

Tommy Thompson Park Master Plan
Implementation Project

Project Description under the Canadian
Environmental Assessment Act

Prepared by
Toronto and Region Conservation

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1.0 INTRODUCTION

1.1 Project Overview

Tommy Thompson Park (TTP) represents the largest area of existing natural habitat on the waterfront in Canada's largest city (see Figure 1). Toronto and Region Conservation (TRCA) has managed TTP since the early 1970s as a "public urban wilderness". Known locally as the Leslie Street Spit, TTP is a unique natural area which has been formally designated as an "Important Bird Area" (IBA) of global significance by Birdlife International.

In 1989 TRCA completed an extensive environmental assessment and planning process which resulted in the creation of the Tommy Thompson Park Master Plan. This planning process became the foundation for the creation of a unique urban wilderness feature. The main objectives of the Master Plan for TTP are to:

- Preserve significant species;
- Protect environmentally significant areas;
- Enhance aquatic and terrestrial habitat; and
- Enhance public recreational opportunities.

Current hours of operation are restricted to weekends and holidays due to the truck traffic associated with the ongoing filling operations undertaken by the Toronto Port Authority on the lands currently leased from the Ministry of Natural Resources (see Figure 2). Despite the restricted operation hours, well over 100,000 visitors enjoy the Park on an annual basis. Given the high visitor numbers and the proposed residential development of the Portlands (that could see local resident numbers reach 60,000), TTP is recognized as one of the best areas for greenspace improvement along the Toronto waterfront.

The potential for increased visitorship could be achieved by extending the current hours of operation to weekdays and the implementation of infrastructure works such as washroom facilities, trail systems and interpretive features. These infrastructure works have been addressed through an extensive master planning process undertaken by TRCA (TTP Master Plan and Environmental Assessment, MTRCA, 1989; and TTP Master Plan and Environmental Assessment, MTRCA, 1992). The ecological approach to Park development focused on creating a unique urban wilderness.

To date, limited funds have been available to implement the Master Plan. The City of Toronto has provided funding to TRCA for the interim management and limited development activities of the Park. The new funding partnership between TRCA, the Toronto Waterfront Revitalization Corporation and the federal government will be vital in implementing the Master Plan. A period of three years has been assumed for the implementation of major components of the Master Plan as per the Delivery Agreement with the Toronto Waterfront Revitalization Corporation. The scope of the Project will be

limited to the creation of a new park gateway, park amenities including signage, trails and washrooms, and the creation of natural heritage features.

1.2 Contacts

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The following agencies have received copies of this document for review:

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Figure 1: Project Location

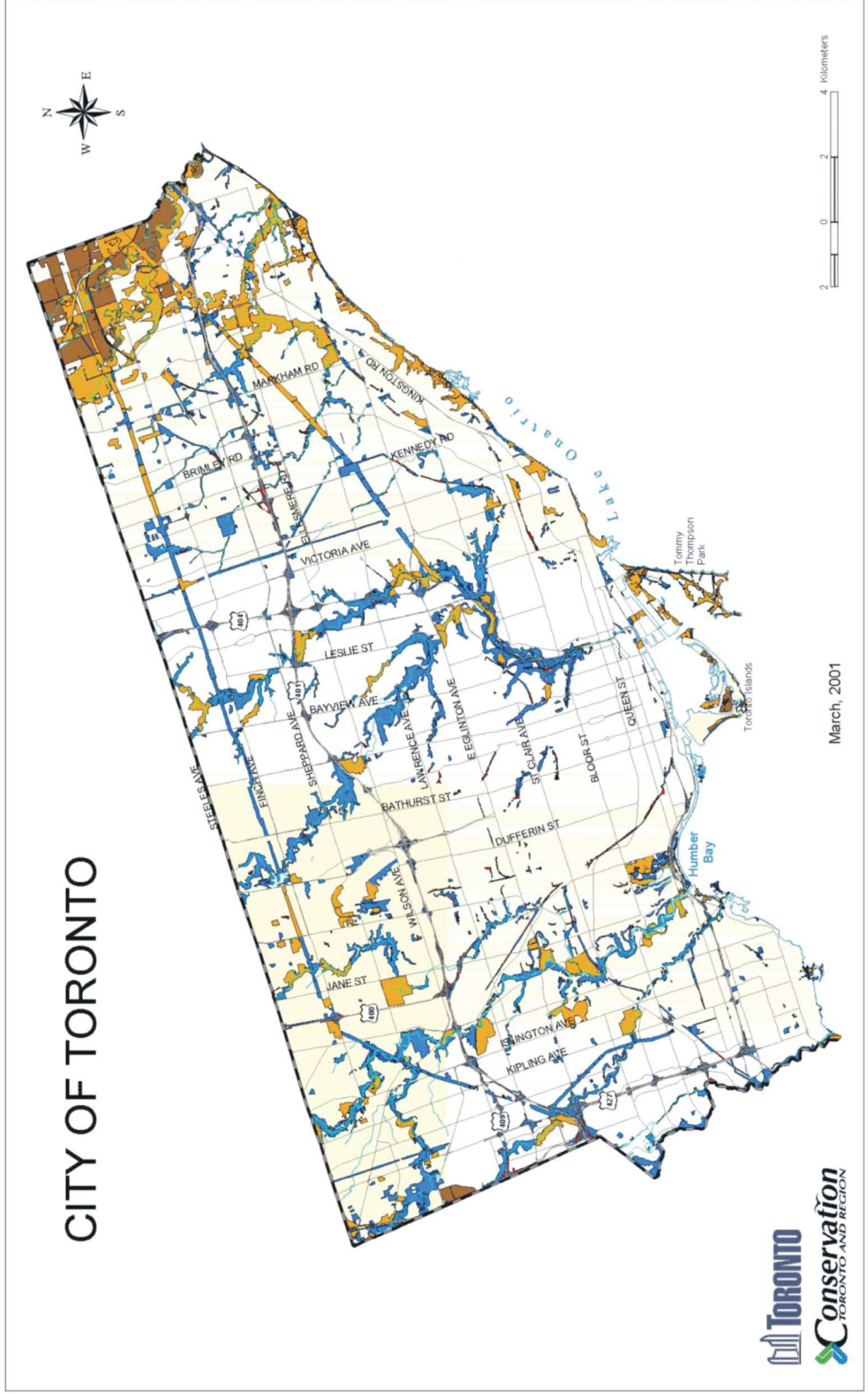




FIGURE 2 - TTP Property Ownership

1.3 Community Consultation

Toronto and Region Conservation consulted with numerous federal authorities, municipal, provincial governments and public groups. This included the Ministry of the Environment, Ministry of Natural Resources, Environment Canada, Department of Fisheries and Oceans, Ministry of Citizenship, Culture and Recreation, City of Toronto, local councillors, local MP's and MPP's, the Waterfront Regeneration Trust and other stakeholders.

In 2003, TRCA established the TTP Advisory Committee to provide input and direction in the implementation of the Master Plan. The committee continues to assist with the planning and implementation of activities that are consistent with the goals, objectives, policies and guidelines of the TTP Master Plan and Environmental Assessment. Specifically, the role of the TTP Advisory Committee is to:

- (a) Assist with the implementation of the TTP Master Plan, and the realization of TTP as an "urban wilderness park".
- (b) Provide feedback and information to TRCA staff to assist in the implementation of the TTP Master Plan and the Interim Management Program.
- (c) Promote and assist with the establishment of partnerships that will advance the implementation of the TTP Master Plan and to improve the health, and sustainability of the Park.
- (d) Foster communication and education on TTP issues, projects and initiatives through public meetings, workshops, displays, publications and community-based special events.
- (e) Bring forward issues, events, policies, or proposals that may impact TTP or its management, arising or discovered by member's representative organizations.

1.4 Federal Involvement

Under the Canadian Environmental Assessment Act (CEAA), the federal government is required to undertake an environmental assessment of a project where a federal authority performs one or more of the following functions with respect to a project:

- Is the proponent of a project;
- Provides financial assistance to enable a project;
- Leases, sells or disposes of land to enable a project; and/or
- Exercises a regulatory duty that is included in the *Law List Regulations* in relation to a project.

Citizenship and Immigration Canada, as the federal agency through which Toronto Waterfront Revitalization Corporation (TWRC) funds will flow is participating in the environmental assessment as a Responsible Authority (RA) under the *Canadian*

Environmental Assessment Act (CEAA). Under CEAA, a screening report will be submitted to the RA or the federal environmental assessment coordinator (as identified by CEAA) so that the Responsible Authorities can make a decision pursuant to Subsection 20(1) of CEAA.

It is anticipated that there will be other RAs as a result of the exercise of regulatory duties. Other RAs or federal expert authorities may include the Department of Fisheries and Oceans, Environment Canada, Health Canada, Transport Canada- Navigable Waters Program, and the Toronto Port Authority. See the distribution list in Section 1.2.

1.5 Authorizations and Approvals

Received

TRCA staff received direction to proceed with implementation of the TTP Master Plan at Authority meeting #4/04 held on July 16, 2004 with the adoption of Resolution #D54/04.

TRCA received Approval to Proceed with the implementation of the TTP Master Plan from the Ministry of the Environment under subsection 7(1) of the *Environmental Assessment Act* on February 22, 1995.

Department of Fisheries and Oceans - Fish Habitat Management
Authorization for the harmful alteration, disruption or destruction of fish habitat pursuant to subsection 35 (2) of the Fisheries Act for Cell 1
File No. 525-1482
Date: August 20, 2002

Ministry of the Environment
Environmental Assessment Act Section 9 Notice of Approval to Proceed with the Undertaking for Cell 1
EA File No. CA-MT-02
Date: May 2, 2001

Department of Fisheries and Oceans - Fish Habitat Management
Authorization for the harmful alteration, disruption or destruction of fish habitat pursuant to subsection 35 (2) of the Fisheries Act for Embayment A
File No. 525-4767
Date: January 16, 2002

Ministry of the Environment
Environmental Assessment Act Section 9 Notice of Approval to Proceed with the Undertaking, TTP Master Plan
EA File No. 525-4767
Date: January 16, 2002

Required

The project also requires approvals under Section 35(2) of the federal *Fisheries Act*, Section 5(1) and 5(2) of the federal *Navigable Waters Protection Act*. These approvals also trigger CEAA, and as a result Fisheries and Oceans Canada (DFO) will also be a Responsible Authority.

2.0 PROJECT INFORMATION

2.1 Project Components

The implementation of the Project includes the preparation of detailed designs; park development, including infrastructure, shoreline protection, construction of trails, lighting and sign installation, landscaping; and the acquisition provincial lands. Implementation of the Project includes numerous core project components described in Table 1. These core project components are also outlined in Figures 3, 4 and 5.

