Main Street, Youngstown Looking North at Jackson Street and Entrance to Fort Niagara

Entrance to Fort Niagara State Park Looking South

OPPORTUNITIES:

1. Provide a connection between the Villages of Lewiston and Youngstown with a multi-use trail along the Niagara River, taking advantage of the natural beauty and scenic vistas.
2. While the primary trail should run along River as proposed above, a potential additional route would be to continue the multi-use trail along the Robert Moses Parkway from its present terminus at Pletcher Road in Lewiston north to Fort Niagara in Youngstown. A connection from the Portage Road entrance to Artpark to the existing trail would have to be established either along Center Street and Academy Park from Portage Road to the Robert Moses Parkway or down 9th Street to Mohawk Street and the current southern terminus of the trail. The grade on 9th Street to the north of Center Street would seem to preclude this option.

CHALLENGES:

1. Finding sufficient right-of-way to provide a 10-foot wide trail separated from the roadway by a minimum of 5 feet. If 5 feet can not be provided, then some sort of positive barrier, such as a Jersey Barrier, should be constructed.
2. Location of the trail within the Villages of Lewiston and Youngstown where parking is allowed on the streets. The multi-use trail should not take the place of sidewalks.
3. Safety issues with residential and commercial driveways. It is actually safer for bicyclists to have designated bike lanes on the shoulders of the roadway in areas with significant numbers of driveways than to have the trail located away from the roadway. The bike lanes should be a minimum of 5 feet wide in each direction.
4. Physical constraints exist laterally to the roadway. These constraints include erosion from drainage ditches, guide rails, existing bridge structures, utility poles, mail boxes, signs and mature trees.

3. Protecting, Preserving and Restoring Important Ecological Resources

Implementation of restoration, protection and preservation projects involving sensitive ecological habitats and resources associated with the Niagara River ecosystem, including adjacent upland areas and tributaries, is of critical importance. One of the primary goals of the Greenway Plan is to provide a framework for evaluating, funding and implementing future projects that are intended to benefit or enhance the unique and special environmental and ecological resources within the Greenway.

The objective of this Plan is not to identify specific projects to be funded, but to provide the foundation and standard by which proposed projects will be considered and evaluated. The intent of this section of the Greenway Plan is to identify the types of ecological and habitat improvement projects that would be considered appropriate, effective and consistent with the Plan. The projects identified serve to illustrate the scope and magnitude of activities that are intended to complement Greenway Plan goals and objectives.

Wetlands along the Greenway

It is important to note that this is neither an endorsement of such projects nor is this list intended to be limiting in any way. The Niagara River Greenway Commission recognizes that there are many ways to devise appropriate ecological projects that benefit the Niagara River ecosystem.

The goal of the ecological and habitat improvement concept is to recognize elements of the Niagara River ecosystem that are in need of protection or preservation. These fragile areas are in need of enhancement, improvement or restoration due to the current impairment of their natural functions and values. The Greenway Plan will draw attention to the terrestrial and aquatic elements of the Niagara River ecosystem, recognizing the habitat and functional importance each element plays in the overall health and vitality of the ecosystem as well as the educational opportunities provided to increase public understanding of ecological issues.

Aerial view of Motor Island and Strawberry Island: both contain sensitive and important habitat for many species of fish and both resident and migratory birds.

Sustainability must be a critical element of all future ecological enhancement proposals as well as any other proposal that is put forth within the Niagara River Greenway. Funding of projects that are sustainable or lead to a more sustainable ecosystem will be strongly encouraged.

While the Greenway Commission cannot acquire or own property, local municipalities may use Greenway funds for land acquisition or for the purchase of

conservation easements or development rights. While natural resources inventories and educational research projects are appropriate efforts for funding, all funded activities should be action-oriented and result in advancing physical improvements, operational practices, or land use controls aimed at ecological enhancements or the restoration of compromised or lost functions and values.

One priority is removal of invasive species and use or establishment of previously extirpated native flora; therefore, any ecological restoration project must make use of native species to the maximum extent practical. Proposals to propagate native species for use in restoration projects along the Niagara River and western New York could be eligible for funding in that they would foster sustainable ecological, economic, and educational benefits within the Niagara River Greenway.

Some projects will be focused on a particular sensitive habitat type such as wetlands, while others will involve overlapping habitats consisting of submerged aquatic beds, emergent wetlands, riparian woodlands and forested uplands.

Lower Niagara River, looking northward from Artpark.

Although projects with overlapping and multiple benefits may be seen as having greater overall value to the Niagara River ecosystem and may be more cost efficient, other site-specific projects may also result in significant benefits to the overall ecosystem. Beneficial projects could be in diverse areas ranging from undeveloped natural areas to remediation and reuse of a brownfield site. Under each of the habitat types listed below, the Plan describes relevant issues and opportunities and the types of projects that would be considered appropriate and consistent with the Greenway Plan. A representative listing of potential sites and locations for each category are provided based on public and agency input received during public meetings and correspondence collected during the Niagara River Greenway planning process. This list is not intended to be complete nor is it intended as an endorsement of a specific project; rather, it identifies representative sites and locations to provide a better understanding of the types of projects that would be most beneficial to the Niagara River Greenway.

This ecological implementation concept recognizes the following habitat types as having critical importance to preserving, protecting and enhancing the ecological value of the entire Niagara River ecosystem:

Upland Areas

Importance - Upland areas adjacent to or in close proximity of the Niagara River provide important habitat that benefits the use, function and value to the Niagara River ecosystem by other wildlife. Upland habitats may provide nesting and shelter to birds and other wildlife that depend on the Niagara River and its tributaries for food or migratory pathways. Upland areas are often critical in controlling and assimilating non-point source discharges and stormwater runoff that enters the Niagara River, and thus are important in maintaining and improving water quality. Upland areas may contain threatened or endangered species or unique forested habitats that are not found elsewhere along the Niagara River or in the western New York region. In addition,

these upland areas are typically the first to be identified for development due to their location, water views, scenic value and the general lack of regulatory controls. Often, such land use changes result in the permanent loss of the habitat functions and values.

Types of Projects - Upland areas suitable for protection, preservation or enhancements include unique woodlands or old growth forested areas, upland areas in various states of succession, important bird nesting or feeding areas, unique wildlife habitats, grasslands, or islands that provide unique or critical habitat values.

Open Space or recreational areas that provide habitat or ecological value would also be considered, provided existing or planned uses do not compromise these values over the long and short term. In particular, upland areas that are important as buffer areas to other sensitive habitats but are threatened due to development pressure are also considered eligible for protection.

Shoreline along Riverfront Park, Tonawanda

Upland areas should have some proximity or ecological connection to the Niagara River. At a minimum, protection or enhancement of upland areas should result in a tangible or measurable ecological benefit to the Niagara River ecosystem. Scenic value and public access are important to the community as a whole, but ecological restoration of the affected resource area should be given primary consideration under this concept.

Representative Project Listing – Representative projects that were identified during the public and agency involvement process included the DeVeaux Woods Old Growth Forest, Lewiston Plateau, Niagara Gorge, Niagara Escarpment, Nine Mile Island, Tifft Farm Nature Preserve, northern end of Squaw Island, "Old" White Oak forested areas on Grand Island, Cherry Farm area, Ferry Landing south of Grand Island Holiday Inn, and Times Beach on the Buffalo Harbor waterfront.

Riparian-Floodplain Areas

Importance - Riparian areas are those natural transitional ecosystems typically found along a stream, river or watercourse. Habitat values vary depending upon slope, saturation gradient, soil type, topographic relief, potential for recurrent flooding or inundation and the extent of human intrusion or disturbance. These areas are considered critical to the health and vitality of river systems in that they often provide food, shelter, and nesting habitat for a wide variety of species that depend on the Niagara River or its tributaries for completion of their lifecycles. A key feature of the riparian setting is the functional floodplain. This natural landscape feature stores and slowly releases flood waters, filters and assimilates pollutants in surface water runoff and protects adjacent uplands from the erosive forces of fast moving water. In addition to the ecosystem functional values, natural floodplains also serve to protect property and contribute substantially to the health, welfare and safety of the general public.

