally arranged apartment complexes linked by waterways and pedestrian pathways for 50,000 people [fig. 2.11].³⁰ Clearly, influenced by architect Moshe Safdie's "Habitat" project, the Harbour City was the economic keystone of the new waterfront plan whose implementation was contingent on relocating the existing island airport and port activities to the new modern facilities at the Outer Harbour and exterior of the Toronto Island. Using sophisticated dredging techniques for reclaiming large tracts of land and water, the city could transform valuable land assets adjacent to its downtown core into highly profitable commercial and residential real estates that are more compatible with the current trends of downtown development.³¹

However, the experimental 1967 plan and its dramatic ideas were hotly debated and never readily accepted by the public as the conservative 1912 plan. In spite of its optimistic vision, the arguments for implementing the 1967 plan were not based on "the intangible social values of a more beautiful metropolis, better recreational facilities, and enhanced civic pride" but the public assumption that the project promised high economic returns given the manufacturing emphasis of the THC.³² However, the agency had not determined the economic benefits of the new plan apart from specifying its nineteen million price tag. Nor did they consider how the aesthetic and recreational emphasis of the plan would help erode the status of waterfront industry.

During the 1970s and 1980s, the THC was again in financial difficulties because its operating revenues could not cover its numerous capital investments and mounting interest charges. The debt of the agency had increased from \$10 million in the 1970s to \$33 million in 1984.³³ The opening of the St. Lawrence Seaway in 1959 briefly invigorated the Port with an increase in shipping tonnage, but a decade later Toronto's shipping volume would stabilize and fall into sharp, unrecoverable decline.³⁴ Beyond the growing public desire

30 *ibid.*: 101.

Proctor, Redfern, Bousfield & Bacon, Consulting Engineers & Town Planners, *The Waterfront Plan for the Metropolitan Toronto Planning Area*. Toronto, 1967, 10. Print.

31 Reeves, Wayne C. *Visions for the Metropolitan Toronto Waterfront. II: Forging A Regional Identity, 1913-68*. Major Report No. 28. Toronto: Centre for Urban and Community Studies, University of Toronto. 1992: 79-93. Print.

32 *ibid.*: 94.

33 Desfor, Gene & Jennefer Laidley. "The Waterfront's Sad History of Errors." *The Toronto Star*. 2011. Web.

Toronto Harbour Commission *The Debt*. 1984. Print.

Desfor, Gene, Michael Goldrick & Roy Merrens. "A Political Economy of the Waterfront: Planning and Development in Toronto." *Geoforum*. 20:4 (1989): 495. Print.

34 Desfor, Gene, Michael Goldrick & Roy Merrens. "A Political Economy of the Waterfront: Planning and Development in Toronto." *Geoforum*. 20:4 (1989): 490-1. Print.

Gibb Albery, Pullerits, and Dickson. *Future Requirements of Canadian Harbours and Ports in Western Lake Ontario*. Ottawa Department of Park Works. 1969: 5. Print.



Fig. 2.10: Vignette of Harbour City, 1967.

The vignette shows how Harbour City draws on the heroic late-modernist aesthetic of Expo '67 in Montreal. Unlike the existing city, the residential development was designed to have an intimate connection with Lake Ontario.



Fig. 2.11: The proposed 1967 Toronto waterfront plan, 1967.

The plan illustrates the three main elements: the Harbour City, airports and the Outer Harbour. Without extensive dredging to create new land and modify existing bodies of water, the Harbour City would not be possible. Only when the existing airport and port facilities of the Inner Harbour were moved out to the exterior of the Toronto Bay could new residential development closer to the downtown be possible. Unlike the 1912 plan, this plan was based on experimental planning ideas that were largely untested. Many of the ideas like relocating the airport to the outer regions of the harbour were simply unfeasible or met with great resistance by local residents.

for a local recreational waterfront, the deindustrialization of the Port Lands can be attributed to a combination of global technological changes within shipping and manufacturing and the radically increasing land values of downtown Toronto.³⁵ The wholesale technological shift of transportation infrastructure in the 1950s to the use of massive shipping seaports, the invention of the shipping container and the distribution of goods through a national highway system structurally changed shipping practices and operations throughout North America.³⁶ Smaller localized harbour cities like Toronto proved redundant, obsolete and inefficient compared to the speed and versatility of the new transportation hubs and decentralized distribution networks. It was by great irony, that while persuading the City of Toronto for a new modernized Outer Harbour, THC were already sufficiently outpaced by the massive technological shift occurring throughout North America.

The Leslie Street Spit was a project that escaped the grasp of its makers—a sentiment that would become more prevalent the larger the headland grew. Uncertainty emerged from the realm of lakefilling; what would the headland become after it was built? The next chapter will begin to discuss Toronto's land reclamation process, its variables of uncertainty, and how the process directly effected the city's existing regional shoreline.

35 Desfor, Gene. *Urban Waterfront Industry: Planning and Developing Green Enterprise for the 21st Century*. Toronto: Royal Commission on the Future of the Toronto Waterfront. 1990: 16. Print.
Laidley, Jennefer. "The 'Ecosystem Approach' and the Olympics on Toronto's Waterfront." *Reshaping Toronto's Waterfront*. eds. Gene Desfor & Jennefer Laidley. Toronto, Buffalo, London: University of Toronto Press. 2011: 207. Print.
Reeves, Wayne C. *Visions for the Metropolitan Toronto Waterfront. II: Forging A Regional Identity, 1913-68*. Major Report No. 28. Toronto: Centre for Urban and Community Studies, University of Toronto. 1992: 93. Print.

36 Merrens, Roy. "Port Authorities as Urban Land Developers: The Case of the Toronto Harbour Commissioners and their Outer Harbour Project, 1912-1968." *Urban History Review*. 17:2 (1988): 101. Print.

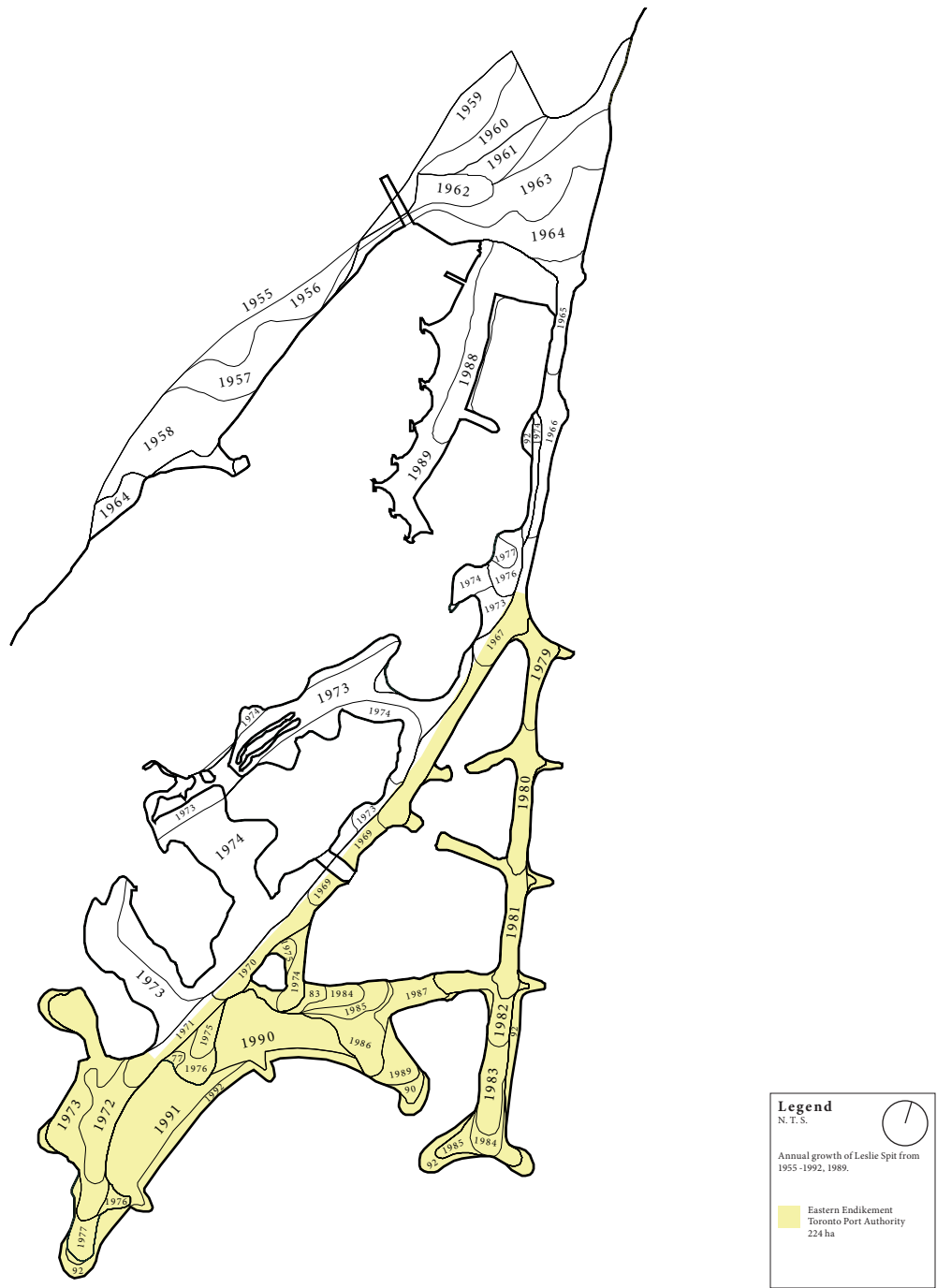


Fig. 3.1: Annual Growth of the Eastern Endikement up to 1989.

HUMAN TECHNICS: LAKEFILLING, DREDGING, CONTAMINATION AND ECOLOGY

This chapter focuses on four technical human operations involved with building the Leslie Street Spit: lakefilling, dredging, contamination management and ecological enhancement. The four operations can be divided into two subgroups; the first two activities are part of downtown Toronto's daily urban disposal operations while the latter two are concerned with the aftermath of the resulting accumulations. In the latter half of the twentieth century after the collapse of its shipping industry, the City of Toronto reorganized its urban waterfront operations towards a single productive outcome—the creation of new, clean land for ecological conservation. The chapter briefly surveys the different degrees of human control and intervention involved with this objective.

There is a growing uncertainty surrounding land production and the permanent alteration of the existing regional shoreline of Toronto. Lakefilling and dredging are both necessary operations to the city's urban waste management, but they are not optimal and occasionally cause more harm than good. Similarly, the containment of contaminated dredgeate within the Leslie Spit is an ongoing issue that is merely covered up in hopes that no future leakage occurs. Ecological preservation is a benefit, but the unpredictable succession of the Leslie Spit makes its protection difficult.



Fig. 3.2: Aerial of the southern tip of the Eastern Headland during construction.

An aerial of the southern tip of the Eastern Headland most likely taken in 1979. The photo shows trucks carrying construction material and excavated soil to continue the expansion of the breakwater and the construction of the elevated earth mound that would become the base for the existing automated lighthouse. On August 29, 1998, the city of Toronto would name the area Vicki Keith Point in honour of the famous female marathon swimmer who used the Leslie Spit for most of her landings after crossing Lake Ontario. A plaque located at 43° 36' 56" N, 79° 20' 34" W commemorates her numerous athletic and humanitarian achievements.



Fig. 3.3: Aerial of the sandy embayments at the Leslie Street Spit.

The embayments of the Leslie Street Spit were made primarily of sediment material dredged from the Inner Harbour, the Keating Channel and the East Gap between Ward Island and Cherry Beach. Notice the beginning of the endikement in the foreground of the photograph. Unlike the Eastern Headland, the endikement was a designed extension of the headland that incorporated rigid hydraulic infrastructures. It was an additional armature that was designed to protect the existing breakwater.



Fig. 3.4: Aerial of Leslie Street Spit while the Endikement is under construction.

During the construction of the endikement, the East Cove was initially used as the entrance into the interior cells. By 1987, the gap was eventually closed off and a boating channel was cut into Embayment C.



Fig. 3.5: Aerial of the southern tip of the Endikement.

This area would become known as Pipit Point, named after the song birds that now inhabit the area.

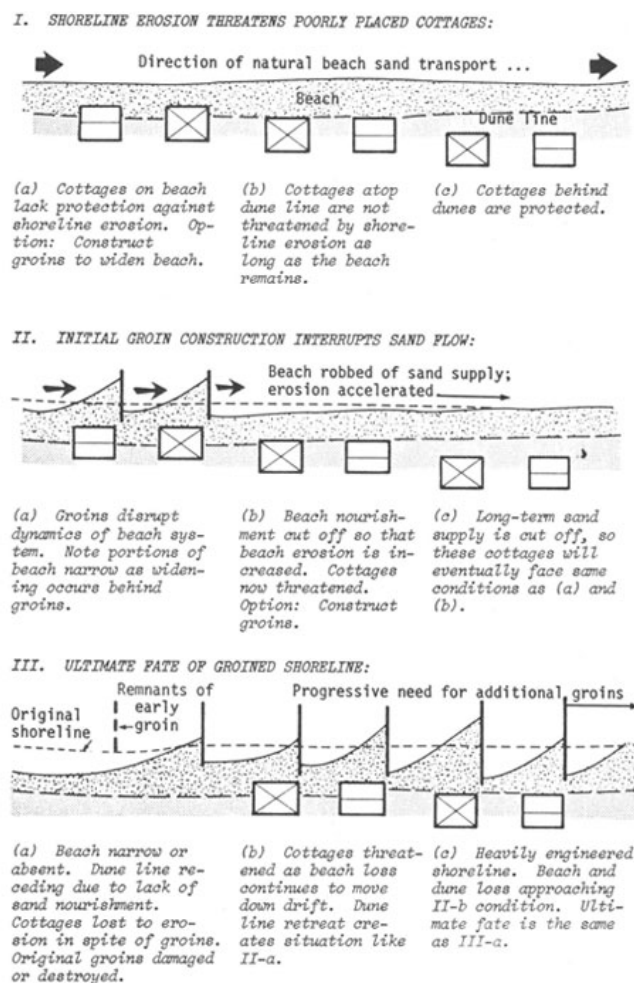


Fig. 3.6: Diagrams illustrating shoreline degradation caused by prolonged usage of groynes.

A groyne is a rigid hydraulic structure or barrier built along a coastal shoreline to reduce erosion and the transport of sediment material by littoral drift.¹ Typically made of wood, concrete or rock piles, groynes are arranged in a linear field to optimize their performance. However, groynes are not viable, long-term shoreline management solutions because they facilitate their own structural demise by accelerating erosion on its downdrift side. Earlier groynes are prone to fail as they become stranded offshore. Each additional groyne generates the need for more shoreline protection further down the coast. The only real solution is to not resist nature and retreat all urban development from the shoreline.

¹ Aquatic Habitat Toronto. Toronto Waterfront Aquatic Habitat Restoration Strategy. 2009. PDF File.

LAKEFILLING

Lakefilling is “the placement of solid material (e.g., loose earth, rubble, broken concrete) in or abutting a waterbody (lakes and rivers) to create structures for flood and erosion control (e.g., shoreline protection or stabilization works), land creation (e.g., waterfront parks and recreational boating facilities) and confined disposal facilities for dredging material.”¹ While getting rid of urban waste through lakefilling is not unique in the Great Lakes Region—many of its coastal cities have intensely modified their natural shorelines—the practice is an important phenomenon to downtown Toronto because high building density and land values makes surface disposal costly and difficult.² Lakefilling creates cheap premium waterfront property for urban development and the disposal of unwanted urban waste material with minimal haulage cost.³ Lakefilling allows Toronto to become indifferent to its construction waste: “We turn it into beaches, and spits. We build on top of it.”⁴ The Leslie Spit is responsible for transforming a portion of Lake Ontario into “a convenient inexpensive repository for large volumes of material excavated from downtown construction sites.”⁵

The Leslie Street Spit is the largest lakefill project structure in Lake Ontario. It was a product of three phases of lakefilling; a harbour breakwater, the four western peninsulas made of harbour dredgeate, and a rubble endikement [fig. 3.1-5]. The formal qualities of the original harbour breakwater were left physically unrefined without “dock walls, quays, piers, or berths, or any of the usual accoutrements of a harbour” to keep it flexible for urban development.⁶ On the other hand, the Eastern Endikement is an armoured breakwater composed of infrastructural elements—groynes, beaches, bulkheads, and cells [fig. 3.6]. The endikement was engineered to address the “potentially serious erosion situation” that threatened the structural integrity of the Eastern Headland.⁷ The endikement was positioned at an optimal bearing of N 5° E to protect the existing headland from the net wave energy of currents within

1 Hayton, A., D. Persaud, & R. Jaagumagi; Water Resources Branch, Ontario Ministry of Environment and Energy. *Fill Quality Guidelines for Lakefilling in Ontario*. Ottawa: Ministry of Supply and Services Canada. 1993: 1. Print.