The scope of this work will be limited to the following:

- 1) Park Infrastructure
 - Park Gateway
 - Environmental Education Shelter and Washroom Facility
 - Nature Viewing and Park Amenities
 - Self-Sustaining Washrooms
 - Ecological Research Station
 - Trails

- 2) Natural Area Restoration and Development
 - Wetland Development
 - Embayment Enhancement
 - Terrestrial Habitat Creation and Enhancement
 - Essential Wildlife Habitat Creation

Table 1: Project Components

Project Phase	Project Components	Description	Timing
Construction	Park Infrastructure		
	➤ Park Gateway	Construct new entranceway and facilities Install new signage Landscape Shuttle van turn-around Interpretive area, gatehouse	05/06-06/07 05/06 05/06-06/07 05/06-06/07 05/06
	➤ Environmental Education Shelter	Construction of facility, washrooms, and amenities	06/07

Project Phase	Project Components	Description	Timing
	and Washroom Facility	Landscaping New trail alignment, interpretive signage	06/07 05/06
	➤ Nature Viewing and Park Amenities	Construct viewing platforms/blinds Landscaping Install interpretive signage and seating New trail alignments	05/06-07/08 05/06-07/08 05/06-07/08 05/06-07/08
	➤ Ecological Research Station	Construction of facility Landscaping Interpretive signage, amenities Control structure/pedestrian bridge	05/06 05/06 06/07
	➤ Trail System	Multi-Use Trail Construct 1.5 km south section Construct 1.6 km central section Interim 2.1 km north section improvements	05/06 06/07 06/07
		Primary Pedestrian Trail Construct Cell 1 trail section (500m) Construct access trail (2.1 km) Construct nature viewing trails (1.2 km) Construct south shore trails (2.0 km) Construct central section trails (1.6 km) Construct remainder of trails	05/06 06/07-07/08 05/06-07/08 07/08 06/07 07/08
		Secondary Pedestrian Trail Existing trails will be modified and expanded from 2005 onward	05/06-07/08
	➤ Natural Area Enhancement	Embayment A Grading and filling Island creation or berming Habitat structures Planting Monitoring / site surveys Embayment B	05/06-06/07 06/07-07-08

Project Phase	Project Components	Description	Timing
		Grading and filling Island creation or berming Habitat structures Planting Monitoring / site surveys Embayment C Grading and filling Island creation or berming Habitat structures Planting Monitoring / site surveys	07/08
Operations and Maintenance	<ul style="list-style-type: none"> ➤ Routine Park Maintenance ➤ Other Maintenance 	Maintenance of trails, access, amenities, such as garbage removal, trail clearing Maintenance of the habitat features, such as tree planting	Ongoing Ongoing
Decommissioning		n/a	