Types of Projects – Project areas are typically found along land/water interface associated with the Niagara River and its tributaries. Some areas may include both upland and wetland habitats, or may contain

undeveloped areas that have been surrounded by development. Potential projects may include correction of point and non-point source discharges, repair or restoration of manmade and natural barriers that protect riparian habitats from erosion, minimizing development that encroaches on floodplains through the establishment of easements or land acquisitions by responsible authorities or stewardship groups, tributary watershed studies and improvements to prioritize areas for protection or restoration, shoreline restoration projects, or restoration of natural hydraulic functions caused by improperly placed or sized culverts.

Outfall on the Niagara River

Representative Project Listing –Woods Creek, Gun Creek, Big Six Mile and Little Six Mile Creeks, Spicer Creek, Ellicott Creek, Cayuga Creek Flood Control Project, Hyde Park Shoreline Restoration Management, Scajaquada Creek Improvements, Erie Canal, and LTV Shoreline restoration.

Wetlands

Importance – Historically, wetlands were found along much of the course of the Niagara River. Settlement along the Niagara corridor and subsequent industrial and transportation development have resulted in the loss of considerable wetland acreage. These losses have made the remaining wetland resources even more critical to the function and value of the Niagara River ecosystem.

The body of research on wetland functions and values has documented their importance to both the natural and built environments. Wetlands play a vital and well documented role in the function and health of the Niagara River ecosystem. Both the Federal and State governments have recognized that wetlands perform functions that are important to the interests of the general public. These include wetlands that:

- Perform significant natural biological functions including food chain protection, general habitat and nesting, spawning, rearing and resting sites for aquatic and terrestrial species;
- Are valuable as sanctuaries or refuges or serve as demonstration sites for the study of the aquatic environment;
- Facilitate natural drainage functions, control sedimentation, promote water flushing and circulation and ameliorate the effects of water currents;
- Shield other areas such as riparian zones or uplands from wave action, erosion and storm damage;
- Serve as storage areas for storm and flood waters;
- Are essential for the recharge of groundwater resources or are necessary to establish and maintain the base flows that are essential for certain aquatic species;
- Serve to protect water quality by filtering and assimilating dissolved and suspended solids typically entrained in surface runoff;
- Contain unique assemblages of species of flora or fauna or represent characteristics that are representative of natural condition prior to anthropogenic modification or influence.

Types of Projects – Wetland enhancement projects, restoration of natural flows and drainage, removal of invasive species, creation of open water habitats, removal of previous fill material, stormwater runoff control improvements, erosion control projects, educational trails and the enhancement or restoration of fish and wildlife nesting and rearing sites.

Wooded Wetland Complex along Spicer Creek, Grand Island

Representative Project Listing – Spicer Creek Restoration and Enhancement, East River Marsh Restoration, Buckhorn Island and Beaver Island enhancements and restoration, Motor Island Restoration, Strawberry Island, Bird Island Wetland Restoration, Klydell Wetland, Mudd Creek Wetland Enhancements in Tonawanda, northern tip of Tonawanda Island, Joseph Davis State Park Wetland Connection project.

Aquatic Habitat Areas

Importance - The aquatic ecosystem of the Niagara River provides a wide range of critical features including food, shelter, migratory routes; and spawning habitats for various species, including rare, threatened and endangered aquatic species residing in the Niagara River. In addition, maintaining water quality, aquatic habitats, and viability of the food chain is critical. Internationally, the Niagara River is recognized as an Important Bird Area (IBA) of international significance for the large concentrations of gulls and waterfowl that stage in the area during migration and as a wintering site. The River is also valuable to other water-dependent avian species which utilize the river as a migration corridor; and as an overwintering area for waterfowl, particularly in the vicinity of Strawberry Island. Maintaining the health and vitality of the shallow water and adjacent deeper water habitats is critical to protecting species diversity; ensuring the continued value for hunting and recreational sport fishing; and ensuring the use and enjoyment of the natural river systems by members of the public. Maintaining high water quality is important not only for fish and wildlife, but also for humans as the River is a source of drinking water.

Types of Projects – Installation of fish habitat/attraction structures; submerged vegetation enhancements; shallow water habitat improvement projects; remediation of contaminated sediments; identification/protection of sturgeon spawning habitats; protection of waterfowl habitat; and public fishing access points.

Old Submerged wharf structures along the eastern shore of Grand Island at the mouth of Spicer Creek.

Representative Project Listing – Motor Island Habitat Improvement Project; Frog Island Restoration; Cayuga/Bergholtz Creek confluence enhancements; Mudd Creek spawning habitat protection; Ellicott Creek Enhancements; Bird Island Submerged vegetation protection; shallows between Strawberry and Motor Island; Bell Slip spawning habitat protection; enhancement of the shallow water habitat in the vicinity of the mouth of Spicer Creek.

Impaired Habitats

Importance - Sites and areas that have experienced impairment due to past human activities or neglect may provide an opportunity to restore ecological productivity to the Niagara River corridor. While these areas are not, in their current state, ecologically sensitive or unique, they may provide an opportunity to benefit the Niagara River ecosystem or a particular habitat component if returned to a more natural condition. Returning these sites to a more natural condition may not restore its original undisturbed ecological value, but may improve habitat value and environmental functions, provide educational opportunities or provide waterfront access.

Projects within developed areas should utilize best management practices to minimize potential impacts to the River.

Types of Projects – Brownfield redevelopment, remediation of contaminated sediments, invasive species removal or management projects, removal of vacant commercial or industrial buildings, restoration of former landfills, remediation or correction of combined sewer overflows.

Buffalo Outer Harbor

Representative Project Listing -102nd Street Landfill grasslands restoration, Buffalo Outer Harbor, NYPA Ice Boom lands, Squaw Island landfill, Cherry Farm, repair of malfunctioning culverts to restore natural drainage, Zebra Mussel removal programs, control of invasive species at Buckhorn Marsh and Tifft Marsh, cultivation of native species for local introduction.

4. Linking Special Places and Destinations- "Telling the Story"

The diverse and unique aspects of the Niagara River Greenway suggest an effort to interpret and share this rich heritage with others. The many fascinating stories that emerged during the creation of the Niagara River Greenway Plan acknowledged the uniqueness of this area and underscored the necessity of celebrating that heritage. The formula for gateways and reaches, described in the next section, establishes a rationale for the evolution of the Greenway, and also articulates how "Telling the Story" will contribute to an unforgettable user experience.

For both wayfinding and tourism reasons, it is advantageous to distinguish the sites where stories can be told in a detailed interpretive sense from those attractions that provide entertainment and/or information. The former sites provide richer opportunities for creating connections between people and place, and place and history.

Distinguishing what constitutes a story from other attractions has been difficult in some cases. The rationale that was used generally follows the recommendations contained in "Revealing Niagara: A Citizen Vision for Heritage and Cultural Tourism in the Bi-National Niagara Region" developed in 2002 by the Urban Design Project at the State University of New York at Buffalo. This report recommended the division of interpretive venues into these five categories:

1. The Landscape
2. The Bounty of Nature
3. Stories of War, Peace and Freedom
4. The Wealth of a Region
5. Enterprise in the Arts

These category descriptors, themselves, are highly suggestive of the kinds of sites that can be selected for interpretive treatment. Yet, for the purpose of distinguishing "Stories to be Told" from other attractions in the Greenway, it became necessary to further define the criteria for inclusion as a story. For the purposes of this discussion, a "Story" is defined as *an historical landmark, piece of art or architectural treasure or a point from which a geologic, ecological or significant man-made enterprise may be interpreted*.

In many cases, the specific location of the interpretive venues may be arbitrary. For instance, the importance of the Michigan Street Corridor in the City of Buffalo to the Underground Railroad or the designation of the Niagara River by the Audubon Society as an Important Bird Area of International Significance defies the selection of a single point to represent the larger area each represents. The final selection points will inevitably become apparent as the interpretation of each site develops.

Customhouse in Niagara Falls- Heritage Site

Most importantly, and from a heritage tourism perspective, the stories to be interpreted represent what is special about this area. The array of interpretive sites can capture the imagination of the out-of-town visitor and regional resident alike. By distinguishing the stories to be told, they can be highlighted in both promotional efforts and in the landscape with signage.