2 Royal Commission on the Future of the Toronto Waterfront and Shoreline Regeneration Work Group. “Shoreline regeneration for the Greater Toronto Bioregion: a report.” *Publication*. 13. Toronto: Royal Commission on the Future of the Toronto Waterfront (Canada), 1991: 69. Print.

3 *ibid.*

4 Degen, John. “In Praise of Ugly.” *GreenTOPia: Towards a Sustainable Toronto*. eds. Alana Wilcox, et al. Toronto: Coach House Books. 2007: 43. Print.

5 Royal Commission on the Future of the Toronto Waterfront. *Regeneration: Toronto’s Waterfront and the Sustainable City Final Report*. Ottawa: Ministry of Supply and Services Canada. 1992: 156. Print.

6 Merrens, Roy. “Port Authorities as Urban Land Developers: The Case of the Toronto Harbour Commissioners and their Outer Harbour Project, 1912-1968.” *Urban History Review*. 17:2 (1988) 102. Print.

7 Metropolitan Toronto and Region Conservation Authority. *Tommy Thompson Park: Master Plan and Environmental Assessment*. Toronto: The Authority. 1989: 30. Print.



Fig. 3.7: Armoured shoreline near the causeway on the Leslie Street Spit.

Larger aggregate is used to armour the artificial shoreline of the headland.

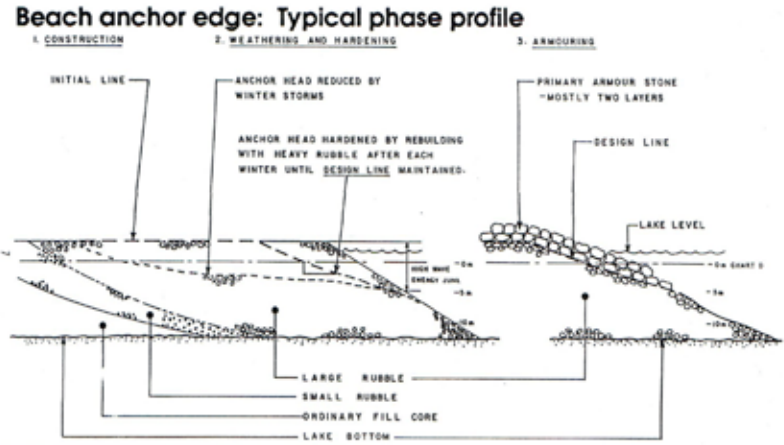


Fig. 3.8: Diagram of Beach Anchor Edge.



Fig. 3.9: Photo of endikement shoreline with rubble groyne visible in the distance.

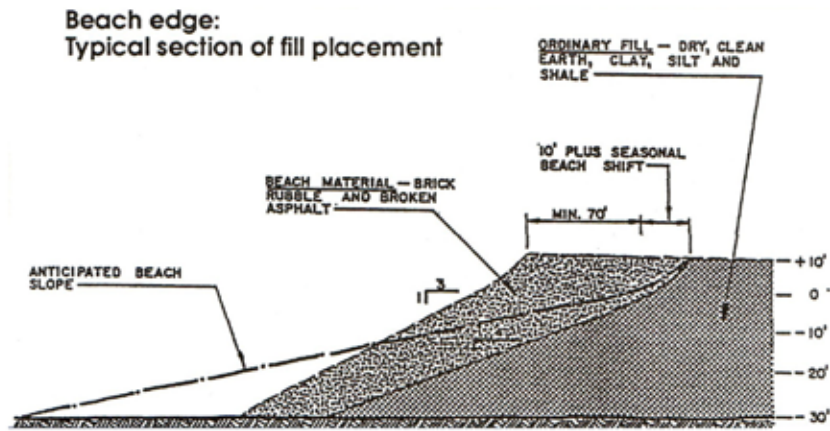


Fig. 3.10: Diagram of Beach Edge.



Fig. 3.11: Piles of concrete floor slabs with embedded waterheating system.

the nearshore zone.⁸ The endikement experiences considerable transverse and attritional erosion and must be routinely replenished with additional material. However, over time the constructed shoreline is expected to gradually settle into a gentler incline that simulate the dynamics of natural beaches [fig. 3.7-10].⁹

The provincial Ministry of Natural Resources (MNR) own the endikement, but they lease its lands and waters to the Toronto Port Authority (TPA), to oversee all lakefilling operations. The TRCA will assume ownership of the endikement and develop it into parkland once all work is completed or when the lease expires. The TPA are responsible for the quality of all materials entering and leaving the headland; only broken or unreinforced concrete, bricks, ceramic tiles and porcelain are permitted while organic waste like garbage and wood; concrete pipes, pillars, beams, light poles, or any piece reinforced with rebar; and excavated material like earth, clay, shale, and sand are prohibited. Evaluating the quality of lakefill is very important; several soil surveys in the 1980s concluded that the material deposited on the headland were of poor quality and possessed concentrations of contamination that exceeded acceptable levels for parkland use.¹⁰ If lakefill is contaminated, it could negatively impact the quality of the surrounding aquatic environments.

At the regional scale, the Leslie Spit is a terminal breakwater within a network of headlands distributed across the eastern shoreline of the Toronto Region from the Port Lands to the Rouge River in Pickering. The headland has a major influence on the surrounding coastal geography of the Toronto Region that is not perceptible within the direct phenomenological experience of its localized ecosystems [fig. 3.11]. Now the eroded sediment from the Scarborough Bluffs accumulates in artificial inlets like the Coatsworth Cut at the Ashbridge's Bay. Engineered headland structures protect coastal properties and maintain the navigational capacity of urban harbour facilities at the cost of altering the existing littoral currents that rinse and replenish the regional shoreline. For example, the boating berths and public spaces at Bluffer's Park unintentionally created new aquatic spawning habitats in an area with limited bottom vegetation.¹¹ However,

⁸ *ibid.*

⁹ *ibid.*

¹⁰ Metropolitan Toronto and Region Conservation Authority. "Appendix C: Surficial Soil Contamination Survey of Leslie Street Spit." *Tommy Thompson Park: Master Plan and Environmental Assessment*. Toronto: The Authority, 1989: 2-10. Print.

¹¹ Royal Commission on the Future of the Toronto Waterfront and Shoreline Regeneration Work Group. "Shoreline regeneration for the Greater Toronto Bioregion: a report." *Publication*. 13. Toronto: Royal Commission on the Future of the Toronto Waterfront (Canada), 1991: 104. Print.



Fig. 3.12: Photo of pre-fabricated concrete slabs.



Fig. 3.13: Close up of a broken concrete floor slab with an embedded waterheating system.

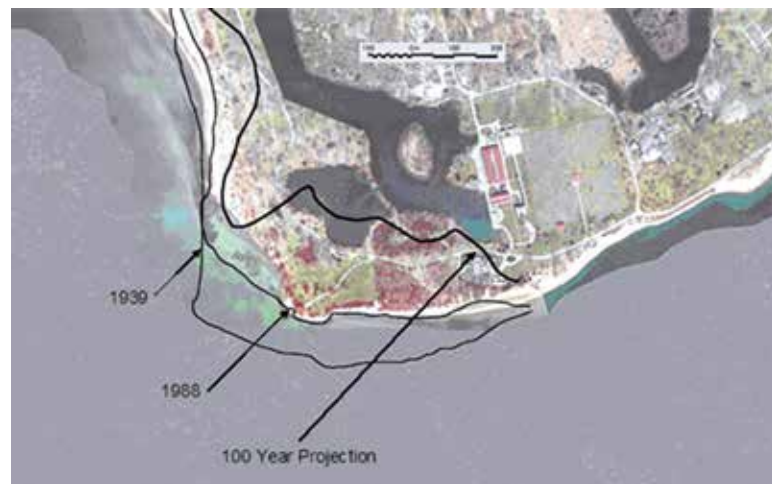


Fig. 3.14: An overlay showing the historical and projected shoreline of the Toronto Islands.

The diagram illustrates how the Hanlan Point has progressively receded because of the Leslie Spit. There is also a projected shoreline illustrating what the TRCA expects the effects of erosions will be.

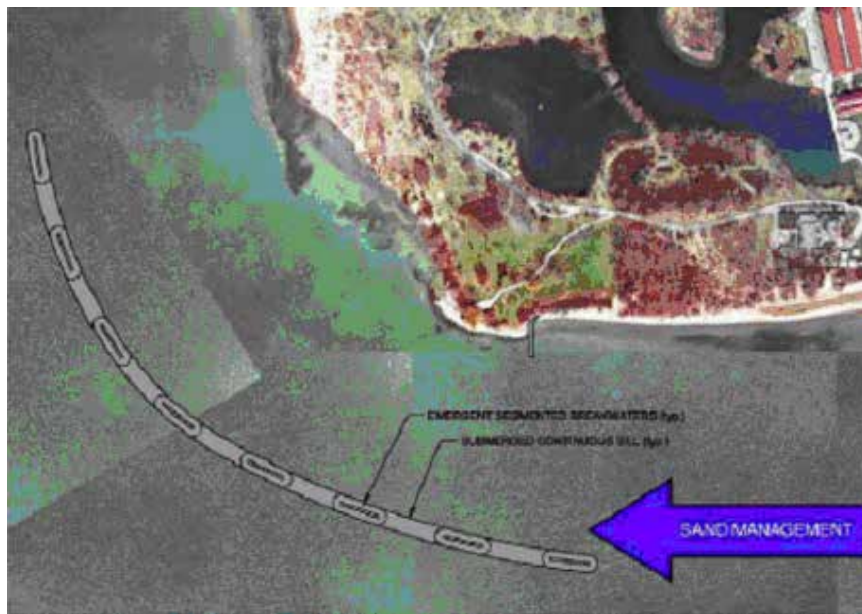


Fig. 3.15: The off-shore concrete breakwater proposed by the TRCA.

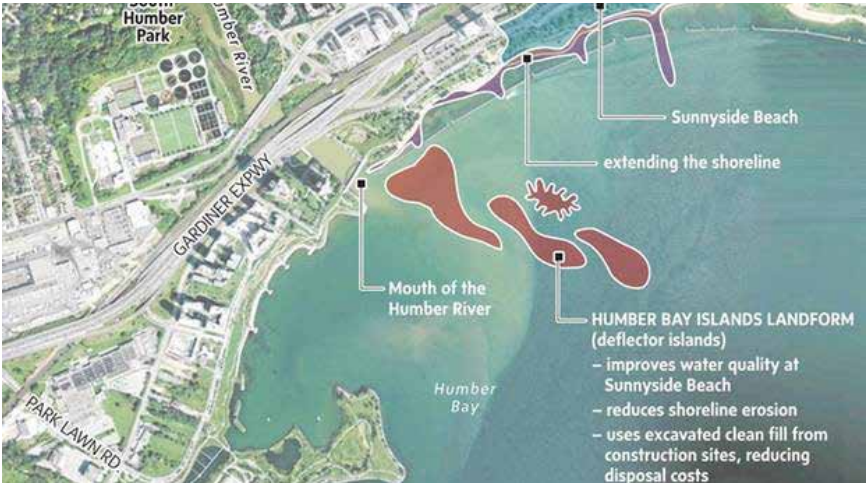


Fig. 3.16: Diagram of Humber River Island proposal.

these constructed lagoons are also contaminated because their location interferes with the dispersal of discharge from nearby sewage outlets.

After a century of lakefilling, the City of Toronto has considerable experience and knowledge on the conventional design of headlands. Using digital simulations, the city can predict the environmental consequences of lakefilling within a controlled environment and finite timeframe of a decade. The fate of artificial headlands become less certain and predictable outside of these parameters. The design of such large tracts of land cannot account for all circumstances. In the spring of 1993, a large flood at Peninsula D of the Leslie Spit submerged the grounds of the Aquatic Park Sailing Club beneath a foot of water.¹² Due to the shallowness of the Leslie Spit, small variation on the water levels of Lake Ontario has dramatic effects. New waterfront development projects like the Lower Don Lands promise to account for 100-year storm events, but the advancement of global climate change only increases the future uncertainties surrounding long-term development.

From an economic standpoint, artificial headlands are an effective form of erosion control. Before the Leslie Spit was built, the Eastern Gap was annually filled in by alluvial material washed down from the Scarborough Bluffs. The use of the Leslie Spit and Bluffer's Park have saved the TPA about six-million in dredging costs over the past twenty years.¹³ However, these results come at a cost; the beaches at the Toronto Islands are eroding because they are starved of sediment nourishment [Fig. 3.14]. Within the greater circumstances, the beaches are an acceptable loss as the effects of permanent rigid infrastructure are solved with more of the same: the TRCA have already proposed a large offshore breakwater to prevent Hanlan's Point from further receding [Fig. 3.15].¹⁴

The uncertainty associated with lakefilling was responsible for placing an informal moratorium on all new lakefill projects after the construction of Bluffer's Park, Ashbridge's Bay, and Ontario Place. Now only projects first approved by environmental assessment are open for consideration. Nevertheless, lakefilling has yet to slow in Toronto as the city has shifted from producing new land to intensifying and concentrating lakefilling on existing headlands through terrestrial enhancement projects.¹⁵ The

¹² Aquatic Park Sailing Club. "History." Aquatic Park Sailing Club. Web. Nov 24, 2011.

¹³ Toronto Port Authority. "Dredging Up an Environmental Solution." *Toronto Port Authority*. January 1, 2004. Web.

¹⁴ Moloney, Paul. "Waves eroding tip of Toronto Islands." *The Toronto Star*. January 14, 2008. Web. November 23, 2011.

¹⁵ Royal Commission on the Future of the Toronto Waterfront and Shoreline Regeneration Work Group. "Shoreline regeneration for the Greater Toronto Bioregion: a report." *Publication*. 13. Toronto: Royal Commission on the Future of the Toronto Waterfront (Canada), 1991: 75. Print.



Fig. 3.17: Map of Great Lakes drainage basin highlighting the Canadian Areas of Concern.

terrestrial regrading and maintenance of the Leslie Spit that have been ongoing since the 1990s are examples of this new form of lakefilling.

On the contrary, the recent proposal by Lou Di Gironimo of Toronto Water to construct a new set of artificial islands off the mouth of the Humber River reveals how there will always be an intrinsic need for lakefilling. The project utilizes the excess soil generated by the Eglinton Crosstown transit line project and the retrofitting of Toronto's aging water-main infrastructure to build artificial islands that permanently deflect any sewage overflow from the Sunnyside beaches [fig. 3.16]. The project is expected to offset the projected construction cost of \$54 - \$84 million by tipping dump trucks.¹⁶ Summed up lackadaisically as a 'Leslie Street Spit West,' the design of the new islands replicate the refined landfilling strategies used to built the large headland.¹⁷ While there was concern over the environmental consequences of lakefilling, the primary objective of the project was to "solve soil dumping woes" by disposing the projected excess of sixteen million cubic metres of soil off-site to keep the urban construction projects on schedule and on budget.¹⁸ Everything else; the positive ecological impact, the cleaner beaches, dumping in Lake Ontario instead of the Oakridge's Moraine, were secondary to continuing the current course of development.¹⁹ The City of Toronto is still willing to pursue new lakefilling projects even if the constructed land does not result in any urban development.

DREDGING

By the 1980s, the negative environmental impact of urbanization and industrialization on the Great Lakes Region had become a bi-national concern for both Canada and the United States. Under the Great Lakes Water Quality Agreement (GLWQA) recommended by the International Joint Commission (IJC), Toronto was listed as one of Canada's remaining thirteen Areas of Concern (AOC) [fig. 3.17].²⁰ The city was prompted to place restrictions on its dredging activities and prevent further degradation of its benthic communities

¹⁶ Moloney, Paul. "Humber island plan could solve soil dumping woes." *The Toronto Star*. June, 19, 2012. Web. March 11, 2013.

¹⁷ Annable, Kristin. "WTF: Have dirt? Make a Leslie Street Spit West." *The National Post*. April, 05, 2012. Web.

Moloney, Paul. "Humber island plan could solve soil dumping woes." *The Toronto Star*. June, 19, 2012. Web. March 11, 2013.

¹⁸ Gee, Marcus. "Man-made Humber islands would solve two problems at once." *The Globe and Mail*. Web. March 11, 2013.

Moloney, Paul. "Humber island plan could solve soil dumping woes." *The Toronto Star*. June, 19, 2012. Web. March 11, 2013.