Figure 3: Tommy Thompson Park - Trail System Conceptual Plan



Figure 3

Figure 4: Tommy Thompson Park – Infrastructure Conceptual Plan

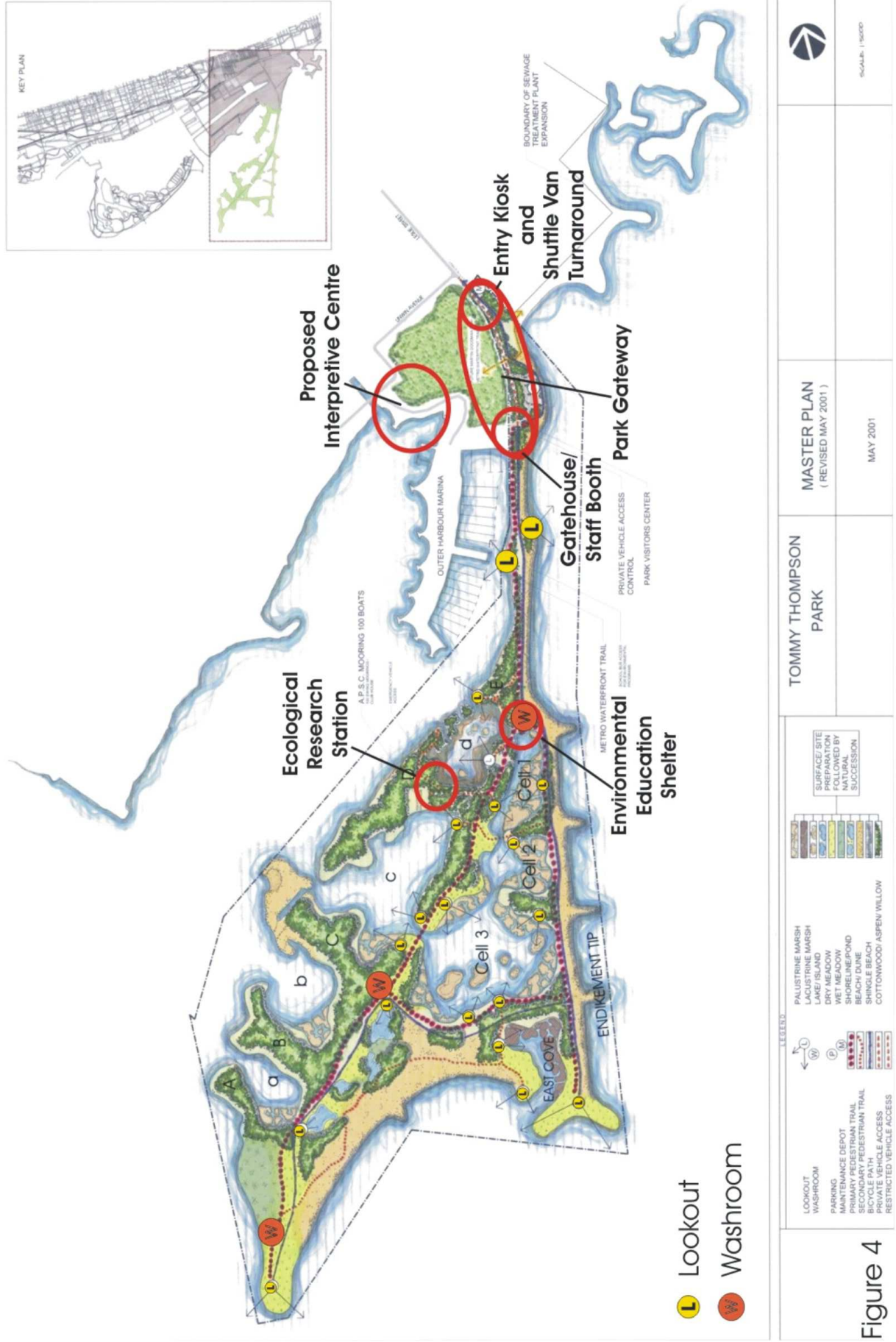


Figure 4

Figure 5: Tommy Thompson Park – Natural Areas Restoration and Development Conceptual Plan

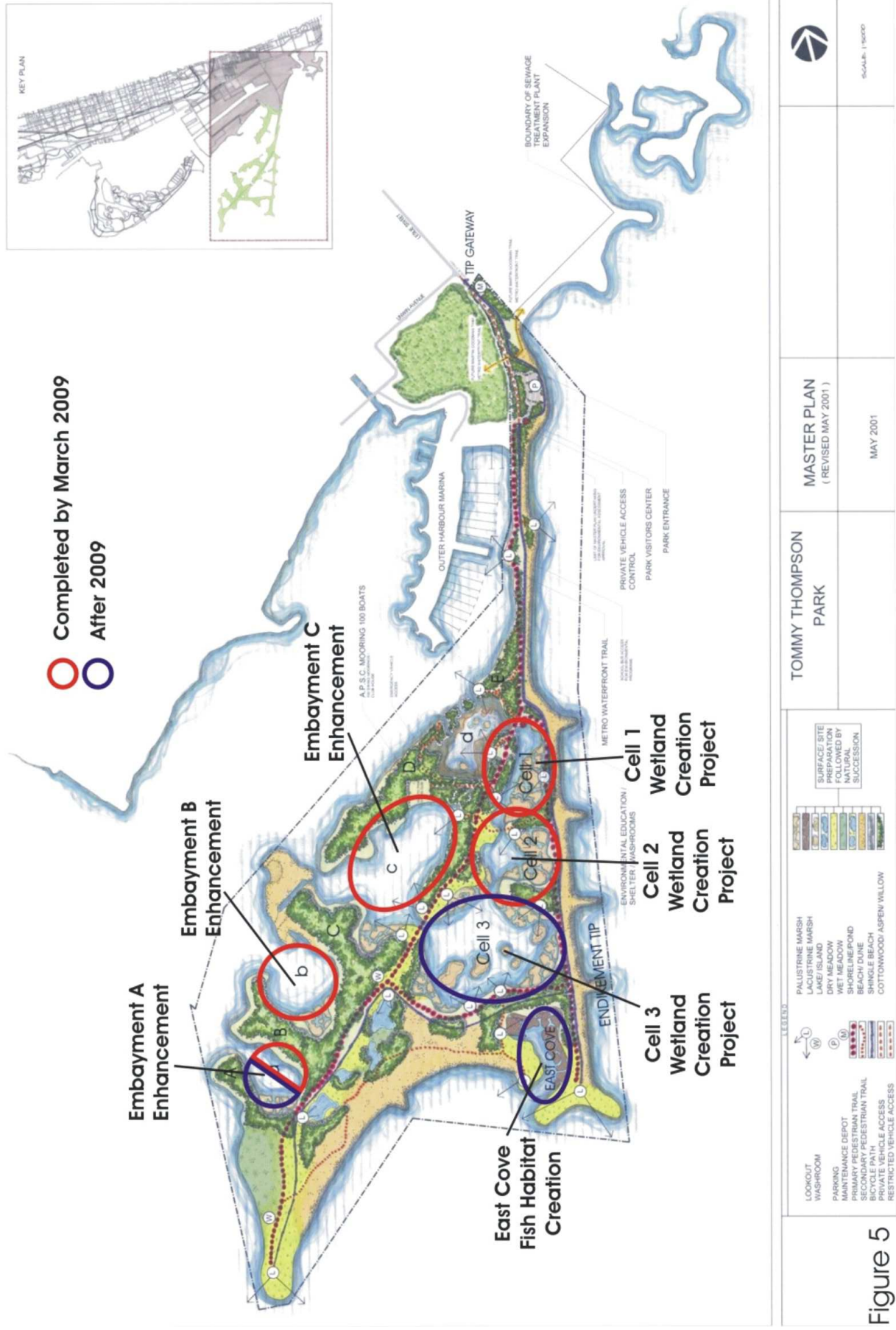


Figure 5

2.2 Project –Environment Interaction Matrix

Table 2 lists the project components described in Table 1 and identifies those components that have a potential interaction with environmental components. Identified interactions will be used in the assessment of potential environmental effects of the Project, as described under CEAA.

2.3 Resource/Material Requirements

It is anticipated that the implementation of the Project will require extensive resources and materials. These may include the following:

- clean earth and sand fill
- clean broken rubble
- cobble and gravel
- rip rap stone
- armour stone
- natural woody debris
- lumber
- native plants and seed

Fill volumes will be from imported sources, including clean earth and rubble that is delivered from nearby construction sites. The natural stone material will be purchased from an approved quarry. The quality of all earth fill imported to the site will be monitored in accordance with the Ministry of Environment draft Fill Quality Guidelines for Lakefilling in Ontario (December 1997). In addition, Toronto and Region Conservation will continue to administer the TRCA Lakefill Quality Control Program. Any lumber used in the construction of any of the project components will be free of dioxins or creosote. Woods such as rot resistant western red cedar, hemlock, white cedar or substances such as chromated copper arsenate will be used as an alternative. The selection materials used in the implementation of the Project will adhere to TRCA's commitment to resource conservation and recycling, and will follow recommendations provided by Environment Canada.