General Recommendations

There are two fundamental aspects associated with this implementation concept. From a content standpoint, the best approach is to distinguish the interpretive sites where the "Stories" will be told from those attractions that are exclusively of an entertainment nature or have relatively little interpretive foundation. There are many destinations that are important to the character of the Greenway, but that do not fulfill an interpretive function. The sheer quantity of attractions and interpretive sites within the Greenway effectively mandates some manner of division. Consequently, the recommended approach has been the development of a dual indexing methodology that visually separates the depiction of interpretive site locations from other attractions.

The second aspect involves the development of a uniform map graphic and legend that conveys the location and names of the interpretive sites in a standardized format. Figure 22 illustrates such a map graphic. The graphic development of a map is a key consideration in its uniform application. It involves continuity of format, colors, typographics and graphic imagery. This continuity will enable the same graphic to be used on signage, web site and print applications. It also promotes a high level of image continuity in all communication modes in which it is used.

Another important aspect of the map and legend is the color-coding of the five fundamental story categories. This strategy can have several advantages. First, it facilitates the visitor's search for the legend items on the location map. The color references can also help communicate the relative density of similar categories in a particular area of the map. Moreover, it can provide image and message continuity between the map graphics and signage the visitor will encounter en route to the sites.

Wayfinding Implications for "Telling the Story"

There are many signage and wayfinding implications for "Telling the Story". Presumably, there will be at least one interpretive sign in the vicinity of each interpretive site. The design of these elements should include graphics, materials and construction detailing that is similar to other Greenway signage, so that a strong and consistent image is reinforced throughout the system. Figure 23 illustrates an interpretive sign that was prepared to help tell the story of the Underground Railroad.

Much of the message content and visual design created to present information on interpretive signage can be utilized in other forms of communication relating to or promoting the Greenway. For instance, the text, photographs and graphics that are presented on these elements can also be utilized in:

- General brochures for the Greenway
- Informational brochures specific to the point of interest
- Educational material
- Print and broadcast media used to promote the Greenway
- Web site

If consistency of this content can be identified as a criterion at the onset and formatting established for all known applications, two important benefits can be realized. First, there will be a high degree of visual identity born of the fact that there are compatible graphic standards for multiple modes of communication. Secondly, there will be significant cost savings as the formatting (as well as a good deal of content) will be generated at the onset.

Similarly, map graphics will likely be generated for use on Orientation Signs at key Greenway gateways, trail heads and interpretive sites. These graphics can be created in a layered format, such that certain

kinds and quantities of information may be presented for different purposes. For instance, the general orientation map used at trail heads and at key Greenway gateways may be adapted to convey more specific information about the interpretive sites and attractions for brochures or a web site.

Map Graphic on Orientation Sign, Genesee Riverway

Another consideration for "Telling the Story" is the identification of these interpretive sites within the Greenway. The keying device used on those maps and orientation signs that depict site locations can be reinforced on signage devices that are visible to passing vehicular traffic. These signs could reference the coloration used to distinguish the various categories on orientation signage in addition to the description of the interpretive site.

Wayfinding

Wayfinding refers to the experience of orientation, and how a person is able to negotiate through the natural and built environment. A number of architectural and/or design elements can be used to aid orientation, including signage, other graphic tools and the physical design of the landscape.

The Niagara River Greenway offers some unique challenges to the development of wayfinding. The signage used to identity its bounds and attractions needs to attempt to project a **singular image** in an environment where businesses, urban neighborhoods and municipalities are striving to distinguish themselves from one another. The streetscape environment, especially in more urban areas, is already inundated with a variety of business and facility identification, traffic control, regulatory, street identification and route marker signage. Moreover, the long and narrow configuration of the Greenway suggests a considerable number of identifiers along its length, both for the eastern, land-based boundary as well as for water-based gateways.

Use of Consistent Logo System Buffalo Olmsted Parks System

Another area of potential conflict involves the communication of a **consistent message**. There is an overlap of regional, state, organizational and commercial wayfinding efforts within the Greenway that creates the potential for numerous and varied identifiers and routing approaches. This is already apparent among the various promotional devices used to describe points of interest in this region.

Multi-Discipline Efforts

Wayfinding systems that are implemented in large or complex environments, such as the Greenway, often involve multi-discipline

NIAGARA RIVER GREENWAY

TELLING THE STORY

STORIES OF WAR, PEACE AND FREEDOM

A Country Develops
- 1901 Pan American Expositon . . 74
- Roosevelt, Theodore, Historic Site . . . 94
- President William McKinley Assassination . . . 95
- River Lea . . . 59

Age of Exploration
- Cayuga Island . . . 46
- LaSalle Park . . . 86
- Father Louis Hennepin . . . 39
- Griffon Park . . . 47

First Nations
- Native American Cultures . . . 42

Peace & Friendship
- Navy Island . . . 49
- Peace Bridge Dedication . . . 76

Stories of War
- Buffalo/Erie County Naval and Military Park . . . 106
- Burnt Ship Creek . . . 50
- Capture of Fort Niagara . . . 4
- Devil's Hole Massacre . . . 14
- Fort Niagara . . . 1
- Fort Schlosser . . . 46
- Historic Lewiston . . . 12
- Manhattan Project, Niagara Falls Storage Site . . . 32

Underground Railroad
- Broderick Park . . . 63
- Lewiston Crossing . . . 16
- Michigan Street Corridor . . . 104
- Underground RR Interpretive Center (Castellani Art Museum) 23
- Whirlpool Bridge . . . 28

THE LANDSCAPE

Ecological/ Wildlife Parks/ Waterways
- Buckhorn Island State Park . . . 48
- Buffalo River . . . 120
- DeVeaux Woods State Park . . . 27
- Ellicott Creek . . . 58
- Lake Erie . . . 92
- Lake Ontario . . . 2
- Niagara River . . . 34
- Niagara River, United Nations Recognized Bird Area . . . 35
- Scajacquada Creek . . . 65
- Tifft Nature Preserve . . . 124
- Tonawanda Creek . . . 57

Landscape
- Niagara Escarpment . . . 17
- Niagara Gorge . . . 38

Pedestrian/ Vehicular Trails
- Riverview Trail . . . 40
- Riverwalk Trail . . . 60
- Seaway Trail . . . 5
- Scajacquada Pathway . . . 64

Historic Recreational Parks/ Cemeteries
- Artpark . . . 18
- Broderick Park . . . 62
- Buffalo & Erie County Botanical Gardens . . . 126
- Buffalo Olmsted Park System
  - Cazenovia Park . . . 109
  - Delaware Park . . . 72
  - Front Park . . . 85
  - MLK Jr. Park . . . 83
  - Riverside Park . . . 61
  - South Park . . . 127
- Devil's Hole State Park . . . 19
- Forest Lawn Cemetery . . . 73
- Fort Niagara State Park . . . 3
- Gateway Harbor Park . . . 56
- LaSalle Park . . . 93
- Niagara Falls . . . 37
- Whirlpool State Park . . . 26

THE WEALTH OF A REGION

Canals
- Erie Canal . . . 74
- Erie Canal Junction . . . 54

Grain/ Buffalo Grain Elevators
- ADM-Great Northern . . . 109
- Cargill Superior . . . 110
- Concrete Central . . . 111
- General Mills . . . 112
- Lake and Rail . . . 113
- Marine A . . . 114
- Spencer Kellogg . . . 115

Manufacturing
- Herschell Carousel Factory Museum . . . 55
- Highbanks Area . . . 25

Hydroelectricity
- Niagara Power Project Visitors Center . . . 20

Shipping
- Buffalo Harbor . . . 107
- Erie Canal . . . 108

Transportation
- Automobile Manufacturing . . . 121
- Aircraft Manufacturing . . . 122
- Black Rock Boat Works . . . 75

THE BOUNTY OF NATURE

Agriculture/ Farmers Markets
- Broadway Market . . . 91
- First Nations Hunter-Gatherers 21
- Hydroponics . . . 125
- Lumber . . . 51
- Pioneer Agriculture . . . 9
- Viniculture . . . 8