¹⁹ *ibid.*

²⁰ Environment Canada. "Great Lakes Areas of Concern." *Environment Canada*. Environment Canada. July 28, 2010. Web. April 24, 2013.

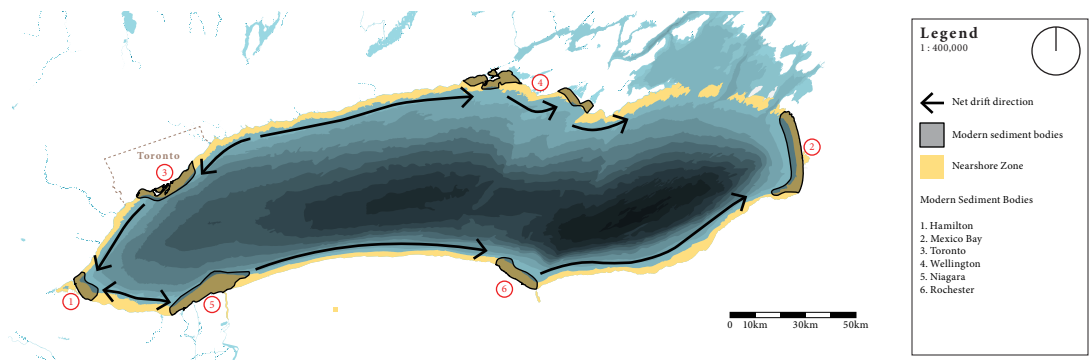


Fig. 3.18: Diagrams of modern sediment bodies in Lake Ontario

The Toronto region is one of the six major deposition areas along Lake Ontario. The lakeward limit of the nearshore zone of Lake Ontario is typically set at the 20m bathymetry contour. Beyond that point sediment particles transported along Lake Ontario decrease in size from clay and to silt.

There are four types of water movement across the Great Lakes—tide, seiche, current and wave. Tides do not have large amplitude and have very little influence over the shore processes of Lake Ontario. The latter three movements are caused by wind action. Seiche oscillations are caused by strong easterly and westerly winds. Their power comes from the consistency of power and direction of the wind blow across the surface of water. Currents generally have little effect on the shoreline processes of Lake Ontario. The mass of water discharged from Niagara Falls creates a pronounced vortical movement at the west end forming a backset eddy from East Point Park to Hamilton Harbour. There is no return current in Lake Ontario probably because it breaks down into smaller whirls on either sides of the slow general current or returns as an undercurrent. Waves develop when a longshore current impinges on a shoreline. When these waves hit the shoreline obliquely, they recede obliquely and transport material down the coast in a zig-zag patten.

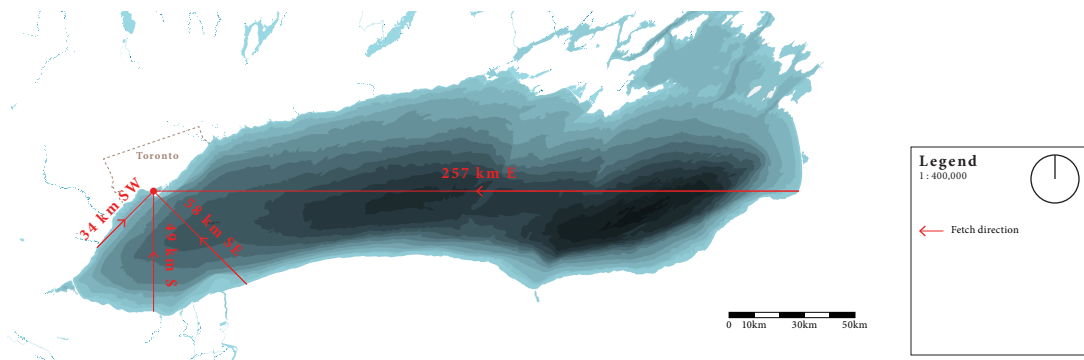


Fig. 3.19: Diagrams of fetch distances in Lake Ontario.

Lake Ontario has a retention time of six years. It has the smallest surface area of all the Great Lakes with a maximum length of 311km.

Fetch distance is a geographical term describing a continuous line of open water from which a given wind is blown. Considering the geographical characteristics of Lake Ontario, fetch distance is one of the primary forces responsible for current movement and coastal erosion. The fetch distance and wind strength determine the magnitude of waves produced. From this logic, the Leslie Street Spit potentially receives the strongest waves from the east because the longer distance allows the wind to impart onto the water to create larger waves. The prevailing westerly winds are “responsible for the new eastward drift in the eastern part of the basin and periodic easterly storms for the net westward drift at the western end.”¹

1 Rukavina, N. A. "Nearshore Sediment of Lakes Ontario and Erie." *Geoscience Canada*. 3: 3 (1976): 187. Print.

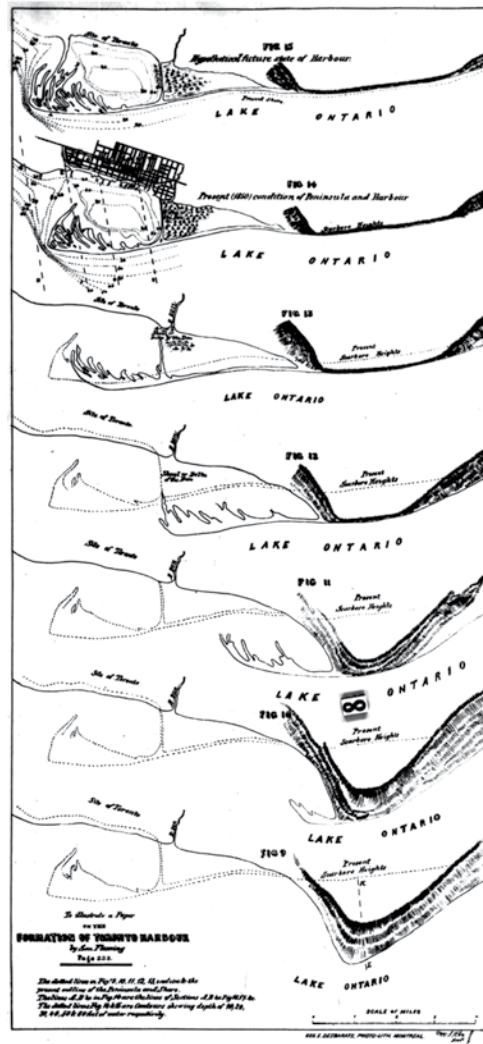


Fig. 3.20: An illustration of the formation of Toronto harbour.

These illustrations are by Sanford Fleming depicting how the Toronto Islands were most likely formed. The cathedral cliffs of the Scarborough Bluffs are an escarpment that was part of the old shoreline of Lake Iroquois from the last ice age approximately 13,000 years ago. The bluffs have been gradually eroded over the years and the resulting alluvial material was carried westward across the subterranean Toronto Scarp to form the Toronto Islands. This material would also form the sand bar that would contain the Ashbridge's Bay.

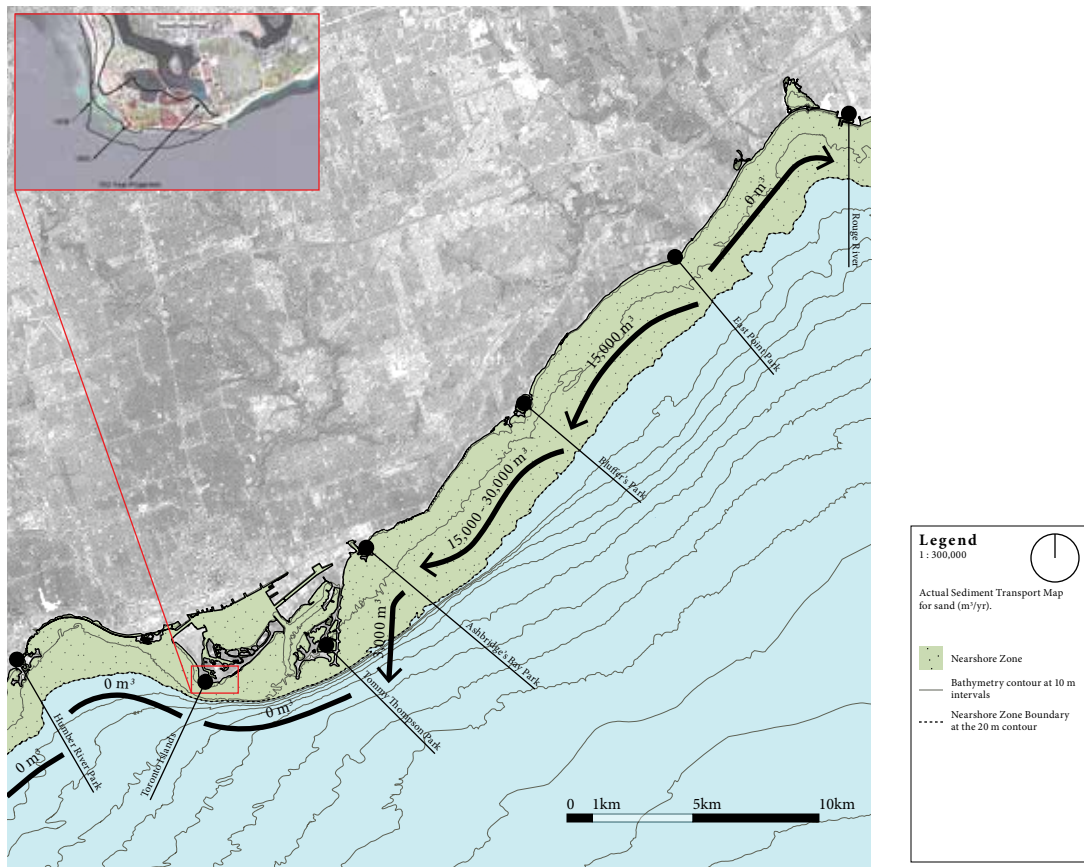


Fig. 3.21: The Actual Sediment Transport of Sand at the Toronto region each year.

The hydraulic dynamics of the Toronto Region waterfront is controlled by several infrastructural headland at the East Point Park, Bluffer's Park, the Ashbridge's Bay and the Tommy Thompson Park. Without these interventions, alluvial material eroded from the Scarborough Bluffs would be transported all the way to the western beaches of the Toronto Islands. As it currently stands, the network of headlands has completely restricted almost all westward sediment transport beyond the Spit. The western beaches of the Toronto Islands no longer receive any material nourishment and have begun to recede due to excessive erosion. The inlet image in the upper right corner shows the shifting historical shorelines at Gibraltar's Point and the 100 year projection. The conservation authority have already planned to armour the point and installing an offshore breakwater to deflect oncoming waves.



Fig. 3.22: Aerial of silt plume moving from Don River Valley to Eastern Gap in 1962.

Plume of silt (the lighter shade of water) leaving the Inner Harbour through the East Gap after heavy rainfall on September 14, 1962. The excess sediment seems to have originated from the Keating Channel. With the construction of the Keating Channel, the Don River has no way to naturally rinse itself. The accumulation of sediment in urban waterways is not just a serious issue not for ship navigation but the high turbidity endangers aquatic communities.



Fig. 3.23: Aerial of Leslie Street Spit in 1994.

There are plumes of sediment surrounding the exterior and inhabiting the interior of the Leslie Street Spit. The Leslie Street Spit is a natural barrier that has ensured almost no alluvial material from the Scarborough Bluffs reaches the shipping channel of the East Gap. However, the presence of the headland has not removed the need to dredge the East Gap but decreased the frequency needed to.¹ Some degree of sediment now comes eastward from the Toronto Islands. Dredging is a never-ending task that cannot be permanently solved. The dynamic shoreline of Lake Ontario conflicts with the rigid, constructed edge of the Toronto Harbour. The means to control the shoreline has advanced—the Toronto Port Authority had planned to implement sediment traps around the East Gap—but change is ongoing.

¹ Toronto Port Authority. "Dredging Up and Environmental Solution." *Toronto Port Authority*, Toronto Port Authority, January 1, 2004. Web. November 27, 2011.

Sympathetic Landscapes: Aesthetics for the Leslie Street Spit

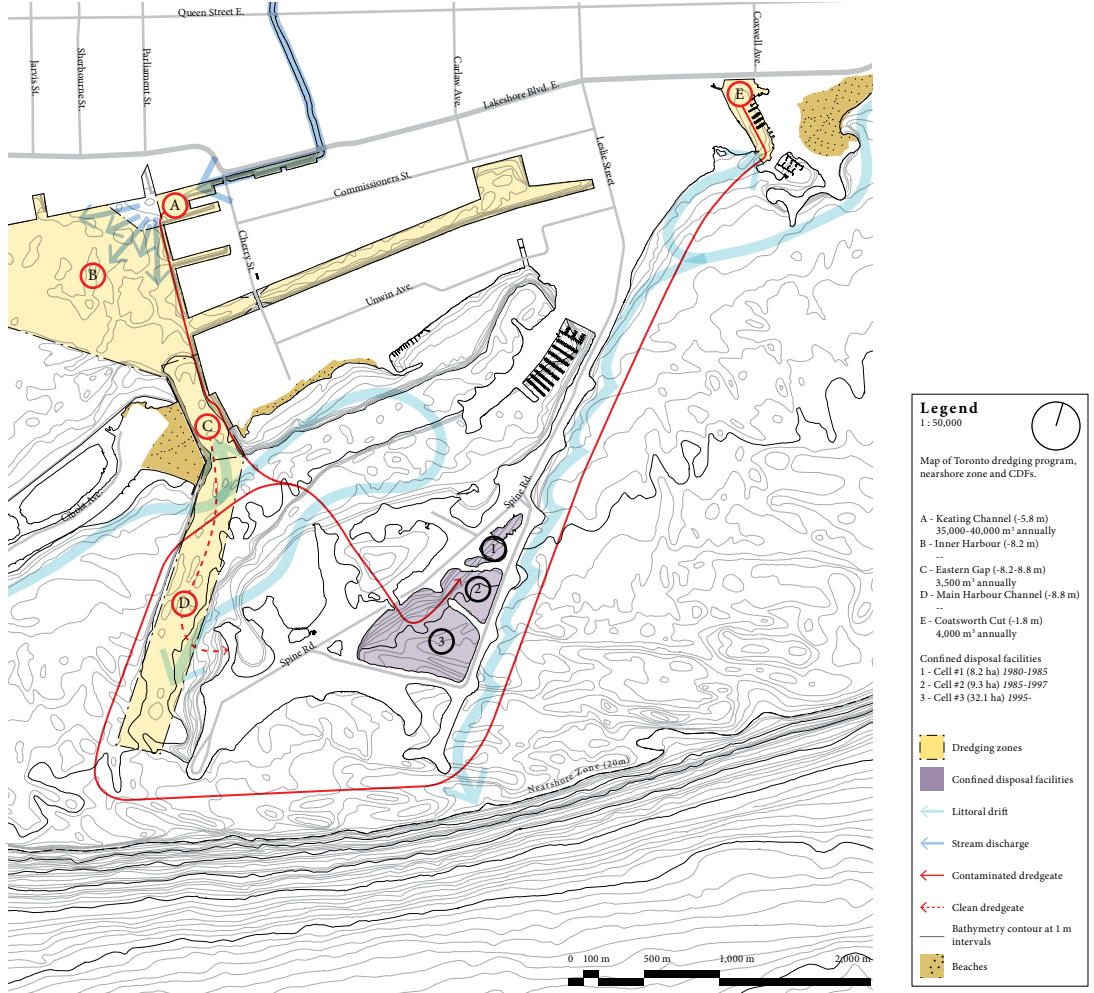


Fig. 3.24: Map of Toronto dredging program, nearshore zone and CDFs.

at the bottom of its waterfront.²¹ Dredging is an effective temporary solution in the Toronto Region for protecting lakeside properties from flood hazards and maintaining navigational depths in urban harbours and waterways. However, the operation negatively impacts local ecosystems by uprooting fragile benthic communities and reintroduces any dormant pollutants contained within the lakebed back into the water column. Dredged spoils from urban harbours and waterways are often heavily contaminated by urban run-off, sewage discharge, bypass events, industrial effluent, and waste disposal sites. Contaminants released into open water can cause eutrophication—an ecosystemic response to the sudden increase of nutrient loadings that depletes the amount of dissolved oxygen in water making it difficult for large fish to breathe.

The disposal of dredged material in the Great Lakes Region is a major concern with no ideal solution. Prior to the mid-1960s, disposing dredged material was primarily an economic concern; sediment was deposited without consideration into open waters, nearby land filling, or used to replenish eroded beaches.