Table 2: Project-Environmental Interaction Matrix

Component	Coastal Processes	Surface Water Quality & Quantity	Groundwater Quality & Quantity	Wildlife/Habitat	Species at Risk	Vegetation and Wetlands	Terrain and Topography	Migratory Birds	Fish and Fish Habitat	Soils and Sediments	Air Quality and Climate Change	Noise/Vibration	Socio-Economic Conditions	Heritage/ Archaeology	Land Use	Aboriginal Interests	Human Health	Transportation and Navigation	
	Construction Activities																		
Park Gateway		✓		✓	✓				✓		✓	✓		✓				✓	✓
Environmental Education Shelter & Washroom		✓		✓	✓			✓		✓	✓	✓		✓	✓			✓	✓
Nature Viewing and Park Amenities		✓		✓	✓			✓	✓		✓	✓		✓				✓	✓
Self-sustaining Washrooms		✓		✓	✓			✓	✓		✓	✓		✓	✓			✓	✓
Ecological Research Station		✓		✓	✓			✓	✓		✓	✓		✓	✓			✓	✓
Trails		✓		✓	✓			✓	✓		✓	✓		✓	✓			✓	✓
Cell 1 Habitat		✓		✓	✓			✓	✓		✓	✓		✓	✓			✓	✓
Embayment A	✓	✓		✓	✓			✓	✓		✓	✓		✓	✓			✓	✓
Shoreline Protection	✓			✓	✓			✓	✓		✓	✓		✓	✓			✓	✓
Operational Activities																			
Maintenance of the Park – Trails, Access, Amenities		✓		✓				✓			✓	✓						✓	✓
Maintenance of the Habitat Features											✓	✓						✓	
Decommissioning																			
n/a																			

2.4 Waste Disposal

During the implementation phase of the Project, the type of waste produced is expected to include: solids – construction materials; and gaseous – carbon dioxide fumes from machinery.

Construction of the Project is not anticipated to generate significant amounts of solid waste. During the construction phase, all construction waste will be taken to an approved disposal facility. Household waste materials including pop cans and food wrappers will be collected for disposal at an approved facility. Where possible, recyclables will be taken to a recycling facility.

The production of carbon dioxide is a by-product of construction activity. TRCA will ensure that all vehicles employed on the site are in good repair and that maintenance of any machinery is carried out in accordance with site operation protocols.

3.0 PROJECT SITE INFORMATION

3.1 Project Location

Tommy Thompson Park is located at the foot of Leslie Street south of Unwin Avenue, in the City of Toronto, Ontario. The site coordinates are UTM Zone: 17, UTM North: 4832445, UTM East: 631756 m. Tommy Thompson Park is a spit of land that extends 5 km in a southerly direction in Lake Ontario and has an approximate land/water base of 471 ha. TRCA currently owns 247 ha, slightly more than half, of the total land/water area comprising TTP. The southeasterly portion of the Park, currently under construction (active lakefilling operations), is owned by the Ministry of Natural Resources (MNR) and leased to the Toronto Port Authority (TPA). MNR has indicated to TRCA the intent to transfer the Crown land to TRCA upon the completion of TPA's lakefilling activities.

3.2 Environmental Features

3.2.1 Vegetation

One of the most significant biophysical attributes of Tommy Thompson Park has been the colonization and succession of various plant communities. The significance has been due in part to the presence of rare and unusual species, and the successional processes themselves. Over time a number of studies and inventories have documented the community types and species composition of the site, however, continuing natural succession and other disturbances have caused changes in the status of some species. See Appendix A for a list of flora species.

3.2.2 Wildlife

The environmental significance of the wildlife features of the site have been determined by applying the environmentally significant areas (E.S.A.) selection criteria, and monitoring the wildlife species and habitat features that are present.

The wildlife significance of the site includes the presence of:

- Migrant bird staging areas
- Significant nesting areas
- Nationally, provincially and regionally rare plant species

3.2.3 Species at Risk

Species at Risk include extirpated, endangered, threatened and species of concern. There are currently sixteen Species at Risk, which have been noted at TTP as identified by the Committee on the Status of Endangered Wildlife in Canada in May 2004. Of these sixteen species, one species is confirmed to breed on-site and two are probable to breed on-site an.

Two reptile species of special concern, eastern milk snake (*Lampropeltis triangulum*) and northern map turtle (*Graptemys geographica*) have been identified as resident species of TTP. The site is also known to support habitat utilized by the uncommon melanistic form of garter snake (*Thamnophis sirtalis*) and regionally uncommon northern water snake (*Nerodia sipedon*). Blandings turtles (*Emydoidea blandingi*) were also observed in the goldfish pond in 2004.

One Lepidopteran species of concern has been identified as a resident species of the Park. The monarch butterfly (*Danus plexippus*) has been confirmed to breed in the Park. The Park acts as a significant migratory stopover area for the monarch butterfly. Monarch butterflies, which have been wing tagged at TTP, have been recorded in Mexican breeding grounds.