Dining & Cuisine
- Italian Festival . . . 87
- Peach Festival . . . 15
- Taste of Buffalo . . . 88

Horticulture
- South Park Conservatory . . . 129

ENTERPRISE IN THE ARTS

Architecture
- Fellheimer, Alfred & Wagner, Steward
  - Central Terminal . . . 84
- Rapp, George L. & C.W.
  - Shea's Performing Arts Center . 97
- Richardson, Henry Hobson
  - Buffalo State Hospital . . . 67
- Saarinen, Eliel and Eero
  - Kleinhan's Music Hall . . . 68
- Sullivan, Louis
  - Guaranty Building. . . . 98
- Wade, John J.
  - Buffalo City Hall . . . 105
- Wicks, William Sydney & Green, E.B.
  - Goldome . . . 96
  - Albright Knox Art Gallery. . . . 66
- Wright, Frank Lloyd
  - Blue Sky Mausoleum, Forest Lawn Cemetery . . . 79
  - Darwin Martin House . . . 80
  - William Heath House . . . 81
  - Walter Davidson House . . . 82

Art
- Slawinski, Josef
  - Baptism of Mieszko *St. Joseph's Cathedral* . . . 100
  - Buffalo's Polonia Erie County Medical Center . . . 89
  - Canticle of the Sun Daemon College . . . 102
  - Copernicus Frederic Chopin Villa Maria College . . . 90
  - Last Supper Sisters of St. Francis, Stella Niagara . . . 13
  - Maid of the Mist - 125 Buffalo Avenue, Niagara Falls . . . 33
  - Monte Cassino St. Stanislaus Church . . . 103
  - Peace Mural - Our Lady of Fatima Shrine . . . 11
  - Scenes from the Life of the Blessed Virgin - Church of the Assumption . . . 69
  - Seal of the City Katyn Memorial Buffalo City Hall . . . 99

Landscape Architecture
- *Frederic Law Olmsted* . . . 78 *(Buffalo Olmsted Park System)*

Niagara River Greenway

Linking Special Places and Destinations
Telling the Story

Figure 22

20 March 2007

UNDERGROUND RAILROAD

The upriver ports of Carthage and Kelsey's Landing were stopping places for boats bound for Canada. Escaped slaves arrived in Rochester via the "Underground Railroad" and looked for a friendly captain to take them across the lake and deliver them to freedom.

Lake Ontario was the terminus for the railroad and the last leg of a long and dangerous journey. Harriet Tubman was a "conductor" and Frederick Douglass was a "station master." Both arranged safe passage routes through western New York to Rochester and north along the Genesee River.

The journey to the boats would often end at Charlotte. A house on the east side of Lake Avenue (just south of Denise Road) is rumored to have been a "safe house." The riverfront at "Skunk Hollow" was far enough upriver from the river mouth to allow ships to be boarded un-noticed and in the darkness of night.

H. M. Ballou and the tug Oneida - Courtesy Jack Kemp

Frederick Douglass

Many sympathetic Northerners would help in this cause- men like Myron Holley at Carthage and a free black family that lived at Kelsey's Landing. (A historic marker in Maplewood Park shows the location of Kelsey's.) At the mouth of the river, there was ferry operator, Richard Murphy, and in Charlotte there was the ardent abolitionist, Benjamin Barney, who ran the meat market on River Street.

George Ruggles came to Charlotte from Orleans County. He was an inventor and ship captain who would eventually become President of the Village of Charlotte. His descendants believe he took "precious cargo" to Canada on the schooner H.M. Ballou.

Kelsey's Landing
Courtesy Local History Division of the Rochester Public Library

Artwork Courtesy of John Kastner

According to New York's 1860 gazetteer, the population of Charlotte was 400 people. Many of her native sons answered the call to join the Union Army. In the summer of 1862, soldiers were summoned to act as port sentries to prevent anyone eligible for military duty from leaving for Canada in order to evade the draft.

Since England was sympathetic to the Southern cause, it was feared that Charlotte's proximity to British Canada might make it vulnerable to attack. A company from the 26th New York Cavalry arrived in Charlotte on the steamer Cataract. They remained for several weeks to guard the port and pitched their tents at the triangle of River Street and Lake Avenue.

It was also suggested that the lighthouse and pier beacons be extinguished as a precaution to hamper a night invasion from the lake.

In 1892, a number of notable visitors came to the village of Charlotte for breakfast at the the Cottage Hotel. Among them was Honorable Frederick Douglass, President Benjamin Harrison, the mayor and the governor. Over 800 bicyclists accompanied the entourage from downtown Rochester to the lake. The dignitaries were on their way to dedicate the Soldiers' and Sailors' Monument in Washington Square Park in downtown Rochester.

The religious revivals of the 1830s solidified anti-slavery sentiment in the Rochester area. Strong abolitionist sentiments favored the runaway slaves, and Rochester's marshals were uncooperative with the Fugitive Slave Act.

Runaway slave traffic through central and western New York into Canada

Niagara River Greenway

Linking Special Places and Destinations
Interpretive Signage

Figure 23

20 March 2007

reinforcement. The flow chart on Figure 24 illustrates the many levels and avenues for providing wayfinding information.
This approach encompasses a multitude of communication media as well as the corroboration of identification and directional cues through various visual design disciplines. Although signage is historically the **primary** wayfinding tool, several other modes of communication and design elements can contribute to a large extent. These include:

- **Print Graphics:** This includes brochures, maps and other print media used to convey the location of the Greenway and its points of interest as well as detailed circulation information as to how to approach and move about within the Greenway.
- **Web Site:** This tool may also contain maps and other wayfinding information that may be downloaded and printed by a prospective visitor. Web sites can provide a great deal more information regarding points of interest than is usually practical in print graphics.
- **Verbal Communications:** Reinforcement in this realm typically involves a documented protocol for site approach and circulation that is distributed to key personnel who routinely interface with the visiting public either face-to-face or over the telephone.
- **Landscape Design:** When used to enhance identity, such elements as paving surfaces, lighting fixtures, street furniture and planting materials can effectively reinforce wayfinding objectives.

The goal of the Niagara River Greenway Wayfinding Program should be to consolidate the form and content used to convey information pertaining to the Greenway and its attractions. Although this effort may initially involve signage devices, the protocol for content should be extended to all means by which wayfinding information can be rendered.

Signage Issues
From an identity perspective, signage must be highly visible in order to identify the Greenway, distinguish its bounds and route visitors to its attractions. Functionality, it needs to convey information as accurately and succinctly as possible.

The Consistency of Identity
From an image perspective, there are several key elements that need to be integrated within signage design to promote a singular identity for the Niagara River Greenway. These are:

- **Consistent Logo Usage:** The Greenway logo or logotype should be used consistently on all signage devices. The scale of the image may be altered (larger for gateway and trailblazer signs, smaller for pedestrian directional and interpretive signs) but its positioning relative to other graphics should be consistent.
- **Forms and Colors:** Signage needs to promote a singular image but, at the same time, stand out in the streetscape. This is particularly important in an area the size of the Greenway. This can be achieved by capitalizing on a unique shape or form and color usage that is similarly applied to all categories of signage.
- **Posts, Supports and Mountings**: There should be a similar level of consistency in the detailing of posts, brackets and support devices. This consistency should involve the material and coloration used for these devices.
- **Format:** To further distinguish Greenway signage, consistency should be applied to type styles, graphic layouts, rules and other graphic devices used to organize or convey information.

The systems approach to signage design is illustrated in Figure 25. The signage system developed for the Greenway should convey a high degree of consistency. To ensure a common vocabulary, one of the products that will need to be created is a Wayfinding standards package or manual that details these image-related elements and articulates how they will be utilized for each kind of sign that comprises the system.