Sediment deposition comes from two sources in Toronto: stream discharge and eroding shorebluffs. Due to the shoreline configuration of the Toronto Bay, the Inner Harbour is filled in by material washed downstream from the Don River while glacial deposits eroded from the Scarborough Bluffs inundate port facilities in the city's exterior waterfront [fig. 3.21].

In the Toronto Harbour, only the Keating Channel, the East Gap and the Ashbridge's Bay are dredged. The Keating Channel is a straight, hard edge canal at the mouth of the Don River that receives its sediment loads from upstream urban run-off and erosion. The Keating Channel was routinely dredged to a navigational depth of 5.8 metres below chart datum between 1920 and 1974.²² While the channel experiences little loading from nearshore sediment transport, 35,000-40,000 cubic metres of sediment are dredged annually from this location.²³ Furthermore, the Toronto Port Authority claims that they receive approximately 450 metric tonnes of wood debris from the Don River each year.²⁴ The East Gap is the main shipping channel for the Toronto Harbour situated between Toronto Island and the Port Lands Industrial District. It

21 "Toronto Region Area of Concern." *Environment Canada*. Environment Canada. January 01, 2010. Web. April 24, 2013.

22 The Metropolitan Toronto and Region Conservation Authority Water Resources Division. "Appendix B – Cell 1 Capping Proposal." *Tommy Thompson Park: Master Plan and Environmental Assessment Addendum*. 1992: 3. Print.

23 Dietrich, J.P. & Hennyey, A.M. & Portiss, R. & MacPherson, G. & Montgomery, K. & Morrison, B.J. *The fish communities of the Toronto waterfront: summary and assessment 1989-2005*. Toronto and Region Conservation Authority Technical Report, 2008: 10. PDF file.

24 Toronto Port Authority. "The Harbour Clean-up Program." *Toronto Port Authority*. Toronto Port Authority. Web. November 27, 2011.



Fig. 3.25: Clamshell derrick No. 50.



Fig. 3.26: Clamshell derrick No. 50 removing sediment from the Keating Channel.



Fig. 3.27: Debris collected from the Keating Channel after a storm in 2005.

The Toronto Port Authority estimates that each year about 450 metric tons of wood is collected at the Keating Channel.



Fig. 3.28: A tugboat pulling scow barges with dredged sediment into Cell #3.

The pedestrian swing bridge in between the two adjacent earthwork mounds is currently in its open position. The bridge has a sediment curtain underneath that ensures deposited sediment do not drift out into the Outer Harbour. Beyond the bridge is a mechanical clam derrick on a floating raft in Embayment C; this machinery is typically used for dredging.



Fig. 3.29: Photo of the swing bridge between Embayment C and Cell #3.

Underneath the bridge are sediment curtains to prevent deposited sediment material from drifting into the Outer Harbour. The bridge offers some of the few breathtaking views of the headland and city.



Sympathetic Landscapes: Aesthetics for the Leslie Street Spit

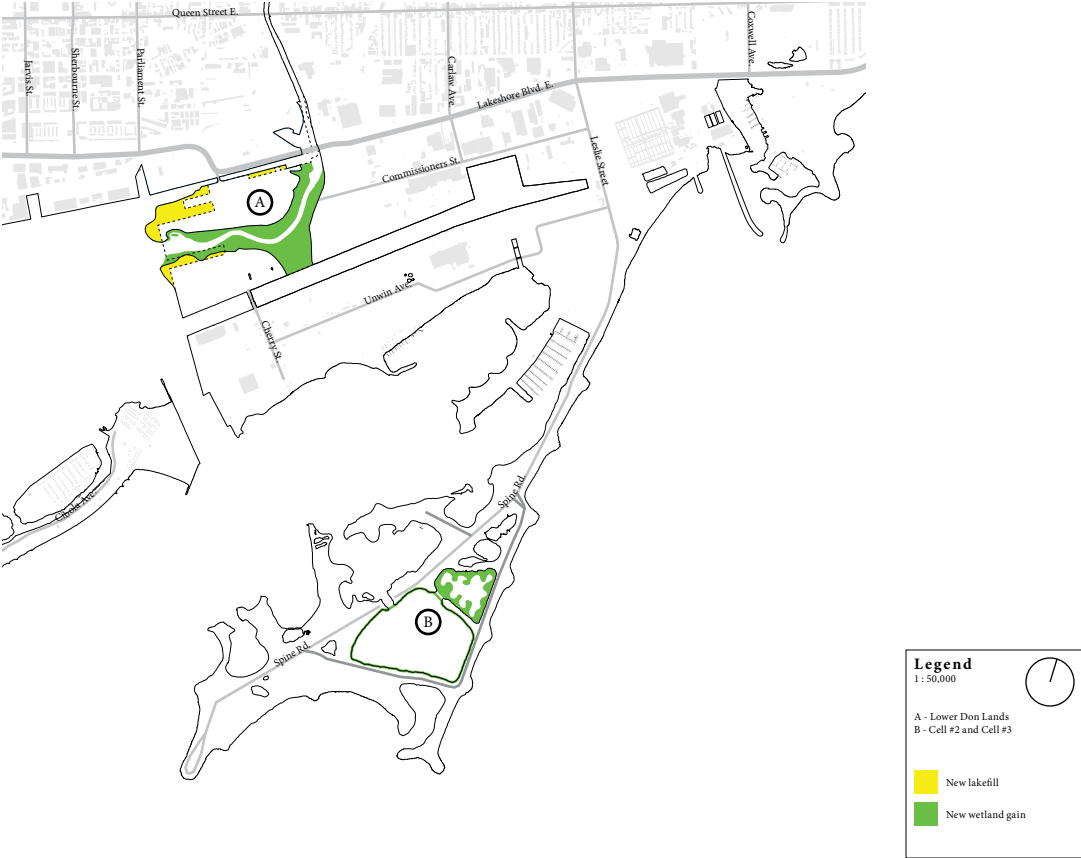


Fig. 3.30: Map of the eastern waterfront of Toronto highlighting proposed waterfront landscape projects in the near-future.

receives an annual quantity of 3,500 cubic metres of sediment from the western beaches of the Toronto Islands and is dredged to 8.2 metres below the chart datum.²⁵ The Ashbridge's Bay is filled by 15,000 cubic metres of eroded glacial material from the Scarborough Bluffs at Bluffer's Park. The Coatsworth Cut channel further within the bay must be dredged every two to three years to a depth of 1.8 metres below the chart datum.²⁶ Due to their close proximity to Toronto, the sediment from the Keating Channel and the Ashbridge's Bay are contaminated by surface run-off and various point sources of pollution. The dredged material from those locations must be transported to the Leslie Street Spit while the material from the East Gap can be used as nourishment to replenish beaches.²⁷

The Keating Channel is dredged by a local No. 50 clam-shell derrick near the southern end of the Cherry Street Bridge [fig. 3.25]. Dredging occurs continuously for six hours every weekday, at a minimum of two months each year.²⁸ Unlike hydraulic dredges that efficiently vacuums sediment, the derrick manually dredges the bottom of the channel. This activity disturbs the bottom of the channel, producing an eight-hundred metre plume of silt during the two-hours needed to fill a scow barge.²⁹ The material taken from the channel is a pungent black ooze—deckhands describe the gunk as “muck,” “sand,” “goo,” “slip,” or “bung” [fig. 3.26].³⁰ Once full, the scow is pulled by a tugboat to the CDF at the Leslie Street Spit where it is dumped over top of previous material deposits.³¹ Deckhands swing sledgehammers to open the steel doors of the scow and within seconds a fifty-metre plume is formed as the sediment drifts to the bottom of the cell.³² Handling sediment is a dirty and imprecise affair, but the Toronto shoreline is an infrastructural problem in need of an infrastructural solution.

Since the Keating Channel is located at the mouth of the Don River, it must contend with a consortium of urban detritus flushed downstream from many different districts of Toronto. The new Lower Don Land proposal by MVVA tries to re-imagine the Keating Channel as an “urban estuary” with an adjacent naturalized channel that allows the mouth of the Don River to be “where it wants to be.”³³ The relocated mouth of the Don River is the key feature that unifies and symbolizes the Lower Don Lands as a whole. The two adjacent channels present a symbolic dialogue between two historical eras

25 Dietrich, J.P. & Hennyey, A.M. & Portiss, R. & MacPherson, G. & Montgomery, K. & Morrison, B.J. *The fish communities of the Toronto waterfront: summary and assessment 1989–2005*. Toronto and Region Conservation Authority Technical Report, 2008: 10. PDF file.

26 *ibid.*

27 Munawar, M., W.P. Norwood, L.H. McCarthy & C.I. Mayfield. “In situ bioassessment of dredging and disposal activities in a contaminated ecosystem: Toronto Harbour.” *Hydrobiologia*. 188/189. (1989): 615. Print.

28 *ibid.*

29 *ibid.*

30 Kuitenbrouwer, Peter. “Old Hands Keep The Don Flowing Smoothly.” *National Post*. July 30 2011. Web. April 09 2013.

31 Griffiths, M. and J. Winiecki; Great Lakes Section, Water Resources Branch, Ontario Ministry of the Environment. *A summary report on the effects of dredging, dredged spoils disposal and lakefilling activities on water quality in the Toronto Waterfront, August 15 – November 29, 1980*. Ottawa: 1981: 10. Print.

32 Kuitenbrouwer, Peter. “Old Hands Keep The Don Flowing Smoothly.” *National Post*. July 30 2011. Web. April 09 2013.

33 Toronto Waterfront Revitalization Corporation & Michael Van Valkenburgh Associates. *Port Lands Estuary*. 2007: 7. PDF file.

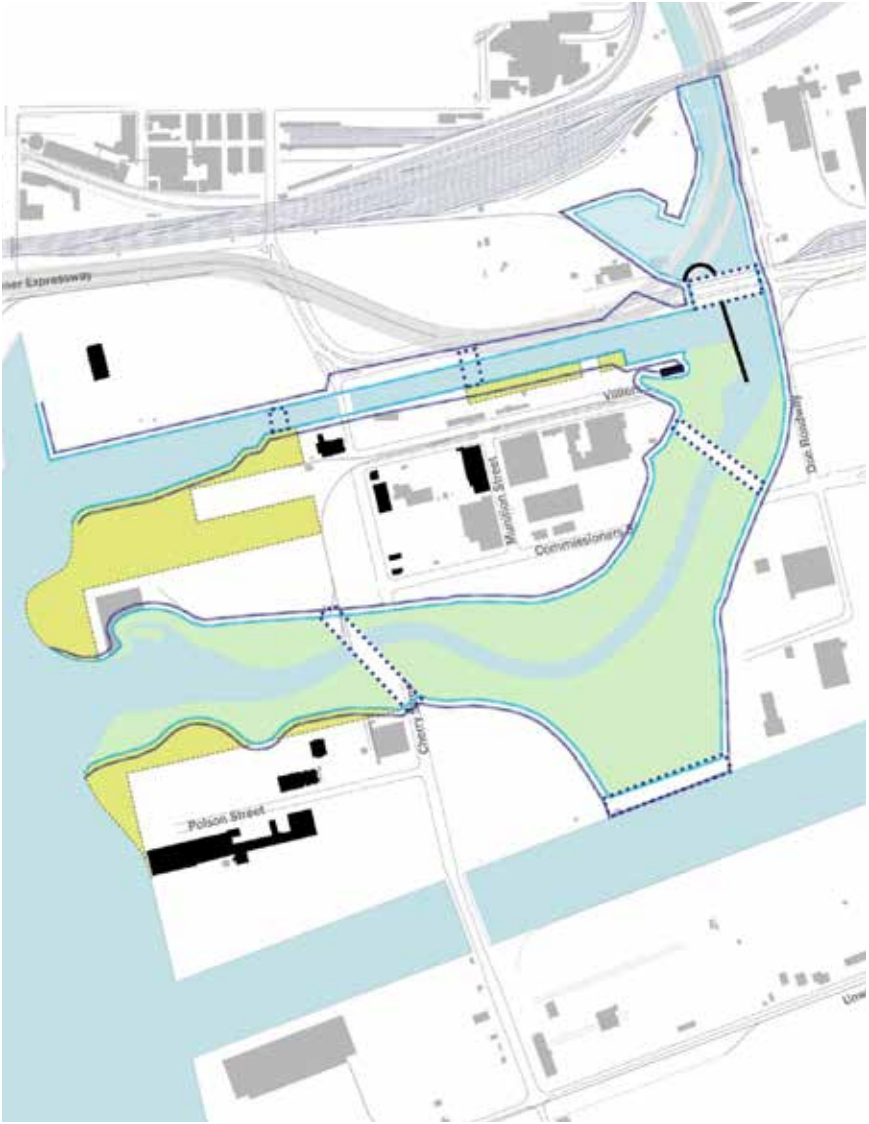


Fig. 3.31: Site plan for Lower Don Lands proposal by MVVA.



Fig. 3.32: Site plan of sediment traps and processing facilities for Lower Don Lands proposal.

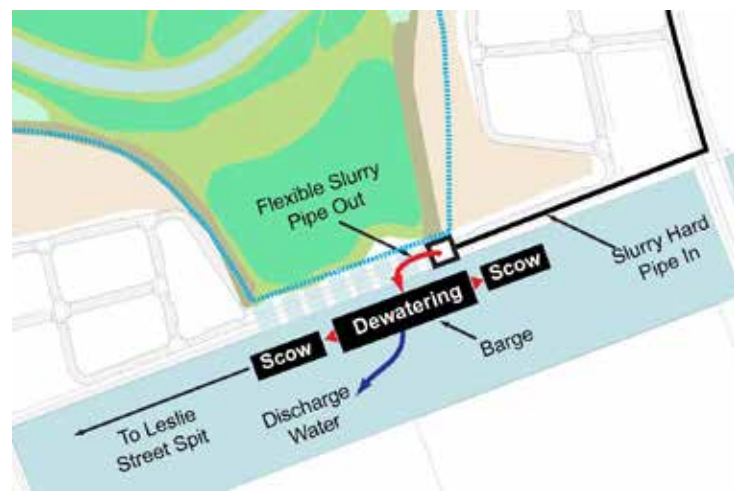


Fig. 3.33: Key site plan of scow barge location for Lower Don Lands proposal by MVVA.

Sympathetic Landscapes: Aesthetics for the Leslie Street Spit

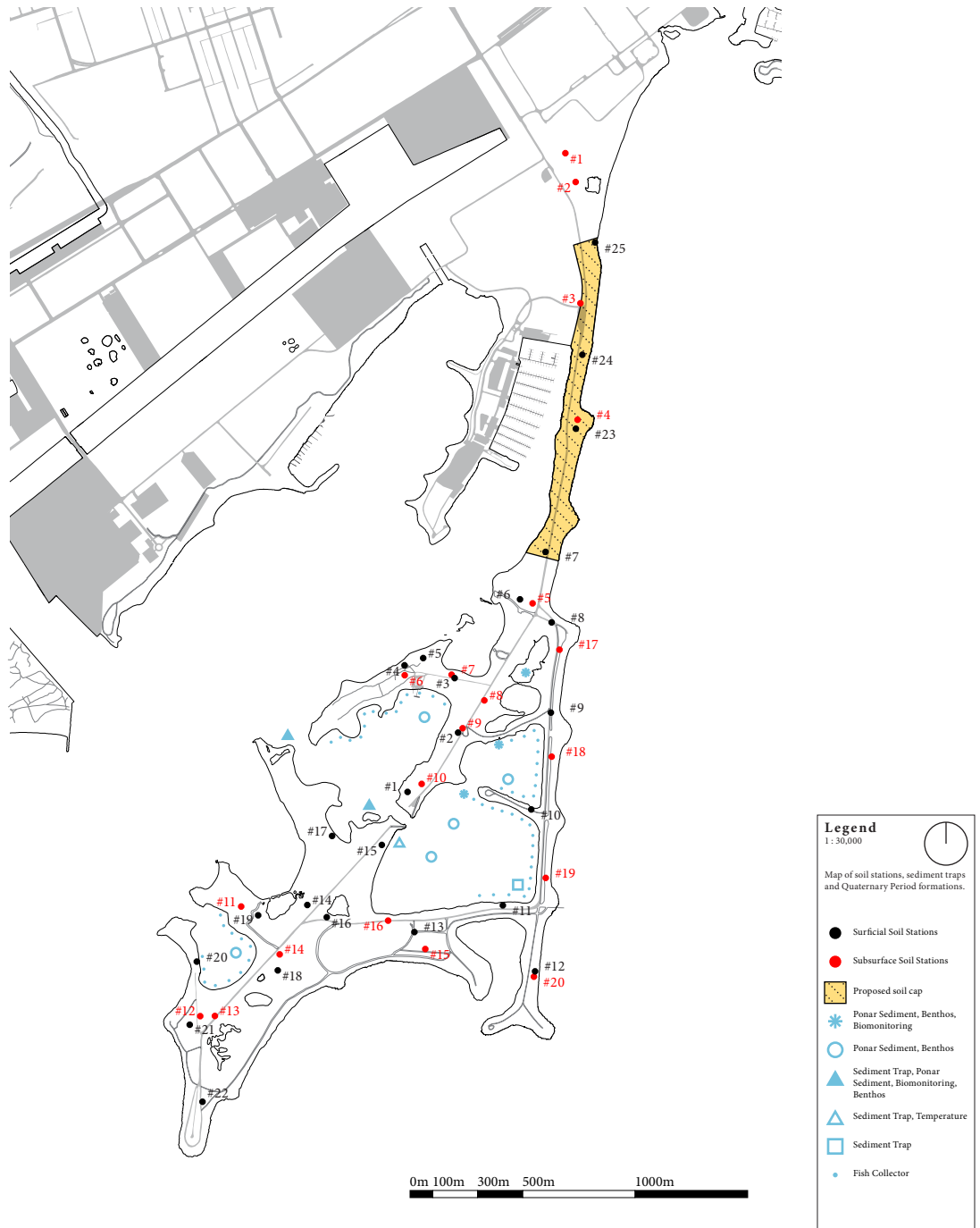


Fig. 3.34: Map of soil stations.

of waterfront development. While MVVA does not attempt to erase the past, it does make extensive accommodations to hide it from public view. The clean, bucolic imagery associated with the proposal are made possible by the use of extensive upstream sediment traps, management facilities, and hidden piping infrastructure. The messy realities of the Keating Channel still persist and the proposed method of disposing excess sediment and trapped detritus is structurally no different from the current methods—all unwanted materials are still shipped off to the Eastern Headland.