During the migratory season hundreds of bird species use TTP as a migratory stop over. In all 14 Species at Risk have been identified among the flocks of migratory birds utilizing Tommy Thompson Park. These bird species include the following endangered species: Acadian flycatcher (*Empidonax virescens*), Kirtland's warbler (*Dendroica kirtlandii*), prothonotary warbler (*Protonotaria citrea*), and piping plover (*Charadrius Melodus circumcinctus*). It also includes the threatened hooded warbler (*Wilsonia citrina*), and least bittern (*Ixobrychus exillis*), as well as species of concern such as Cerulean warbler (*Dendroica cerulea*), Louisiana waterthrush (*Seiurus motacilla*), red-headed woodpecker (*Melanerpes erythrocephalus*), short-eared owl (*Asio flammeus*), yellow rail (*Coturnicops noveboracensis*), yellow-breasted chat (*Icteria virens virens*), and red-shouldered hawk (*Buteo lineatus*).

Tommy Thompson Park also supports a number of breeding birds, which are considered regionally rare species. These include: black-crowned night heron (*Nycticorax nycticorax*), great black-backed gull (*Larus marinus*), and common tern (*Sterna hirundo*). Peregrine falcons (*Falco peregrinus anatum*), a threatened species, also have been spotted infrequently hunting in the Park, during the breeding and migratory seasons.

COSEWIC endangered or threatened bird species:

- Acadian flycatcher (*empidonax virescens*) - endangered
- Cerulean warbler (*dendroica cerulea*) - special concern
- hooded warbler (*wilsonia citrina*) - threatened
- Kirtland's warbler (*dendroica kirtlandii*) - endangered
- least bittern (*ixobrychus exilis*) - threatened
- Louisiana waterthrush (*seiurus motacilla*) - special concern
- prothonotary warbler (*protonotaria citrea*) - endangered
- peregrine falcon (*falco peregrinus anatum*) - threatened
- piping plover (*charadrius melodus circumcinctus*) - endangered
- red-headed woodpecker (*melanerpes erythrocephalus*) - special concern
- short-eared owl (*asio flammeus*) - special concern
- yellow rail (*coturnicops noveboracensis*) - special concern
- yellow-breasted chat (*Icteria virens virens*) - special concern
- red shouldered hawk (*Buteo lineatus*) – special concern

Regionally rare bird species:

- black-crowned night heron (*nycticorax nycticorax*)
- great black-backed gull (*larus marinus*)
- common tern (*sterna hirundo*)

Black ducks (*Anus rubripes*) are not listed as regionally rare but their numbers are declining in Ontario and are therefore of interest as they have nested at TTP.

There are no plant Species at Risk found at TTP. However, there are many plant species that contribute to the ESA designation. These include the following:

- bushy cinquefoil (*Potentilla paradoxa*) - provincially rare
- nut grass (*Cyperus erythrorhizos*) - provincially rare
- Nelson's horsetail (*Equisetum x nelsonii*) - regionally rare
- nut grass (*Cyperus engelmannii*) - regionally rare, rare York-Toronto
- river bulrush (*Scirpus fluviatilis*) - regionally rare, rare York-Toronto
- Richardson's rush (*Juncus alpinus var. insignis*) - regionally rare, rare York-Toronto
- marsh hedge-nettle (*Stachys palustris*) - regionally rare, rare York-Toronto
- narrow-leaved gerardia (*Agalinus tenuifolia*) - regionally rare, rare York-Toronto
- cut-leaved avens (*Geum laciniatum*) - regionally rare, rare York-Toronto
- sedge (*Carex aquatilis*) - regionally rare
- baltic rush (*Juncus balticus*) - regionally rare
- false dragonhead (*Physostegia virginiana*) - regionally rare
- marsh bedstraw (*Galium palustre*) - regionally rare

3.2.4 Topography/Soils

Tommy Thompson Park exhibits a relatively flat terrain with the majority of the area between 1- 4 m above lake level (74.2 metres Geodetic). The main spine and endikement area was constructed of material from two sources: rubble from construction site, and subsoil and bedrock material from excavation sites.

Surficial soil sampling and analyses of TTP was undertaken by the Ministry of the Environment in 1988. The analysis revealed that the majority of the site does not exceed the Clean-up Guidelines or the Restricted Land Use Guidelines.

The relatively low relief creates a vulnerability to high water levels. TRCA established a 1:100 year wave up-rush level at 77.1 metres (Geodetic). High water levels and the vulnerability to storms are constraints to the installation of facilities within certain areas of the site (e.g. outer lake edges of the headland).

3.2.5 Climate/Micro-Climate

The extension of Tommy Thomson Park 5 kilometres into Lake Ontario produces a micro-climate on the site due to the moderation effect of Lake Ontario. The prevailing winds are generally westerly. The moderating effect of Lake Ontario at TTP provides a moderating effect on humidity and heat compared to the downtown city core. However, the site experiences greater wind speeds and more fog.

3.3 Land Use

In 1959, the Toronto Harbour Commissioners (now known as the Toronto Port Authority) initiated the construction of the Outer Harbour Headland (now Tommy Thompson Park) required for "port related facilities". In the early 1970s, it was determined that such facilities were not required. Shortly thereafter, in August 1973, the Provincial Cabinet gave TRCA "the responsibility of being the Province's agent with regard to the proposed Aquatic Park (Tommy Thompson Park) and the preparation of a master plan". In 1977, TRCA's mandate was expanded to include not only the preparation of a master plan, but also development and interim management. Prior to Master Plan implementation, land use has been guided by Interim Management Programs, initiated in 1992. This program includes public access to the park, nature interpretation programming, shuttle van service within the Park, wildlife management program and a license agreement with the Aquatic Park Sailing Club.