The Consistency of Content

There is no more important element in wayfinding than message consistency. The large-scale and complex nature of the Greenway suggests **formality** in establishing its wayfinding standards. An effective Wayfinding Program is predicated upon accuracy and consistency in three important areas:

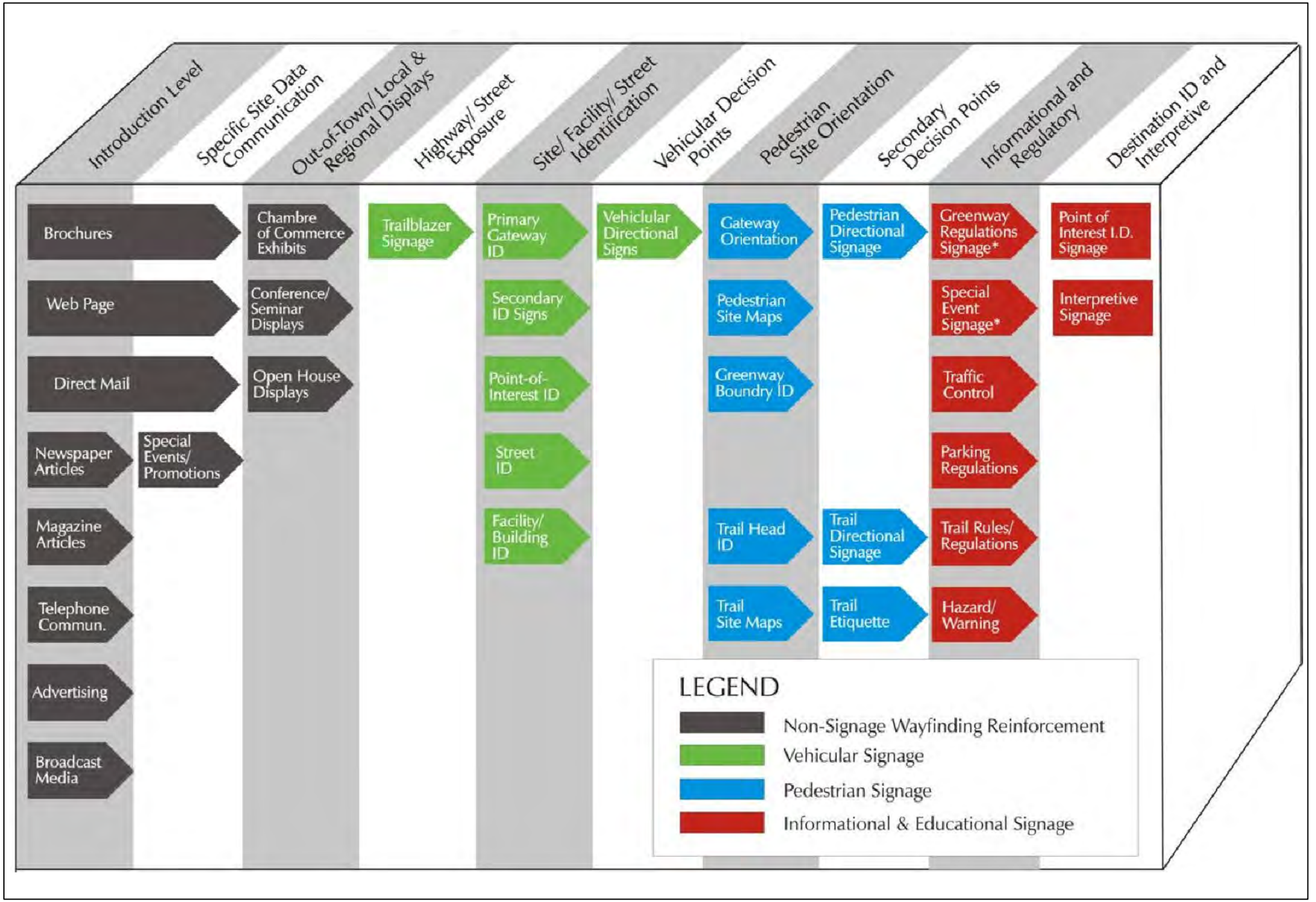
- **Nomenclature Standards:** This includes the formal terminologies used to describe such elements as trail heads, points of interest, streets and byways of approach, parking facilities and services. These standards are usually formalized in a Standards Manual and shared with all personnel who are involved with communicating wayfinding information.
- **Circulation Strategies:** This includes the documentation of preferred circulation approaches and pathways. The articulation of the pathways utilizes the terminologies established in the Nomenclature Standards.
- **Communication Protocol:** This involves the process of conveying wayfinding information, and especially changes in wayfinding information, to those individuals in an organization that communicate directly or indirectly with the visiting public. This group may include information technology personnel, marketing and communication directors, receptionists, telephone greeters and information providers, security personnel, in-house signage fabricators as well as designers and other consultants that may be involved with the planning or production of wayfinding devices.

For consistency of content across the Niagara River Greenway, a Wayfinding Standards Manual should be developed that articulates these standards and protocols for entire Greenway. The process for integrating changes should also be carefully mapped out to guarantee that any changes in nomenclature or circulation strategies will be conveyed uniformly in all expressions of wayfinding.

Signage Categories

The application of identity and message consistency should be reflected in a hierarchy of signage categories that function interdependently to orient, direct, identify, and inform. There are several basic signage categories that will be useful within the Niagara River Greenway, including:

- **Greenway Trailblazer signs:** To alert visitors that they are approaching the Greenway.
- **Gateway and Boundary Identification:** To identify the bounds of the Greenway at the primary node areas. This treatment may be similar to the gateway kiosks that are currently in use on Third Street in Niagara Falls.
- **General Identification:** To identify interpretive sites and attractions in the Greenway
- **Trail head Identification signs:** To identify trail heads and parking areas.
- **Vehicular Directionals and Destination Trailblazers:** To fine-tune visitor circulation to specific interpretive sites, trail heads, attractions and parking areas.
- **Orientation signage:** To provide map graphics and a directory of interpretive sites and other points of interest.



Niagara River Greenway

Linking Special Places and Destinations
Wayfinding Flow Chart

Figure 24

20 March 2007


Niagara River Greenway
GORGE VIEW
Niagara Falls
Downtown
Rainbow Bridge
Devils Hole
Whirlpool
Niagara River Greenway
RIVERVIEW
Trail Head
Parking
Niagara River Greenway
Waterfront
Indust. Heritage
Trail
Small Boat Harbor
Lackawanna
Primary Orientation
Vehicular Directional
Pedestrian Directional
Trail Marker

- **Pedestrian Directionals:** To fine-tune pedestrian circulation at interpretive sites and urban environments. Along trails, these signs can confirm distances to milestone destinations, attractions and upcoming trail junctions and spurs.
- **Hazard Warning:** Along trails, this category will alert users to such conditions as steep grades and blind curves.
- **Street Identification:** To identify streets and byways within the bounds of the Greenway. This treatment might simply include the addition of the Greenway logo to the street name in a fashion similar to that used in the Buffalo Niagara Medical corridor.
- **Interpretive signage:** At the interpretive sites, this category will enrich and enhance the visitor's experience of the Greenway. They will "Tell the Story" through imagery and text.

Vehicular Destination Trailblazer

The Melding of Identities in the Niagara River Greenway

There will be occasions where trail, municipal and regional identities will need to be represented on Greenway wayfinding devices. These include such entities as the Seaway Trail, Erie Canalway Trail, the Niagara Wine Trail, the Village of Lewiston, the City of Niagara Falls and the proposed Shoreline Trail, a multi-use trail proposed by the Greater Buffalo Niagara Regional Transportation Authority that will eventually extend along the waterfront from Old Fort Niagara at the mouth of the Niagara River to the Town of Brant in southern Erie County. Melding the various graphic identities may be somewhat challenging and will require a graphic hierarchy as part of the proposed Wayfinding Standards Manual for the Niagara River Greenway. This usually involves a formal methodology for the treatment of nomenclature and graphic symbols. The Genesee Riverway Trail in the City of Rochester is a precedent for this graphic hierarchy. Wayfinding devices for the Genesee Riverway include reference treatment to the Canalway Trail and Genesee Greenway Trail.

The Niagara River Greenway will overlap a significant segment of the proposed Shoreline Trail. The identity of the proposed Shoreline Trail is unique in terms of both scale and autonomy. The greater scope (in length) of the Shoreline Trail, as well as the need to distinguish it from the many spurs and other trail systems it intersects, requires a high degree of autonomy for its signage and overall identity. Proposed signage concepts have not yet been applied to the Shoreline Trail, and it is recommended that its identity be melded with that of the Greenway to some extent (i.e. colors, materials, sizing and detailing of certain categories). It may be possible to incorporate a reference to the Greenway on signs identifying Shoreline Trail segments that fall within the Greenway. This might also include implementation of the Greenway logo in a reduced version.