CONTAMINATION

On Victoria Day in 2007, local residents were barred by city-retained security guards from entering Tommy Thompson Park to watch the holiday display of fireworks. An annual tradition for some hoping to avoid the crowded conditions of the adjacent Ashbridge's Bay Park, the unannounced closure of the headland had hundreds of people watching the fireworks behind the chain-link fence along Unwin Avenue. Ward 30 (Toronto-Danforth) Councillor Paula Fletcher explained that the base lands were foremost private property and that its closure was a precautionary measure against the area's heavy industrial contamination: "to stand or sit on blankets at the base lands is not a smart thing to do."³⁴ As for the rest of Tommy Thompson Park, Fletcher assured the public that it was safe to use and not contaminated.

The Leslie Spit was an ideal site for Toronto's dredging programme because of its mole construction. Confined disposal facilities (CDF) are simple aquatic cells designed to improve water quality by preventing the circulation of contaminants in biological communities through turbidity. Sediment traps were placed in Embayment C and underneath the pedestrian swing at the entrance in Cell #3 to prevent the disposed sediment from re-entering the Outer Harbour and the lake beyond.

In 1987, a subsurface soil sampling survey carried out by Trow Consultants for the Ministry of Environment (MOE) on the Leslie Spit indicated that mercury, lead and PCB—compounds classified by the ministry as high-priority chemicals capable of bio-magnification with potential human health

³⁴ Lavoie, Joanna. "Leslie Street Spit closed during fireworks displays." *Durham Region*. June 14, 2007 Web. January 19, 2012.



Fig. 3.35: Panorama of the baseland at the Leslie Street Spit.

This is the baseland referred to in the news article in the Durham Region. This area is a productive song-bird habitat that is constantly under threat of development. This area has famously under consideration for a prototype wind turbine that was eventually relocated near the CNE exhibition grounds west of Toronto. While the Friends of the Spit are under the impression that this land is not owned by anyone, the baseland is partially owned by the Toronto Port Lands Company (TPLC) and the city of Toronto. Furthermore the land owned by the



TPLC at the Portlands is under holding by the Ontario Ministry of Environment for cleaning up soil and ground water contamination.

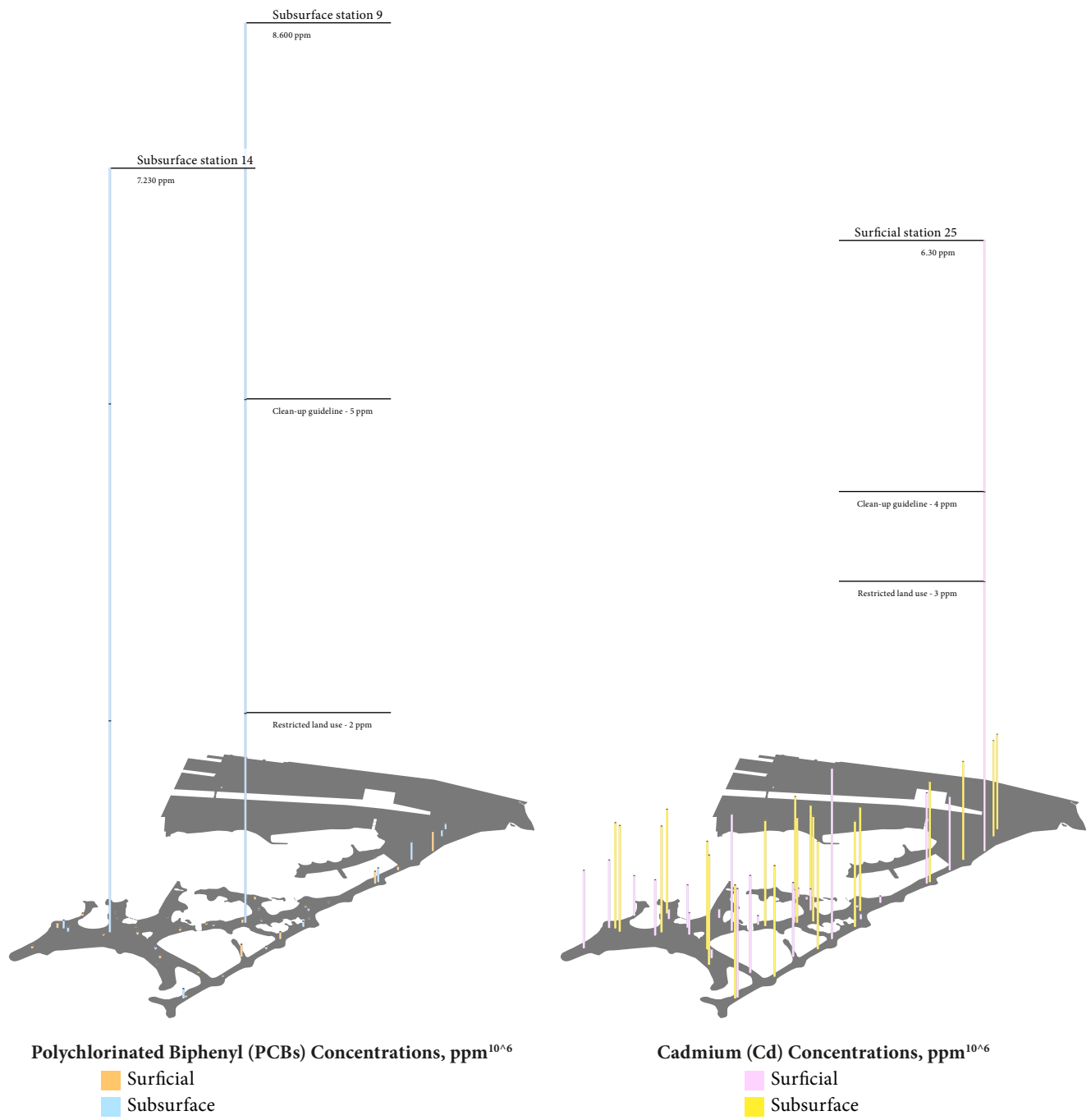
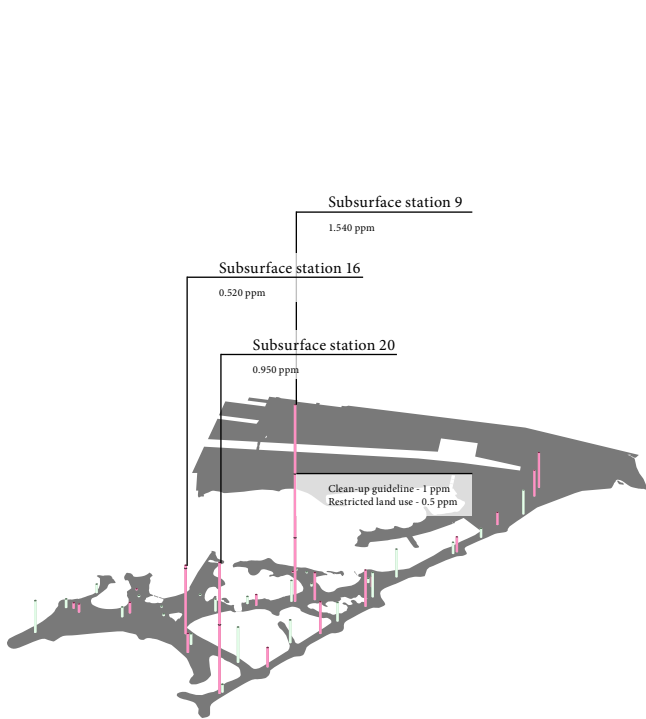
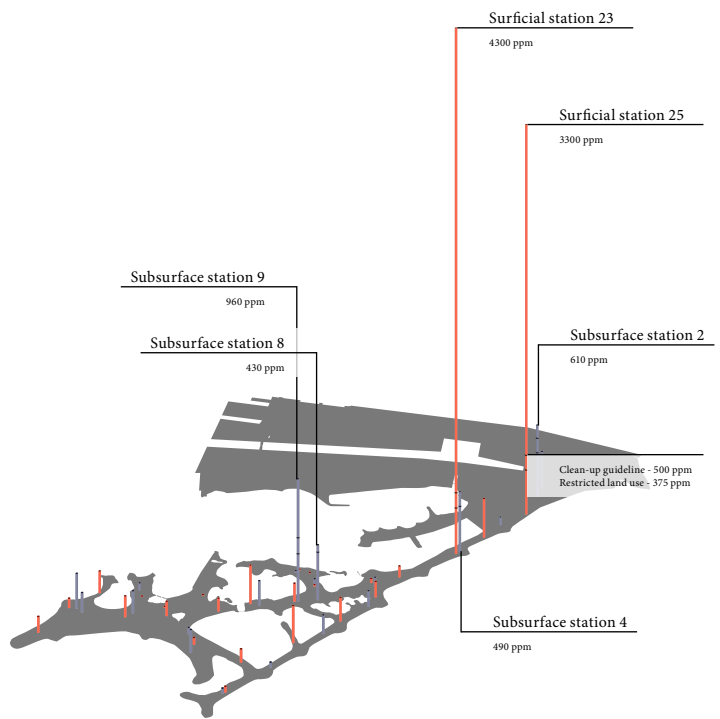


Fig. 3.36: Map of soil stations used in 1988 and 1989 surveys that visually quantify the concentration of contaminants.



Mercury (Hg) Concentrations, ppm^{10⁻⁶}

- Surficial
- Subsurface



Lead (Pb) Concentrations, ppm^{10⁻³}

- Surficial
- Subsurface

Sympathetic Landscapes: Aesthetics for the Leslie Street Spit

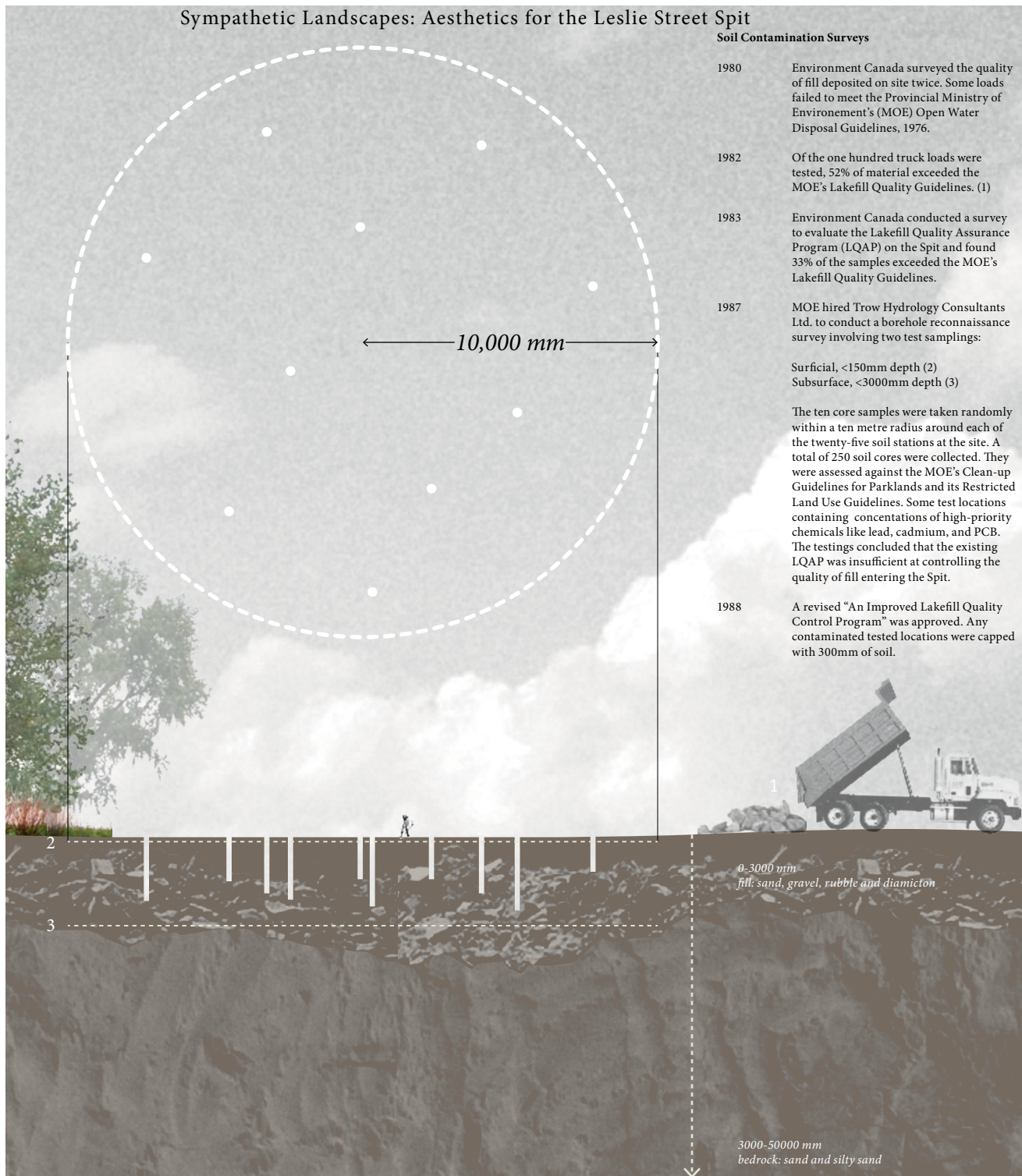


Fig. 3.37: Diagram detailing the soil core sampling process.

concerns—had exceeded the guidelines for Restricted Land Use.³⁵ The report tried to determine if there was a correlation between the degree of contamination and the year material was placed on the Spit, but concluded that no such relationship existed. The report found that the western embayments made of dredgeate from the Toronto Harbour had low levels of contamination while the eastern side comprised primarily of construction rubble exceeded the Restricted Land Use Guidelines at numerous locations [fig. 3.36].

In the following year, a surficial soil survey was conducted to evaluate the environmental risk that might interfere with the land-use of the headland as a public park and ecological resource. The surficial soil report was based on a draft of the MOE's Soil Clean-up Guidelines for safe agricultural, residential or parkland uses. While the Restricted Land Use Guidelines had lower tolerances, a Toronto Medical Officer of Health insisted that the Clean-up Guidelines were appropriate for evaluating the soils on the headland.³⁶ The numerical difference between the Restricted Land Use Guidelines and the Clean-up Guidelines provides a range from which detected concentrations of contaminants could safely fall within. A total of two-hundred and fifty surficial soil samples—at a maximum depth of 150 mm—were collected from twenty-five different locations [fig. 3.34]. The report concluded that the majority of the Spit did not exceed the clean-up guidelines, but lead and cadmium concentrations at the base of the Spit were substantially greater than the Clean-up Guidelines.³⁷ Given that contaminants could be found as deep as three metres into the ground, extraction was not an option. The MOE recommended capping the area between soil stations seven and twenty-five—two with at least 300 mm of clean soil [fig. 3.34]. Whatever was dumped onto the headland will stay there as a concentrated payload. This is the social legacy that persists with the Leslie Spit even after it is closed down as a dump site and reopened as a full-time public park.