Current hours of operation are restricted to weekends and holidays due to the truck traffic associated with the ongoing filling operations undertaken by the Toronto Port Authority on the lands currently leased from the Ministry of Natural Resources. Despite the restricted operation hours, well over 100,000 visitors enjoy TTP on an annual basis. Given the high visitor numbers and the proposed residential growth in the West Don Lands that could see local resident numbers reach 60,000 and the development of Lake Ontario Park, TTP is recognized as one of the best areas for greenspace improvement along the Toronto waterfront.

West Don Lands

The Toronto Waterfront Revitalization Corporation has finalized the precinct plan for the West Don Lands, an 80 acres area located between Parliament Street, the Don River, King Street and the rail corridor. Sustainable development and affordable rental housing are the two top priorities of this project. This project will potentially result in increased use of Tommy Thompson Park by surrounding residents and via greater accessibility to the area via public transit.

Lake Ontario Park

In April 2005, the federal government, through the Toronto Waterfront Revitalization Corporation, announced funding for the creation of a 500 acres Lake Ontario Park in Toronto's Port Lands. The implementation of the TTP Master Plan has been identified as a key part of this initiative, in addition to the construction of a Parks Canada Discovery Centre in the vicinity.

4.0 FISH, FISH HABITAT AND NAVIGABLE WATERS

4.1 Environmental Features and Processes

Tommy Thompson Park is a man-made feature that extends over 5 kilometres into Lake Ontario and was constructed by a variety of techniques. The spine of the park, endykement and terminus of the park was all constructed from excavated material while the north shoreline was created from hydraulically dredged sand. The site has two significant exposures to costal conditions, a southeast exposure with a long fetch (+100kms) and a southwest exposure with +/- 30km fetch.

Tommy Thompson Park is the boundary between two littoral cells. The easterly cell extends from the longhouse tip of the park east to Ashbridges Bay Park and the westerly cell extends from the lighthouse tip of the park west to Gibraltar Point on the Toronto Islands. Within these two cells potential transport has been estimated as 100,000 m³ of sand from the east and 50,000 m³ to the west. However, actual sediment transport has been calculated at 3,000 m³ from the east and is insignificant in the western cell. This discrepancy between potential and actual reflects the lack of sand material within the site and the depositional nature of the western littoral cell.

There is no formal or permanent shoreline protection within the park. Shoreline erosion is extensive on the southeast shoreline and requires annual augmentation of rubble material to ensure shoreline stability. Other shoreline areas experience slight to moderate erosion that is dependant on water levels and storm activities. Extensive shoreline monitoring and surveys are conducted on an annual basis by the Toronto Port Authority to determine if management actions are needed.

4.2 Fish and Fish Habitat

Tommy Thompson Park is a mosaic of cold, cool, and warm water habitats that drive a very distinct and robust fish community. Tommy Thompson Park's proximity to the Toronto Scarp (an offshore drop off and nearshore plateau) adds to the thermal characteristics of the entire nearshore area.

Fish community abundance as a whole is dominated by alewife, pumpkinseed, a variety of cyprinids, pike, bass and perch. Fish Biomass within TTP is dominated by carp, sucker, northern pike, gizzard shad, and a variety of other species. Long-term trends in fish community characteristics are similar in Tommy Thompson Park compared to other waterfront areas. Certain species are increasing in abundance (cyprinids) and other species are declining (carp and sucker). These trends point to improved water clarity and improved beds of submerged aquatic vegetation. Specific management efforts are directed at improving conditions for desirable species and supporting trends that reflect improved ecosystem health.

The existing aquatic habitat will be significantly enhanced through the implementation of the habitat components of the Project. Hardened shorelines within the embayments will be reconfigured to create littoral habitat that promote emergent and submergent vegetation production in order to increase the existing aquatic habitat productivity. The potential for Tommy Thompson Park to act as an aquatic habitat centre for the waterfront is based on the habitat restoration opportunities in the 160 hectares of lagoons and bays associated with the park. The Cell One wetland capping project is the single largest wetland gain to date on the waterfront. Additional wetland creation activities include Triangle Pond, Embayment A, and Embayment C.

Please see Appendix B for a list of fish species collected within the embayments and cells at Tommy Thompson Park.

4.3 Use of Waterway

Commercial port facilities neighbouring Tommy Thompson Park include nearby shipping lanes through the Eastern Gap and docking facilities in the Port Area of Toronto located on Cherry Street, just west of the site. The terminal for the Toronto-Rochester passenger ferry is also located at the end of Cherry Street on the Eastern Gap. The ferry is currently scheduled to begin service on June 17, 2005. If the ferry is running, it will pass by the south-western shore of TTP.

At present, the Aquatic Park Sailing Club (APSC) with 100 swing moorings is located at Tommy Thompson Park in Embayment C with temporary facilities on land at the eastern end of the Embayment. The TTP Master Plan maintains this sailing club in Embayment C along with a land base area consistent with the environmental integrity of the site. The APSC land base includes approximately 1 hectare area for limited parking, van shuttle turn around, storage building area and clubhouse.

There are a number of recreational boating facilities adjacent to the park including the Outer Harbour Marina, which is connected to the baselands area of the spit, as well as other local boating clubs and marinas in the Eastern Beaches area. The Outer Harbour is also a popular place for recreational boating and sailing. There is no recreational boating allowed in the disposal cells in the park. There are no aboriginal or subsistence fisheries in the area, however limited recreational fishing is allowed within the park.