The Shoreline Trail is a similar system that is being developed separately from the Niagara River Greenway, although sections of the two systems overlap. As part of the recommendations for wayfinding that were

developed for the proposed Shoreline Trail, a concept for creating distinct zones evolved that aimed to divide the Shoreline Trail into five parts:

1. Gorge View (Lower Niagara River)
2. Riverview (Rainbow Bridge to Erie County Line)
3. Riverwalk (Erie County Line to Lackawanna Town Line)
4. Sunset View (Lackawanna south to Town of Evans Line) and
5. The Beaches (Evans to Erie County southern boundary).

This strategy was devised to reference these areas or zones as intermediate destinations on signage such that orientation and directional categories could be simplified. A similar system could be developed for the Niagara River Greenway. Directional elements will reference destinations within the zone and the location of other zones. When the trail user crosses into a neighboring zone, he or she will see the destinations specific to that zone.

Consistency of Identity across Zones

As an example from the Shoreline Trail, a directional sign in "The Beaches" zone can emphasize the destinations within this zone. It will not, however, call out the specific destinations in the Riverwalk and other zones to the north. By limiting signage references to local zone destinations and neighboring zone names, signage can remain as simple and user-friendly as possible.

Coordination with the Proposed Shoreline Trail

As the Greenway encompasses the three northern-most zones of the proposed Shoreline Trail zoning strategy, there may be advantages to extending zonal references to the Greenway itself. The rationale for zoning the Greenway is just as relevant, if not more so. As such, it may be beneficial to either utilize the zoning strategy that has been proposed for the Shoreline Trail or, at the least, determine new zonal references such that they may be the same for both entities.

From an interpretive perspective, the identification of "Telling the Story" sites in the Greenway is entirely compatible with the regional representation of points of interest that the Shoreline Trail has determined to address. Consequently, the Shoreline Trail map graphic and orientation devices could be very similar in nature, content, and to some extent, even design to that which the Greenway would also seek to implement. Moreover, there can be many cost-saving benefits in an effort that aims to coordinate the map and orientation graphics produced for the Shoreline Trail and Niagara River Greenway. For instance, one elevation of a Shoreline Trail orientation unit could address trail-related information while the opposite face could promote the Greenway with its own specific maps and descriptions of points of interest. These units were originally designed to have a panel face dedicated to the trail and one that addressed regional attractions. As long as the Greenway components were compatibly designed, it could simply be inserted within the Shoreline Trail units.

5. Heritage Tourism and Economic Revitalization

One of the most important outcomes of fulfilling the vision of a Niagara River Greenway is its potential to improve the quality of life for the region's citizens. Revitalizing the region's urban centers, celebrating the region's rich cultural and industrial heritage and protecting the region's natural resources are sound economic development issues that can directly improve the quality of life in both Erie and Niagara Counties. Environmental protection and redevelopment are not mutually exclusive endeavors, but work together to help promote economic activity. Collectively, these strategies lead to stronger neighborhoods, a healthier environment, a vibrant economy and increased tourism.

Urban Centers
(See Figure 26)
Historically, most of the urban and industrial expansion of the Erie-Niagara region was directly or indirectly tied to the region's water resources, specifically the Great Lakes, Niagara River and the Erie Canal.

City of Buffalo and Niagara River

Enhancing the water and land assets along the Niagara River will facilitate the region's ongoing economic transition, raising the value of urban waterfront property for residential, entertainment, recreational and water-dependent and water-enhanced uses. This strategy reinvests in the existing infrastructure, consistent with smart growth policies and a national trend toward revitalizing urban neighborhoods. Enhanced quality of life features create a climate that is attractive to new business, encourages private sector investment, and helps build a market for new commercial opportunities.

Heritage and Cultural Centers
(See Figure 27)
Reinvesting in the existing infrastructure also promotes urban areas as appropriate locations for higher intensity greenway-related land uses such as heritage and cultural centers. These facilities are intended to draw large numbers of visitors, including local residents and tourists. They can be developed in coordination with an overall interpretive strategy to tell the stories of history, culture and industry in the Niagara River Greenway, as is discussed in the previous Implementation Concept on "Telling the Story".

Visitor Center, Niagara Falls

Historically, Lake Erie, Lake Ontario and the Niagara River were catalysts for industry and many industries developed along the water's edge due to manufacturing and shipping needs. Other industries required the affordable and abundant electricity provided by hydroelectric operations at the Niagara Power Project and its predecessors. It is important to celebrate the advancements in industry made possible by these resources and acknowledge the significant role that industry played in developing the region.

The area's rich industrial heritage is integral to the development of heritage tourism and industrial heritage initiatives will provide important tourism venues that will aid in the

development of the Niagara River Greenway.

Among the most successful and innovative new cultural centers are those that blur the line between education and entertainment by combining learning activities with interactive experiences, and appealing to a range of ages and demographic groups. The proposed Niagara Experience Center in the City of Niagara Falls is an example of this type of center. These types of facilities are most appropriately located in urban locations, because they have good access to transportation infrastructure, utilities, hotels and commercial districts. This will also help alleviate development pressure in more sensitive undeveloped Greenway areas.

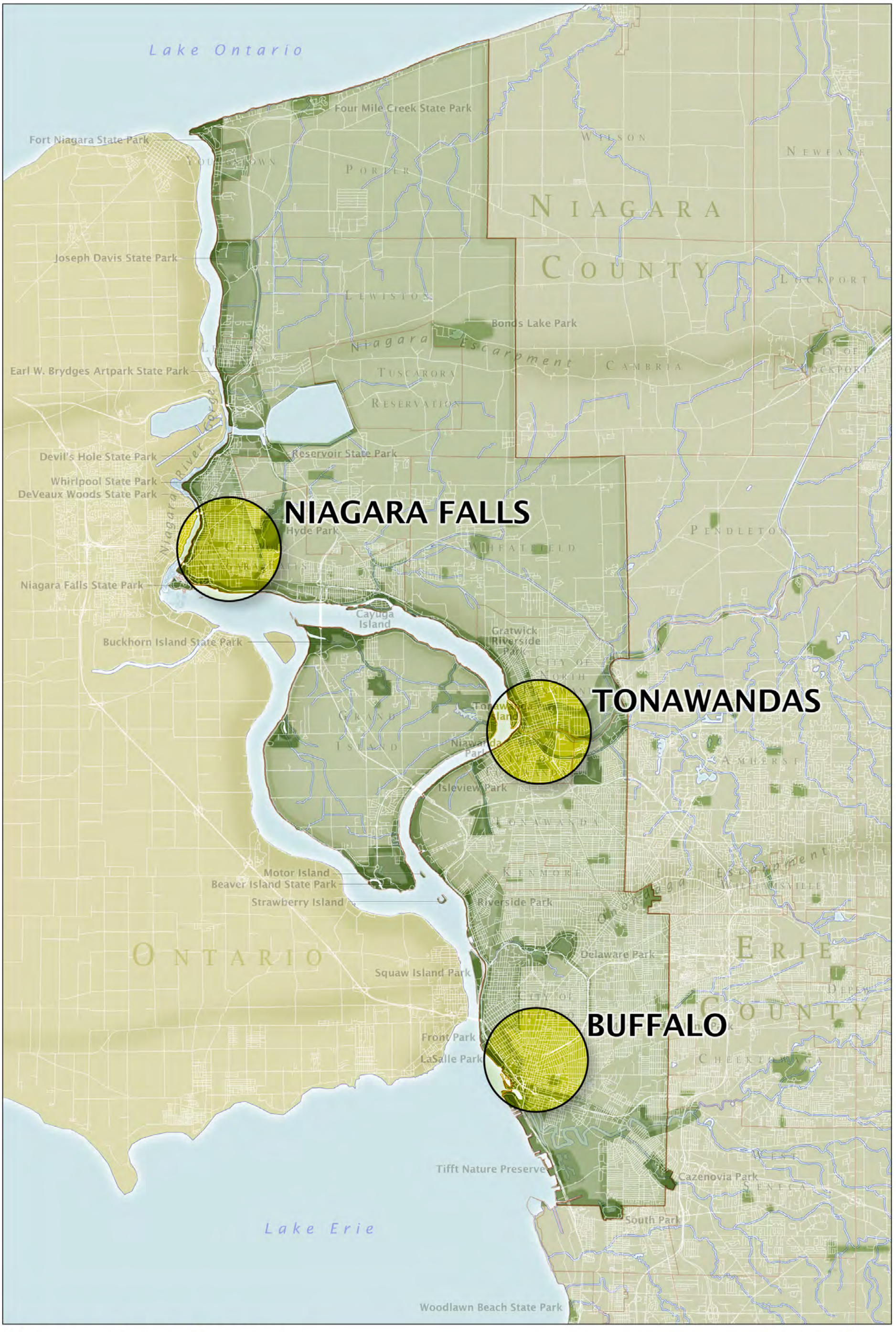
Ecological Centers
(See Figure 28)
Active heritage and cultural centers that attract large numbers of visitors are more adequately located in urban areas. Ecological centers are more ideally suited to a more natural setting, such reclaimed land where they are in contact with the types of natural resources, plants and wildlife they are intended to focus on. Tifft Nature Preserve is an example of an ecological center. Although these facilities may be open to the public as interpretive centers, they would be much more passive in nature, emphasizing education, research and conservation.