35 Metropolitan Toronto and Region Conservation Authority. "Appendix C: Surficial Soil Contamination Survey of Leslie Street Spit." *Tommy Thompson Park: Master Plan and Environmental Assessment*. Toronto: The Authority. 1989: 2. Print.

36 *ibid.*: 3.

37 *ibid.*: 7.

Sympathetic Landscapes: Aesthetics for the Leslie Street Spit

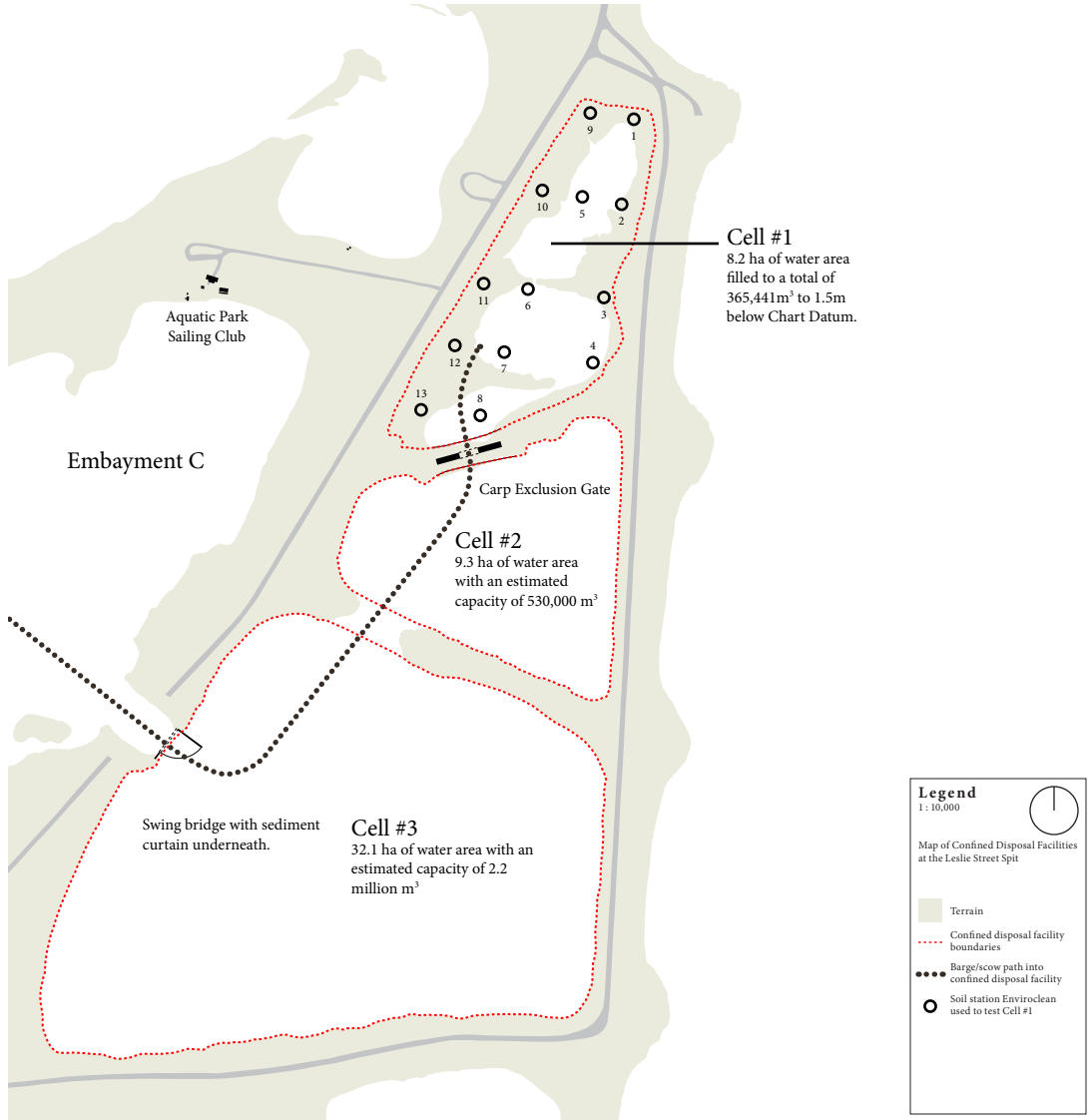


Fig. 3.38: Map of Confined Disposal Facilities at the Leslie Street Spit.

CONSTRUCTED WETLANDS

Under the fifth condition of Section 14 in the 1986 *Environmental Assessment Act*, the confined disposal facilities at the Leslie Street Spit were to be capped when they reached full capacity.³⁸ During the summer of 1989, a sediment analysis was conducted by Enviroclean, a subsidiary of McLaren Plansearch, discovered high concentrations of lead and cadmium at Cell #1 and #2.³⁹ The parameters used to qualify sediment samples were the same as those used for surficial soil testing with the addition criteria from *The Lakefill Quality Guidelines for Open Water Dispersal*.⁴⁰ Like the earlier surficial soil survey, it was concluded that extracting buried contaminants for treatment or disposal would be difficult and not worth potentially reintroducing it back into the environment. Capping options were explored as a finishing method for limiting the circulation of buried contaminants. Of the four alternatives in consideration, “the placement of a clean-fill cap over the dredgeate (below lake level), followed by the creation of a wetland ecosystem on the clean fill” was chosen for its economic, engineering and environmental advantages—the stratum of clean-fill was cheap, available and provided an impermeable barrier that could be properly contoured for fostering a healthy wetland.⁴¹ Like any recreational amenity, the Cell #1 Watershed Creation Project is an investment—its projected cost was around \$493,000—that is expected to provide economic contributions through tourism.⁴² This may not seem apparent, but the city has made conscious attempts at branding the headland as an international ecological destination.⁴³ The value of the headland is within its ecology as a non-human novelty.

Using the the former environmental conditions of the Ashbridge’s Bay as a historical baseline, the proposed constructed wetland was a hemimarsh—a complex 50/50 composite of aquatic and terrestrial ecosystems.⁴⁴ In an urban region that has lost most of its original marshland habitats, the 7.7 hectares of wetland gain is a valuable ecological resource that offered new opportunities for public education, recreation, and environmental

38 The Metropolitan Toronto and Region Conservation Authority Water Resources Division. “Appendix B – Cell 1 Capping Proposal.” *Tommy Thompson Park: Master Plan and Environmental Assessment Addendum*. 1992: 1. Print.

39 Metropolitan Toronto and Region Conservation Authority. “Appendix C: Surficial Soil Contamination Survey of Leslie Street Spit.” *Tommy Thompson Park: Master Plan and Environmental Assessment*. Toronto: The Authority. 1989: 8. Print.

40 The Metropolitan Toronto and Region Conservation Authority Water Resources Division. “Appendix B – Cell 1 Capping Proposal.” *Tommy Thompson Park: Master Plan and Environmental Assessment Addendum*. 1992: 3. Print.

41 *ibid*: 24-6.

42 The Metropolitan Toronto Region Conservation Authority. *Tommy Thompson Park Master Plan and Environmental Assessment*. Toronto: The Authority. 1989: 60. Print.

43 Hume, Christopher. “Toronto’s Accidental Treasure.” *The Toronto Star*. April 28, 2008. Web. November 6, 2011.

44 The Metropolitan Toronto and Region Conservation Authority Water Resources Division. “Appendix B – Cell 1 Capping Proposal.” *Tommy Thompson Park: Master Plan and Environmental Assessment Addendum*. 1992: 8. Print.



Fig. 3.39: Looking south at of the constructed wetland over Cell #1.





Fig. 3.40: Looking north from the constructed wetland at Embayment C.





Fig. 3.41: Looking west from the constructed wetland at Embayment C.



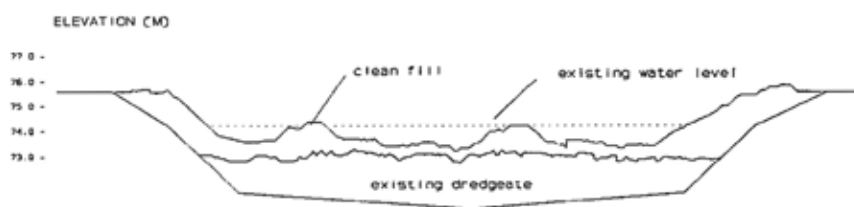


Fig. 3.42: A sectional diagram of the capping option chosen for Cell #1.

The diagram is not to scale. It illustrates a general idea of how the contaminated dredgeate deposited in Cell #1 will be buried. First it will be covered by a layer of clean-fill followed by a wetland cap. In some reports there is mention of an additional layer of clay between the clean-fill and cap to further decrease the circulation of contamination. Of course this is all speculation because there is no public knowledge of what really lies at the bottom of each cell. The evaluation of the capping alternatives was undertaken by the Technical Advisory Committee and the Natural Area Advisory Committee.

The construction of these cellular caps is crude in comparison to the complex technological underbellies typically used to contain landfills with organic or toxic waste. Sites like the Fresh Kills employ elaborate concrete barriers and piping networks to contain, syphon and expel leachate and methane gas.

enhancement.⁴⁵ Formally designated as the Cell #1 Watershed Creation Project, the constructed wetland was part of phase II of the Tommy Thompson Park Master Plan that was supposed to be implemented between 1992 and 1996. Unfortunately, the lack of funding delayed the original timelines specified in the Master Plan: Cell #1 was filled to capacity in 1985, but its wetland cap was constructed between 2003 and 2005.⁴⁶

The Leslie Spit is a symbol of ecological rehabilitation in the Toronto waterfront associated with a general optimism that the environmental degradation caused by the city's early twentieth century industrialization and urbanization can be eventually undone by leaving nature alone. Habitat creation and enhancement projects have been implemented sparingly throughout the headland. These projects were guided by the principles of "Conservation by Design" that prioritized the growth and development of indigenous plant and animal communities through natural succession.⁴⁷ The adaptation of natural succession in ecological rehabilitation promises the maturation of sustainable ecosystems without external anthropocentric aid. In regards to the management of the Leslie Spit, human intervention is an ecological and economic liability that should be minimized and avoided if possible.

Landscape architect Linda Pollack argues that wetlands are landscapes incompatible with the pastoral image of 18th-century English gardens. Their porosity and mutability are more akin to the emergent, non-equilibrium paradigm of ecology that rose to prominence in the late twentieth century.⁴⁸ Any apparent stability within natural landscape is an anthropocentric perspective that does not account for the gradual changes that occur unseen.⁴⁹ Nature does not reach a stable final climax; it is a dynamic patchwork that is constantly undergoing succession. As mentioned earlier in the first chapter, Toronto's natural wetlands were negatively portrayed at the turn of the century to rally public support for further urbanization. However, as the current ecological paradigm reconsiders

45 Toronto and Region Conservation Authority. "Cell One Wetland Creation Project." *Tommy Thompson Park*. Web. June 26, 2011.

46 The Metropolitan Toronto Region Conservation Authority. *Tommy Thompson Park Master Plan and Environmental Assessment*. Toronto: The Authority, 1989: 31. Print.

Toronto and Region Conservation Authority. "Cell One Wetland Creation Project." *Tommy Thompson Park*. Web. June 26, 2011.

47 Toronto and Region Conservation Authority. *Tommy Thompson Park, Public Urban Wilderness, Habitat Creation and Enhancement Projects 1995-2000*. Toronto: Conservation Toronto and Region, 2000: 7. PDF file.

48 Pollack, Linda. "Matrix Landscape: Construction of Identity in the Large Park." *Large Parks*. Czerniak, Julia and George Hargreaves, eds. New York: Princeton Architectural Press, 2007: 98. Print.

Tredici, Peter Del. "Neocreationism and the Illusion of Ecological Restoration." *Harvard Design Magazine*. 20 (2004): 2. Print.

49 Tredici, Peter Del. "Nature Abhors a Garden." *Ecological Landscaping Association*. 15 Dec. 2010. Web. 1 Feb. 2013.



Fig. 3.43: Cell #1 in 2001 before construction.



Fig. 3.44: Cell #1 in 2004 during construction.



Fig. 3.45: Cell #1, one year after construction.



Fig. 3.46: Cell #1, four years after construction.



Fig. 3.47: Photo of fish and water level control structure south of Cell #1.

The construction of the gate once again opens up the marshes of Cell #1 to waters of Lake Ontario. However, it must negotiate which species are allowed into the wetlands and which are not.



Northern Pike *Esox lucius*



Common carp *Cyprinus carpio*

Fig. 3.48: Illustrations of Northern Pike and Common Carp.

human and non-humans disturbances as integral aspects of ecological succession, the constructed wetlands at the Leslie Spit have become socially accepted as beacons of ecological revival on the Toronto waterfront.

In reality, the constructed wetlands are quarantined epidemic hemi-marshes that are too fragile for the degraded or disturbed conditions of modern Lake Ontario. This incoherence between wetland and lake is most evident during the spring when invasive common carp try to fight their way into the interior wetland cell [fig. 3.43]. The common carp is a non-native species to the Great Lakes Region known for causing significant damage to aquatic ecosystems through their spawning and foraging behaviour.⁵⁰ In 2010, the TRCA installed a fish and water level control structure south of Cell #1 [Fig. 3.44]. The two exclusion gates allow the passage of water and large native fish species like northern pike from Cell #2 to Cell #1. However, the bar spacing is too small for the large, deep-bodied carp [fig. 3.45]. During the spring, the gates are bombarded with dozens of carp fighting to enter into Cell #1 to spawn.⁵¹

The vague philosophical foundations underlying the hands-off, “let it be” approach advocated by the Friends of the Spit (FOS) obscures and mystifies the extensive human interventions responsible for maintaining the wild appearance of Leslie Spit. The TRCA tries to preserve all ecologies on the headland—successional or constructed—through extensive monitoring programs and management; the wetland cap over Cell #1 is subject to annual sediment sampling, water testing, and wildlife surveys.⁵² These tests are a pragmatic necessity that ensure the health and safety of humans and non-humans. However, they also highlight the contingency between society and nature.

⁵⁰ Friends of the Spit. *Newsletter July 2011*. July, 2011 PDF File. September 7, 2012.

⁵¹ Moore, Chris. “Carp attempting to enter a wetland at Tommy Thompson Park.” Online video clip. *Youtube*. Youtube, July 26, 2011. Web. January 25, 2013.

⁵² Toronto Region Conservation Authority. “Cell One Wetland Creation Project.” *Tommy Thompson Park*. Web. July 26, 2011.



Fig. 3.49: Screenshots of common carp trying to gain access to Cell #1, 2011.

In the spring of 2011, a large group of common carp tried to gain entry into the constructed wetland in Cell #1 of the Leslie Street Spit.

UNKNOWN AND UNPREDICTABLE ECOLOGICAL RELATIONS

SOCIO-NATURE

Historically, ecology served as an agency for institutionalizing the Leslie Spit as a public space. Where large-scale urban development agencies like the THC tried to create an identity for the Leslie Spit, the emergent layer of vegetation of the headland solidified an enduring social identity within the public consciousness. As a result, the headland has become the standard of ecology in a region that has suffered considerable from industrialization. This return of nature is important because it marks a paradigm shift for the waterfront from a place of exploitation in need of improvement to a place that the city must connect with and embrace as an integral part of its urbanity. The Leslie Spit is a landscape whose existence expresses a transition from Toronto's industrial era to its current environmental-sensitivity.

This chapter explores the Leslie Spit as a socio-natural project. Erik Swyngedouw uses the term to describe the hybridity between nature and society that occurs within urbanity: "there is nothing "purely" social or natural about the city, even less a-social or a-natural; the city is both natural and social, real and fictional."¹ As a naturalized landfill just next to the urban centre of Toronto, the Leslie Spit is neither completely natural nor man-made. Any visitor can attest to the headland's unique and erratic landscape of ecology and industrial rubble.

¹ Swyngedouw, Erik. "The City as a Hybrid: On Nature, Society, and Cyborg Urbanization." *Capitalism, Nature, and Society*. 7:2 1996: 66. Print.

The symbolic context for the Leslie Spit becomes problematic because it ironically reinforces the conventional ontological divide between city and wilderness, culture and nature, human and non-human. As mentioned briefly at the end of the previous chapter, the biotic communities of the Leslie Spit are being cultivated in such a way that the social origins of the headland are safely forgotten. One of the only places from which to experience the rubble underbelly of the Leslie Spit is at the armoured shores of the Eastern Endikement.