APPENDICES

APPENDIX A: FLORA SPECIES

Flora – 2000

Code	Count	Scientific Name	Common Name	L Rank
AGATENU	5	Agalinis tenuifolia	slender gerardia	L2
ANAMARG	2	Anaphalis margaritacea	pearly everlasting	L3
ELYCANA	1	Elymus canadensis	Canada wild rye	L3
EQUXNEL	6	Equisetum x nelsonii	Nelson's horsetail	L3
IRIVERS	1	Iris versicolor	blue flag	L3
JUNCOMM	2	Juniperus communis	common juniper	L3
NUPVARI	1	Nuphar variegata	bullhead lily or yellow water	L3
POLAMPH	2	Polygonum amphibium	water smartweed	L3
POTPARA	1	Potentilla paradoxa	bushy cinquefoil	L3
SCIFLUV	3	Scirpus fluviatilis	river bulrush	L3
SPAEURY	2	Sparganium eurycarpum	giant or great bur-reed	L3
SPICERN	1	Spiranthes cernua	nodding ladies' tresses	L3
STAPALU	1	Stachys palustris	marsh hedge-nettle	L3
TEUCACA	1	Teucrium canadense ssp. canadense	wood-sage or germander	L3
CALCANA	8	Calamagrostis canadensis	Canada blue joint	L4
CARPELL	4	Carex pellita	woolly sedge	L4
EUPPERF	6	Eupatorium perfoliatum	boneset	L4
JUNBALT	8	Juncus balticus	Baltic rush	L4
JUNEFFU	2	Juncus effusus ssp. solutus	soft rush	L4
JUNTORR	1	Juncus torreyi	Torrey's rush	L4
PRUPENS	1	Prunus pennsylvanica	pin cherry	L4
SALBEBB	3	Salix bebbiana	beaked or Bebb's willow	L4
SALDISC	1	Salix discolor	pussy willow	L4

Flora – 1989-1990

Code	Count	Scientific Name	Common Name	L Rank
CAKEDEN	1	Cakile edentula	sea-rocket	L2
ELYCANA	1	Elymus canadensis	Canada wild rye	L3
GEULACI	1	Geum laciniatum	cut-leaved or rough avens	L3
SISMONT	1	Sisyrinchium montanum	blue-eyed grass	L3
SPICERN	1	Spiranthes cernua	nodding ladies' tresses	L3
SICANGU	1	Sicyos angulatus	bur cucumber	L4

ELC - 2000

ELC Code	Count	Community Description	L Rank
M	15	Manicured	
CUS1-b	2	Exotic Cultural Savannah	L+
CUT1-c	6	Exotic Cultural Thicket	L+
CUW1-b	1	Exotic Cultural Woodland	L+
MAM2-a	5	Common Reed Mineral Meadow Marsh	L+
MAM2-b	3	Purple Loosestrife Mineral Meadow Marsh	L+
MAS2-a	4	Common Reed Mineral Shallow Marsh	L+
MAS2-b	4	Purple Loosestrife Mineral Shallow Marsh	L+
MAM4-A	2	Nelson's Scouring Rush - Baltic Rush Coastal Fen	L1
BBS1-2	8	Willow Shrub Beach	L2
FOD8-A	10	Fresh-Moist Cottonwood Coastal Deciduous Forest	L2
SBO1-B	1	Dry-Fresh Flat-stemmed Bluegrass - Forb Sand Bar	L2
SDS1-A	4	Willow Shrub Sand Dune	L2
SDT1-1	10	Cottonwood Treed Sand Dune	L2
SWD4-A	1	White Birch - Cottonwood Coastal Mineral Deciduos	L2
BBO1	10	Mineral Open Beach / Bar Ecosite	L3
SAM1-7	2	Water Milfoil Mixed Shallow Aquatic	L3
SAS1-4	1	Water Milfoil Submerged Shallow Aquatic	L3
SDO1-A	2	Sand Dropseed - Flat-stemmed Bluegrass Open Dune	L3
MAM2-3	5	Red-top Mineral Meadow Marsh	L4
MAM2-C	1	Rush Mineral Meadow Marsh	L4
MAS2-2	2	Bulrush Mineral Shallow Marsh	L4
SWD4-3	10	Paper Birch - Poplar Mineral Deciduous Swamp	L4
CUM1	30	Mineral Cultural Meadow Ecosite	L5
CUS1-A	4	Native Cultural Savannah	L5
CUT1-1	1	Sumac Cultural Thicket	L5
CUT1-A	12	Native Sapling Cultural Thicket	L5
CUW1-A	5	Native Cultural Woodland	L5
FOD8	2	Fresh-Moist Poplar - Sassafras Deciduous Forest	L5
FOD8-1	4	Fresh-Moist Poplar Deciduous Forest	L5
MAS2-1b	5	Narrow-Leaved Cattail Mineral Shallow Marsh	L5
SWT2-2	20	Willow Mineral Thicket Swamp	L5
SWT2-5	3	Red-osier Mineral Thicket Swamp	L5

APPENDIX B: FISH SPECIES

Average over Years 1989-2004

Fish Species by Abundance (95%)	
Species	Percentage
Alewife	38%
Pumpkinseed	13%
Emerald Shiner	8.3%
White Sucker	5.2%
Spottail Shiner	5.1%
Bluntnose Minnow	5.0%
Rock Bass	3.6%
Largemouth Bass	3.2%
Gizzard Shad	3.2%
Northern Pike	2.7%
Common Carp	2.0%
Rainbow Smelt	2.0%
Yellow Perch	1.5%
Brown Bullhead	1.3%
Fish Species by Biomass (95%)	
Species	Percentage
Common Carp	39%
White Sucker	17.7%
Northern Pike	15.5%
Gizzard Shad	8.0%
Chinook Salmon	3.4%
Lake Trout	3.2%
Brown Bullhead	2.0%
Freshwater Drum	1.9%
Alewife	1.7%
Rock Bass	1.2%
Pumpkinseed	1.2%