The design of ecological centers should combine landscape with architecture by incorporating the Greenway's natural features through minimal site impacts. Ultimately, the goal of these centers is to play a leading role in preserving, enhancing and restoring the natural environment of the Niagara River Greenway.

Buckhorn Marsh Nature Center
Photo by Nathan Cook- isledegrande.com

Interpretive Center Network
(See Figure 29)
Interpretive centers, trailheads, environmental graphics and interpretation programming are not isolated Greenway features. For these individual features to contribute to the overall Greenway vision, they should be coordinated under an overall Niagara River Greenway interpretation strategy, as discussed in the previous Implementation Concept. These features would be organized and located according to a strategic hierarchy that would promote a rich user experience. The diversity of activities and facilities will encourage visitors of all ages to visit the Greenway on a routine basis.

Naval Park



Niagara River Greenway

Niagara River Greenway Area

Existing Hub of Urban Development & Activity

Urban Hubs

March 20, 2007

N

0 0.5 1 2 Miles

Figure 26

Niagara River Greenway

Heritage and Cultural Centers

March 20, 2007

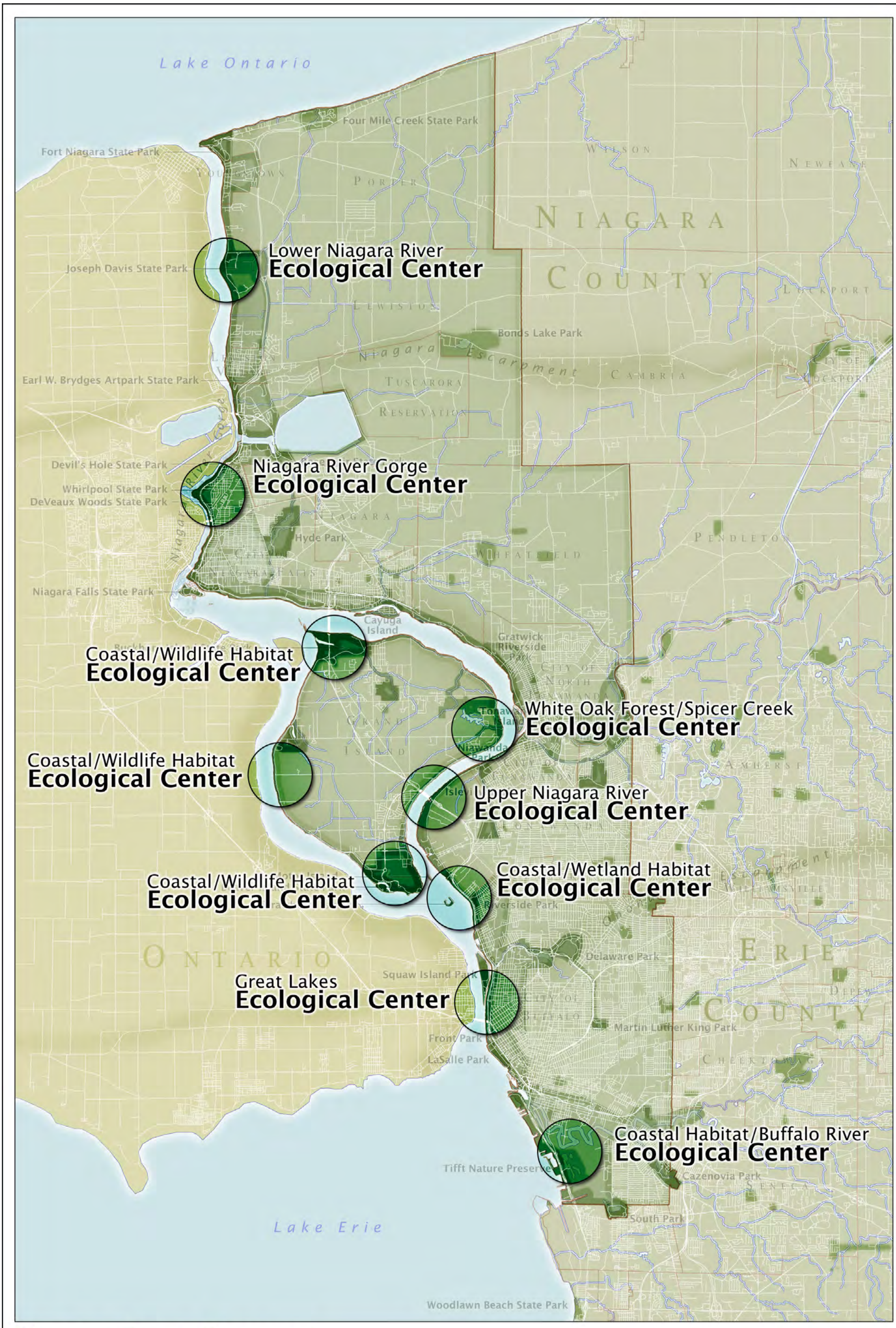
Niagara River Greenway Area

Opportunity for Heritage or Cultural Center

N

0 0.5 1 2 Miles

Figure 27



Niagara River Greenway

Niagara River Greenway Area

Opportunity for Ecological Center

Ecological Centers

March 20, 2007

N

Miles

0 0.5 1 2

Figure 28

Niagara River Greenway

Interpretive Center Network

March 20, 2007

Figure 29

Niagara River Greenway

Riverfront Preservation and Restoration

March 20, 2007

Niagara River Greenway Area

Opportunity for Ecological Center

Priority Areas for Perservation and Restoration

N

0 0.5 1 2 Miles

Figure 30

Riverfront Preservation and Restoration
(See Figure 30)
The fundamental goal of riverfront preservation and restoration is to fulfill the vision of continuous lake-to-lake access along the Niagara River. Arguably, the most important principle that the region's diverse government, private and business interests can agree upon is that public open space preservation is a powerful economic development tool. While much of the Niagara River shoreline is and will remain in private ownership, it is a priority to maintain public ownership, and increase public access where feasible, whether through trail access, conservation easements, or other means.

Riverfront Access, Squaw Island

There is no shortage of research that confirms the increased value created by the preservation of open space. From a house located along a golf course fairway to the skyscrapers that line Central Park, public open space creates value and provides opportunities for development. Indeed, a 2002 survey co-sponsored by the National Association of Home Builders and the National Association of Realtors cited trails as the second most important community amenity, second only to highway access, and sidewalks, parks and playgrounds ranked third.

Among the most valuable attributes of public open space, however, are size and quality. Quality of open space can be a relative value and varies according to the functions of the property. Similarly, size is a relative characteristic of a property, but its connectivity to other open space, particularly contiguous public land, is of major importance.