One defining characteristic of socio-nature is that the contingency and interrelationship between nature and society is rife with contradictions, tensions and conflicts—nothing is innocently apolitical or objective. There are two things under investigation in this chapter: the double-crested cormorant and the environmental shelter. The two things might appear different, but they both helped institutionalize and deconstruct a particular social identity for the ecology of the headland. The chapter documents how these two different things form and contradict these social visions. The first part of this chapter documents the nuances and complications between the social identity of the Leslie Spit as an Important Bird Area (IBA) and an Environmental Sensitive Area (ESA). The designation was given to the headland because it was the annual nesting ground for five species of colonial waterfowl. Over time, the coexistence between the species has become difficult. In the case of the Double-crested cormorant, the massive population growth of its colony presents two problems. The colony intrudes onto the nesting grounds of other species as well as permanently alter the ecology on the western peninsulas of the Leslie Spit. As a result, the cormorant currently finds itself in a strange situation: it was partially responsible for institutionalizing the ecological identity of the Leslie Spit, but is now simultaneously destabilizing its natural ecosystems. The second part of this chapter documents the relationship between nature and architecture on the headland. There is a prescribed perception of nature designed within the very experience of being on the Leslie Spit. How nature is perceived requires a clear delineation between domestic human space and wild non-human space. This underlying psychological divide is what makes architecture on the Leslie Spit like the newly constructed environmental shelter so peculiar; it is a bastion of domesticity within a protected wild sanctuary. It is not wrong to have a building on the Leslie Spit, but its spatial articulation is frustratingly ambiguous. On one hand, the environmental shelter must be a non-human space in order for its wide panoramic view of

6	62	85	188	524	414	931	1,241	1,598	2,539	3,187
989	792	860	911	536	790	1,195	829	807	1,001	1,265
799	42,495	-	-	48,603	55,000	55,000	60,000	60,000	59,453	-
96	106	102	120	123	-	-	-	-	111	-
136	-	-	389	396	-	-	0	266	325	242
0	0	0	0	1	3	28	0	3	-	18

Dbl-cr. Cormorant
 Black-cr. Night-Heron
 Ring-billed Gull
 Herring Gull
 Common Tern
 Caspian Tern

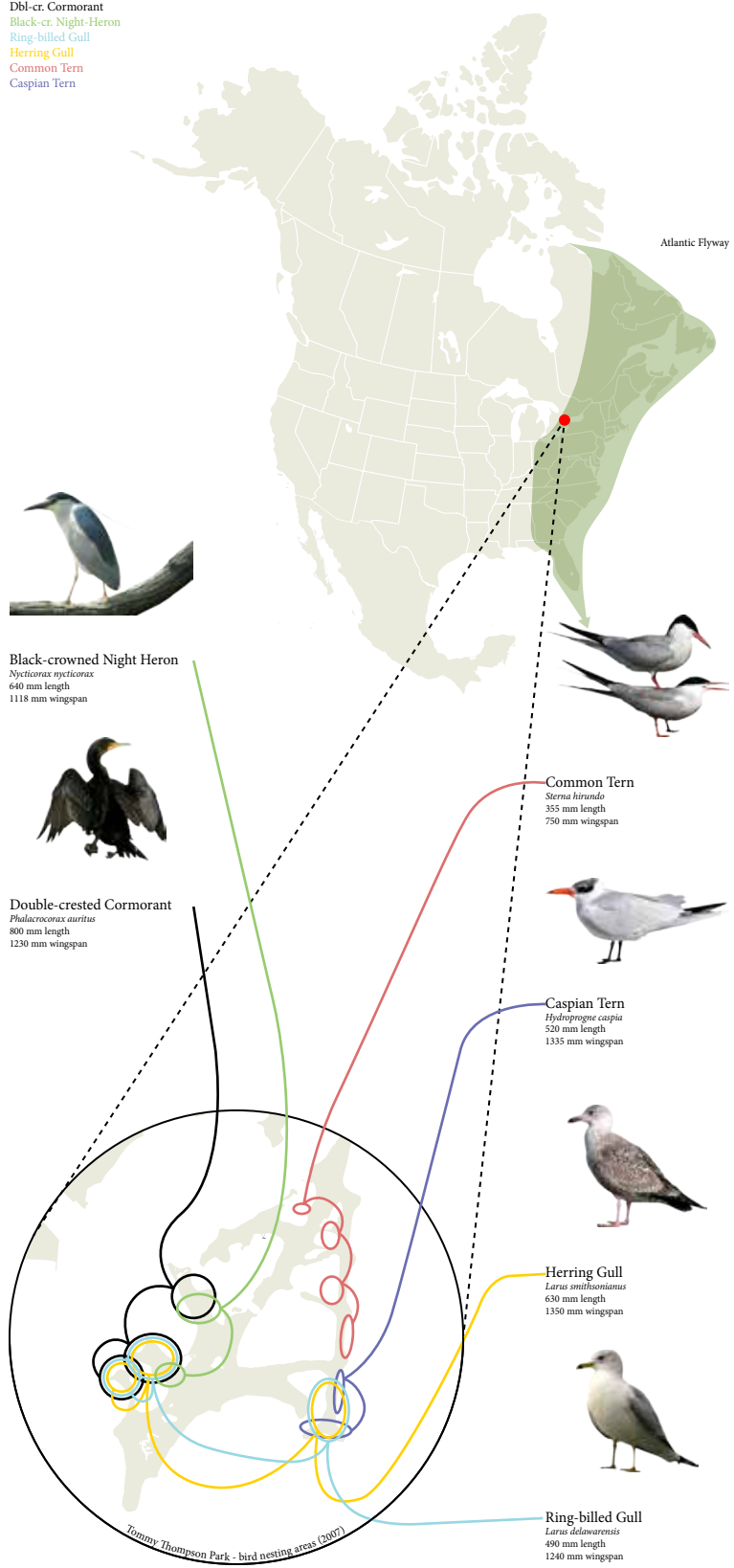
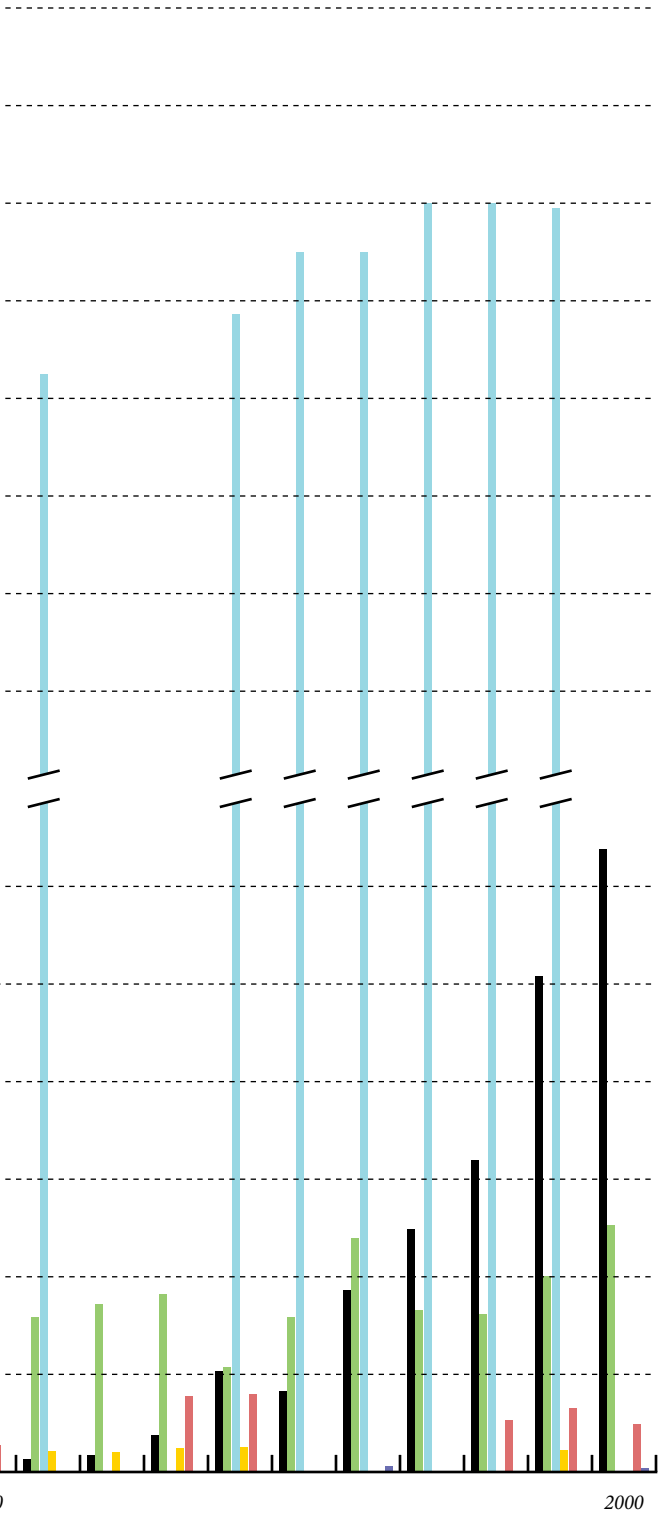




Fig. 4.2: Evidence of deforestation by double-crested cormorants on Embayment B and C.

wetlands to provide “interpretative opportunities.”² On the other hand, the building remains open to the elements and as a loosely controlled territory. This is where architecture converges onto two contradictory images: one as a protected human enclave and the other as a free environmental space where all conventions are forgotten. What is interesting is not that plants and animals defy the traditional ontological human/non-human divide that informs domestic spaces of the environmental shelter, but the unspoken need for domesticity that informs environmental sensitivity.

THE DOUBLE-CRESTED CORMORANT

The social identity of the Leslie Spit as a public urban wilderness is reinforced by the various colonial waterfowl that annually inhabit it. By sheer quantity and diversity, the Ring-billed Gull, the Herring Gull, the Common Tern, the Caspian Tern, the Black-crested Night-Heron, and the controversial Double-crested Cormorant are responsible for the headland’s designation as a globally significant IBA and ESA.³ Consequently, these avian species have become an integral part of any social or ecological visions concerning the headland. The colonial waterfowl have become symbolic totems that have helped extend the public’s ecological awareness beyond the local confines of the headland to the greater bioregion of Lake Ontario. However, it is ironic that the presence of some of these waterfowl colonies responsible for establishing institutionalizing the ecologies of the headland are also unintentionally, but irrevocably changing it.

The Double-crested Cormorant first appeared on the Leslie Spit in 1990 near the water’s edge at the end of Peninsulas B.⁴ At the end of March each year, a flock of the large green-sheened, black waterfowl migrate to Southern Ontario. They nest till June to prepare their young for the flight south during the winter. In the past two decades, the population of the colony has exploded to the tens of thousands.⁵ In 2000, the birds inhabited Peninsula A, B, and C with

² Toronto and Region Conservation Authority. *Tommy Thompson Park Master Plan Implementation Project*. Toronto and Region Conservation Authority, 2009: 47. PDF file.

³ Wilson, William G., Edward D. Cheskey, and the IBA Steering Committee. *Leslie Street Spit -Tommy Thompson Park Important Bird Area Conservation Plan*. Canada Nature Federation, Bird Studies Canada, Federation of Ontario Naturalists. 2001. PDF File.

⁴ Toronto and Region Conservation Authority. *Double-crested Cormorants at Tommy Thompson Park Background*. Toronto: Toronto and Region Conservation, 2008: 2. PDF File.

⁵ Scrivener, Leslie. “30,000 cormorants destroying lakeside park.” *The Toronto Star*. May 20, 2009. Web. November, 06, 2011. Toronto and Region Conservation Authority. *Cormorants at Tommy Thompson Park*. Toronto: Toronto and Region Conservation, 2008. PDF File.



Fig. 4.3: Double-crested cormorants are encouraged to ground nest using structures.

the majority of the colony at Peninsula B. By 2004, the cormorants moved to Peninsula C mostly likely to forest health decline and lack of nesting locations.

The TRCA have acknowledged the cormorants as a possible threat to the biotic communities at the western embayments of the headland.⁶ Contrary to the typical complaints by local hunting and fishing organizations, the conservation authority is not concerned about the considerable appetite of the waterfowl species—a kilogram of fish per day—but how their presence on the headland accelerates deforestation within the ten square kilometre Environmentally Sensitive Area (ESA) designated for Tommy Thompson Park.⁷ In 2006, the double-crested cormorant was responsible for approximately 24% of the total tree area (nine hectares) lost on the Spit.⁸ By 2007, Peninsula C—now considered the main nesting area supporting 4,699 nests—showed visible signs of declining forest health.⁹ The ruthless nest building habits and acidic guano of the cormorant have a large impact on the local vegetation. A cormorant exerts a third of a pound of waste per day.¹⁰ The influence of the cormorant is most visible at Peninsula C where a grove of mature cottonwoods currently stands completely bare without any foliage.

While the TRCA recognizes the contribution of Double-crested Cormorant to the biodiversity of the Tommy Thompson Park, its presence comes at the detriment of others particularly the black-crowned night heron.¹¹ Prompted by the migration of the ring-billed gulls from the Toronto Islands in the late 1970s, a colony of black-crowned night heron now reside on Peninsula D of the Leslie Street Spit.¹² The colony is one of largest in Canada—in 2000, an estimate of 32% of Canadian breeding population nested at the headland—but their numbers have begun to dwindle from the increasing number of cormorants each year.¹³ Both species primarily nest

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- Wilson, William G., Edward D. Cheskey, and the IBA Steering Committee. *Leslie Street Spit -Tommy Thompson Park Important Bird Area Conservation Plan*. Canada Nature Federation, Bird Studies Canada, Federation of Ontario Naturalists. 2001: 14-15. PDF File.
- 6 Tiner, Tim. "Killer Flap on Leslie Spit." *NOW Toronto*. 24:30. (2005). Web. January 19, 2012.
- 7 Wilson, William G., Edward D. Cheskey, and the IBA Steering Committee. *Leslie Street Spit -Tommy Thompson Park Important Bird Area Conservation Plan*. Canada Nature Federation, Bird Studies Canada, Federation of Ontario Naturalists. 2001. PDF File.
- 8 Toronto and Region Conservation Authority. *Cormorants at Tommy Thompson Park*. Toronto: Toronto and Region Conservation, 2008: 39. PDF File.
- 9 Toronto and Region Conservation Authority. *Double-crested Cormorants at Tommy Thompson Park Backgrounder*. Toronto: Toronto and Region Conservation, 2008: 2. PDF File.
- 10 Freed, Dale Anne. "Big birds causing flap on Leslie Spit." *Toronto Star*. April 04, 2008. Web. Jan 20, 2012.
- 11 Toronto and Region Conservation Authority. *Double-crested Cormorants at Tommy Thompson Park Backgrounder*. Toronto: Toronto and Region Conservation, 2008: 2. PDF File.
- 12 Wilson, William G., Edward D. Cheskey, and the IBA Steering Committee. *Leslie Street Spit -Tommy Thompson Park Important Bird Area Conservation Plan*. Canada Nature Federation, Bird Studies Canada, Federation of Ontario Naturalists. 2001:20. PDF File.
- 13 *ibid*:12.
Toronto and Region Conservation Authority. *Double-crested Cormorants at Tommy Thompson Park Backgrounder*. 4. Web.

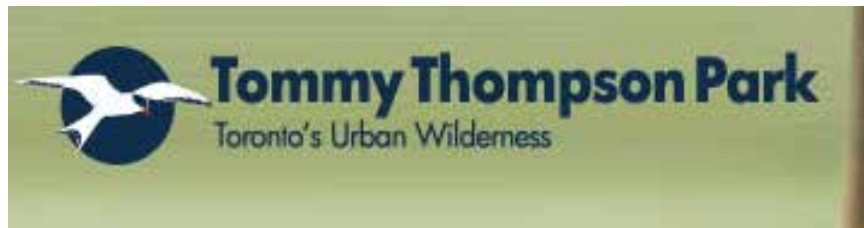


Fig. 4.4: Common Tern on the official logo of Tommy Thompson Park.



Fig. 4.5: A Double-crest Cormorant on a Canadian postage stamp for 2005.

Despite the negative stigma bestowed upon cormorants by local hunting and fishing organizations in Southern Ontario, the waterfowl is also a positive symbol of ecological revival for the Great Lakes Region.

Sympathetic Landscapes: Aesthetics for the Leslie Street Spit



Fig. 4.6: Collection of screen captures of double-crested cormorant breeding ground on Peninsula B through live 24-hour webcam feed, 2012.

in trees while the other three waterfowl species are ground nesters.¹⁴ As a result, the larger cormorant colony crowd out the night herons away from the relatively small cluster of cottonwoods on the western peninsulas.

The TRCA has deemed lethal measures for the cormorants unnecessary and have instead tried to minimize their destructive nesting habits by encouraging ground nesting in designated enhanced breeding grounds on Peninsula A and B. The large deforested portion of Peninsula B now contains artificial structures made of discarded tree limbs, hay bales and tires to attract and protect cormorant nesting pairs [fig. 4.1]. This approach has proven relatively successful at increasing the ground-nesting productivity on the Spit. In 2009, one thousand of the seven thousand cormorant nests on the Leslie Spit were on the ground.¹⁵ In 2012, that number has risen to almost fifty percent.¹⁶

Pre-nesting and post-nesting deterrents like egg oiling have been used on Peninsula C at the request of concerned ornithologists and the Aquatic Park Sailing Club.¹⁷ Egg oiling is the application of mineral oil on eggs to suffocate the embryo before it can hatch. Considered a humane method by some, egg oiling also prevents double-clutching by tricking the cormorant into incubating an infertile egg. The different techniques used to control the cormorants does not hide the irony and double standards implicit within the relationship between western society and nature—a native species recovering from near extinction by anthropological causes is set up for unwarranted punishment. Many ecologists consider the cormorant to be a symbol of ecological restoration in the Great Lakes Region, but the general public want the waterfowl to be culled for the protection of nature. Natural preservation is a cultural idea that is often guided by many underlying cultural biases on what the natural world should be—a non-human realm that acts as a critical antithesis to urban settlements—rather than what nature actually is. The social attitudes associated with the double-crested cormorant reveal a disquieting truth about nature as fetish; people like to look at nature not live with it.

The public perception of the cormorant is not as welcoming as with the Common Tern which is featured prominently on the official logo of

¹⁴ Wilson, William G., Edward D. Cheskey, and the IBA Steering Committee. *Leslie Street Spit -Tommy Thompson Park Important Bird Area Conservation Plan*. Canada Nature Federation, Bird Studies Canada, Federation of Ontario Naturalists. 2001:12. PDF File.

¹⁵ Scrivener, Leslie. "30,000 cormorants destroying lakeside park." *The Toronto Star*. May 20, 2009. Web. November, 06, 2011.

¹⁶ Toronto and Region Conservation Authority. *Double-Crested Cormorants at TTP: 2012 Webcam Photos from the Ground Nest Colony, 2012*. Toronto: Toronto and Region Conservation, 2012: 25. PDF File.

¹⁷ Scrivener, Leslie. "30,000 cormorants destroying lakeside park." *The Toronto Star*. May 20, 2009. Web. November, 06, 2011.



Fig. 4.7: Section of the Environmental Shelter at Cell #1 by Montgomery Sisam Architects.

The Friends of the Spit disapproved the bigger and more impressive buildings with the Design Review Panel of Waterfront Toronto and their desire for. Not satisfied with the original provincially-approved Revised Master Plan for Tommy Thompson Park, the design review panel wanted larger and higher buildings.

The Friends of the Spit appreciate the simple, compact, low-key design of by Montgomery Sisam Architects. The group consider overt architectural expression as decadent and full of hubris. High profile buildings like the ROM renovation considered inappropriate for the non-aesthetic wilderness of the Leslie Spit. The architecture on the headland should be muted so that Nature is amplified.

Tommy Thompson Park [fig. 4.4]. Such favour has been shown to the double-crested cormorant despite being a symbol of ecological revival.

THE ENVIRONMENTAL SHELTER

The environmental shelter is located at the junction between the main spine and the endikement just north of the Cell #1. The shelter provides shelter from the elements for organized groups and individual park visitors. The building has four rooms; two washrooms, a storage closet and a communal subterranean room. The first three rooms are enclosed and securely locked from humans and non-humans alike while the last room is opened to the exterior. The 180-270 degree view of the wetlands from the shelter is for interpretive opportunities. The main room was designed for visitors to comfortably survey the surrounding wetland ecologies without disturbing the surrounding wildlife.

This sensibility is reflected in the following series of panoramic photographs of the Leslie Spit [fig. 4.13-25]. The photos have an aspect ratio that complements the horizontal linearity of the headland, giving the landscape a sense of scale and grandeur. The photos do not communicate the specific ecological nuances of the headland, but uses the different swaths of flora in each biome to create a visual hierarchy. According to this heightened presentation, the various wetlands, meadows and forested areas of the Leslie Spit become aesthetically pleasing compositional elements for human enjoyment. It is possible for those who look at the photos in this thesis to find an aesthetic value for the headland that can later be translated into deeper affection and meaning beyond appreciation. This logic supports most environmental action—if a person truly experiences Nature and its natural beauty exactly for what it is, they will be inclined to treat non-human life better. The shelter bestows the ephemeral landscape of the headland with social meaning that is beyond or congruent to its intrinsic ecological value. However, despite the effectiveness of this conventional landscape perspective, the photos limit the headland by distancing it as an Edenic fetish object to be desired, observed, and manipulated from afar.

The Leslie Spit does not evoke the dramatic theatricality or monumentality found in places like the Scarborough Bluffs. The constructed headland is understated because it is a flat, repetitive landscape that has been purposely



Fig. 4.8: Interior of the environmental shelter looking at Cell #1 beyond.

The view to the south towards the wetlands at Cell #1 the main working area used for small gatherings and exhibition. The building is approximately 460 sq. ft. There are two washrooms to the right with a storage closet to the left—all of these rooms are daylit from above by skylights. Behind the main room is a constructed berm of excavated earth covered with newly planted vegetation. The threshold of the shelter is subtly articulated with a minimal concrete lintel above and a material change between smooth concrete floor surface and gravel path outside. The stone seating enclosing the gravel path



physically and psychologically defines the entry path into the building that also sets the natural landscape apart as an environmental backdrop.



Fig. 4.9: Exterior of the environmental shelter.

The exterior of the environmental shelter by Montgomery Sisam Architects. The building is clad in unadorned corten steel. The envelope is not a hermetically sealed surface but it suppresses all architectural conventions and expressions of construction underneath. The building resonates a monumentality through its material and formal austerity. The interior surfaces of the main room are all made of reinforced in-situ concrete. Apart from the holes used to fasten scaffolding, the concrete surfaces appear continuous from ceiling to wall to ground. The concrete feels thick, solid, massive and heavy as if the shelter was one



single unit of concrete coming out of the ground. The human spaces of the shelter are not built enclosures as much as they are exterior voids that are simply inhabited. A hint of domesticity is implied with the use of wood as a tactile material for seating and shelving. Notice signs of removed graffiti on right side of the shelter—monumentality is easily undermined by signs of inhabitation be they human or non-human.



Fig. 4.10: Photo of a bird's nest in the environmental shelter.

kept unaestheticized. The Friends of the Spit mandate that all artificial expressions on the headland should be suppressed because it hinders or detracts from the local ecologies. The group believes that the absence of human expression, unrefinement, and lack of adornment allows visitors to experience the ecological authenticity and natural beauty of the headland. To artificially modify the landscape for aesthetic reasons is “inconsistent with the a wilderness park concept.”¹⁸ The social value of the headland resides in its identity as a non-human place governed by successional ecology. Unfortunately, the extraordinary social qualities that make the headland unique as a place—its rubble foundations or its community of over four-hundred different species of flora—are not immediately apparent or simply ignored. The heaps of construction waste do not register the same amazement or horror as a Edward Burtynsky photograph. They are instead annoying nuisances like a junky backyard in need of clean up. The headland remains cryptic and unmemorable by its very naturalism and lack of aesthetic manipulation. The FOS and TRCA indirectly acknowledge this shortcoming by hosting peripheral supplements like information placards, nature tours and educational excursions for school children.

The environmental shelter is a hidden human-sanctioned enclave within a non-human territory that offers visitors anonymity as they observe Nature from afar. The hermetic ecological veneer enveloping the shelter may seem covert for humans, but the building has already been inhabited by non-human life since its inaugural ribbon cutting ceremony on May 7, 2013. Songbirds have nesting in the subterranean room while some unknown animal has been defecating all over the wooden benches and shelves at the rear of the room. Eating is restricted at the environmental shelter, but animals are still attracted to its interior.¹⁹ When visitors enter the shelter, their presence does not go unnoticed—they agitate the nesting birds who in turn alert any surrounding animals with their panicked flying and chirping. These circumstances undermine the fundamental programming of the shelter by failing to satisfy the human desire for domestic space within wilderness.

Humans are unique because they are the only territorial creature on this planet that territorialize space at the exclusion of other living creatures. When we create space, it is exclusive to ourselves. Domestication is a

¹⁸ Hough, Michael. *Cities and Natural Processes*. New York, London: Routledge, 1995: 181. Print.

¹⁹ Toronto and Region Conservation Authority. *Tommy Thompson Park Master Plan Implementation Project*. Toronto and Region Conservation Authority, 2009: 47. PDF file.



Fig. 4.11: Photo of animal droppings in the environmental shelter.

civilized space exclusive to humans; it remains an unspoken truth even as individuals attempt to extend the bounds of their disinterest into the non-human realm. The environmental shelter provides a fiction where humanity's enjoyment of nature does not interfere with their need for domestication. Both realms are exclusive within human consciousness.

Even when humans profess to love Nature, any implied intimacy is repressed or subdued by the corresponding desire to protect and preserve Nature through denial and distance. From the human perspective, total intimacy deprives Nature its non-human essence; any animal loved affectionately by humans is considered a pet, the total antithesis of a wild animal. The love of Nature does not manifest in a communal coexistence between humans and non-humans but the fetishization of wildness.

The spatial articulation of the environmental shelter is inconsistent with its concept and programming. Despite being enclosed on three sides, the main viewing room is an exterior space open to be inhabited by non-human life like insects, birds, and other mammals. Without a conventional interior and exterior partition, the architectural object can be afflicted by material decay and fouling. The environmental shelter has difficulty maintaining its human exclusivity [fig. 4.11-2]. This unanticipated physical transgression between inside and outside denies the possibility of an domesticated space on the Leslie Spit accommodating the human need for a clean, domestic environment.

The only true interior spaces are the storage closet on one side and two washrooms on the other. It seems that the closet and the washrooms were intended to be used by park management and official tour groups because they are kept locked from the public during park opening hours. The inaccessibility of the enclosed interiors implies that they are private spaces while the open interior space of the environmental shelter is for both human and non-human visitors.

The FOS were responsible for influencing the environmental and aesthetic policies of the Tommy Thompson Park by advocating to preserve nature whilst increasing its accessibility to human visitors.²⁰ FOS fundamental refuse to keep or permit any man-made structure on the headland. Even if man-made structures and objects benefit non-human life—hawks use

20 Carley, John. "About the FOS." *Friends of the Spit*. Friends of the Spit. Web. 1 Feb. 2013.

abandoned, free-standing concrete poles at the headland—the FOS petition for their removal. The advocacy group value the natural ecology of the headland—it is not a place for aesthetically driven designs.²¹ They are of the opinion that architecture is a symbol of human decadence, ignorance and hubris that detracts from the unique pleasure of visiting the headland foregoes any understanding of architecture as a form of expression.

Nevertheless, the environmental shelter is needed to frame the Leslie Spit. Without the building's 180° to 270° view, Nature—the externalized realm of the non-human—cannot be conjured. The “public urban wilderness” narrative of the FOS is only possible when a distinction is made between lifeless man-made rubble and vibrant vegetation. In other words, the headland returns to meaninglessness; the site devolves into a collection of plants and animals that inhabit a vast infrastructural landscape. The dry reality of what the Leslie Spit actually is—a clean dump with a park over top—has been a continual problem experienced by the THC, the TRCA and the general public. This is why there is a need to constantly redefine the headland with new names and identities.²²

The social history of the Leslie Spit is problematic within the ecological revival narrative of the headland. The environmental shelter tries to obscure the perceptual distance integral to its operation as an isolated human space within non-human territory. This conceptual trickery allows humans to experience Nature in detached intimacy—accessible, but isolated.

21 Hough, Michael. *Cities and Natural Processes*. New York, London: Routledge, 1995: 181. Print.

22 Scrivener, Leslie. “Does Leslie St. Spit need new names?” *The Toronto Star*. May 24, 2009. Web. November 7, 2011.



Fig. 4.12: Photo of the entrance to the Leslie Street Spit.





Fig. 4.13: Photo of the causeway from Spine Road.





Fig. 4.14: Photo of the causeway from the pedestrian paths off Spine Road.





Fig. 4.15: Photo of the causeway from Spine Road.





Fig. 4.16: Photo of toll gate at the beginning of the causeway.





Fig. 4.17: Looking south from the causeway.





Fig. 4.18: Concrete street lamp posts splayed out over the northern groyne of the endikement.





Fig. 4.19: Photo of construction waste on endikement.





Fig. 4.20: Photo of visitors on the endikement.





Fig. 4.21: Photo of temporary, makeshift pathways on endikement.





Fig. 4.22: Photo of concrete rubble on endikement.





Fig. 4.23: Photo of the lower shoreline of a groyne field at the endikement.





Fig. 4.24: A floating tern raft at the Embayment D.





Fig. 4.25: Photo of shoreline at Embayment D.





Fig. 4.26: Photo of Embayment D facing northwest.





Fig. 4.27: Photo of forested meadow near Embayment C.





Fig. 4.28: Photo of forested meadow on Peninsula C looking northwest.





Fig. 4.29: Photo panorama of the southern rubble flatlands of the Leslie Street Spit.





Fig. 4.30: Photo of Embayment B with Toronto in the background.





Fig. 4.31: Photo of Embayment A facing northwest.





Fig. 4.32: Photo of Vicki Keith Point.



CONCLUSION

The Leslie Spit began as a man-made, infrastructural armature designed to improve the economic potential of the adjacent Portlands Industrial District by providing more water-access through the new Outer Harbour. The future of the headland was and has always been tied to the economic growth on the Toronto waterfront even after the city's shipping industry fell into decline. The site was abandoned and used throughout the 1970s as the city's primary rubble landfill. The headland only found a sense of place after it came under the ownership of the TRCA and its emergent ecology was discovered by the public. The headland was recontextualized from a meaningless tangent of landfilling into a social symbol of ecological recovery for a region heavily affected by nineteenth and twentieth century industrial expansion. Landscapes that were once lost to urbanization and landfilling— like the Asbbridge's Bay—have found their spiritual successor in the Leslie Spit. The identity of ecology preserve has become the *raison d'être* for the rubble breakwater. Now the headland is significant to the city and public of Toronto.

Unfortunately, the overarching ecological narrative or mythology is centred on a general human-centric perception regarding how humans and non-humans interact. Ecological preservation has become synonymous with simply "letting nature take its course."¹ David Crombie, the former mayor of Toronto and head of the Royal Commission on the Future of the Toronto Waterfront, famously stated, "while all the [planning for the waterfront] was going on, nature decided the issue."² The notion that nature will eternally thrive without human interference is often seen as an immutable natural law that is an unquestionable

1 Gee, Marcus. "Wild in the City." *The Globe and Mail*. (1993): D2 Print.

2 *ibid.*

good. Ecological preservation eliminates all human liabilities and responsibilities by restricting any participation with non-humans. Humanity should not dominate non-human life, but it should also try to actively engaged with it. The ecology of the Leslie Spit is often defined under the moniker “public urban wilderness” or “evolving laboratory.” Unfortunately, neither category acknowledges or accounts for the unpredictability and contradiction of ecology beyond mere conceptual formality. Nor do they express an actual experience or relationship with non-humans. In other words, the Leslie Spit is a rich social and ecological place with an improvised aesthetic.

This thesis explores why a new aesthetic is needed. Chapter one and two outline the history, development, and characteristics surrounding the physical landscape of the Leslie Spit. The third chapter discusses the ways in which the ecology of the headland is perceived and realized within the social imagination. The critical aspect of this aesthetic is not a new architectural formality, but a change in attitude that opens up new values. One value is understanding and appreciating the unpredictability that comes from ecological relations with non-humans.

The documentation of the Leslie Spit assembled in this thesis was done so under the pretense that its aggregation would provide an alternative reading of the site that could offer a feeling for the site as a place. There is not yet a clear path towards a sympathetic landscape. Sympathy is a quality that extends beyond pragmatism and opportunity. It also suggests a feeling for, a emotional response. The Leslie Spit once evoked such a response, but has since lost its gravitas. Now lingering eccentricities remain, nagging at the edges of the headland’s slick formalized remake. Maybe the goal of the Leslie Spit is not development, but undevelopment—the moment when human intention is undermined.

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