H. Capturing the Vision

The Niagara River Greenway is a world-class corridor of places, parks, and landscapes that celebrates and interprets our unique natural, cultural, recreational, scenic and heritage resources and provides access to and connection between these important resources while giving rise to economic opportunities for the region.

All of the concepts and recommendations within this Action Plan section of the report are designed to help capture this vision. However, the overall greenway vision is inherently somewhat abstract. The precise look and feel of Niagara River Greenway in 2057 is difficult to envision because there are many unknown and unpredictable variables. This is precisely why a plan with built-in flexibility and adaptability is necessary for success. The nature of this Plan is as a vision plan, to define the characteristics of the Niagara River Greenway and identify strategies that will transform the Greenway into its full potential as a world-class corridor.
The five implementation concepts described previously (gateway identification; accessing, experiencing, and connecting to the river; restoring, preserving, and enhancing unique and sensitive resources; linking special places and destinations to "tell the story" of the Niagara River; and heritage tourism and economic revitalization) illustrate programs and policies with system-wide implications. Implementing these concepts will help ensure fulfillment of the Niagara Greenway goals, while maintaining a standard of consistency and quality throughout the Greenway. (*See Figure 31)*

The implementation concepts help capture a consistent visual and thematic message throughout the Greenway. Equally important

is building upon the distinctive qualities at specific locations. The cataracts at Niagara Falls are clearly the centerpiece and jewel of the Niagara River Greenway. However, the diversity of experiences contained within the Niagara River Greenway also enriches its character and its uniqueness. They are critical components that contribute to its world-class status. The richness of the natural and built environment along the Niagara River is, in large part, due to the corridor's incredible variety of significant and unique spaces and experiences that occur in a surprisingly short linear distance (about 30 miles, from Lake Erie to Lake Ontario).

Capturing the vision for the Niagara River Greenway will simultaneously establish system-wide consistency and celebrate the unique qualities of each place along the length of the Niagara River Greenway corridor.

Figure 32 visually depicts the distinctive places that comprise the Niagara River Greenway. In keeping with the framework classifications introduced by the Implementation Concepts, these places are described as ***gateways*** and ***reaches.***

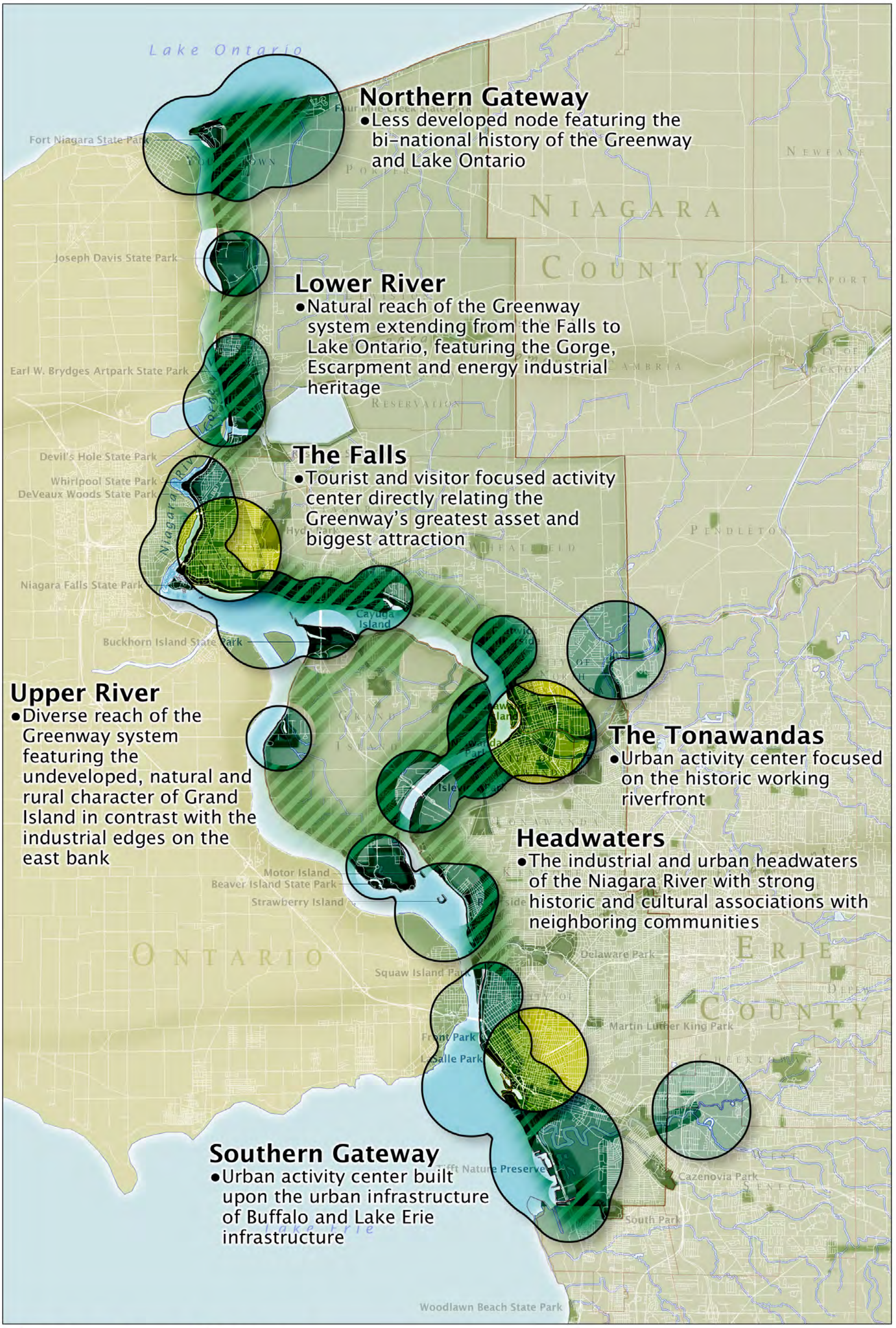
Gateways. As described under the Gateway Identification Implementation Concept, *gateways* are transitions from one distinct place to another. In the context of the Niagara River Greenway Vision, gateways describe locations along the corridor that are both transitions between distinct river reaches as well as unique locations in and of themselves.

Reaches. Typically a *river reach* is defined as a segment of water that is visible between bends in the river. In the context of the Niagara River Greenway, a *reach* describes a distinctive segment of greenway that occurs between Gateways. These transitions, in turn, are prominent features in the landscape, nodes of activity or significant landscapes. The gateways and reaches combine to capture the vision of a contiguous series of special events and places highlighting the Niagara River Greenway's *"unique natural, cultural, recreational, scenic and heritage resources."* These include the following:

- Gateway: Four Mile Creek State Park
- Reach: Lake Ontario Waterfront
- Gateway: Fort Niagara / Mouth of lower Niagara River
- Reach: Youngstown-Lewiston
- Gateway: Niagara Escarpment
- Reach: The Gorge
- Gateway/Centerpiece: Niagara Falls
- Reach: West Grand Island
- Gateway: Buckhorn Island
- Reach: North Grand Island
- Gateway: The Tonawandas
- Reach: South Grand Island
- Gateway: Strawberry Island
- Reach: Squaw Island
- Gateway: Mouth of upper Niagara River
- Reach: Lake Erie Waterfront / Olmsted Park system
- Gateway: Tifft Nature Preserve / South Park

Many of these individual gateways and reaches already have distinct identities. Over time, as the vision for Niagara River Greenway is achieved through the myriad of projects and activities that are being and will be implemented along the corridor, the unique and distinct character of these locations will become even more apparent. A world-class user experience will emerge: an enchanting alternation of experiences between gateways and reaches that emphasize the variety of *"special places, parks, and landscapes"* from one end of the Greenway to the other.

Niagara Falls will always be considered the most significant and identifiable place within the Erie-Niagara Region. As the vision for the Niagara River Greenway is fulfilled, it will be understood as the highlight of Niagara River Greenway, but also as the transition between the upper and lower Niagara River—a remarkable piece of a extraordinary system.



NIAGARA RIVER GREENWAY

Niagara River Greenway Area

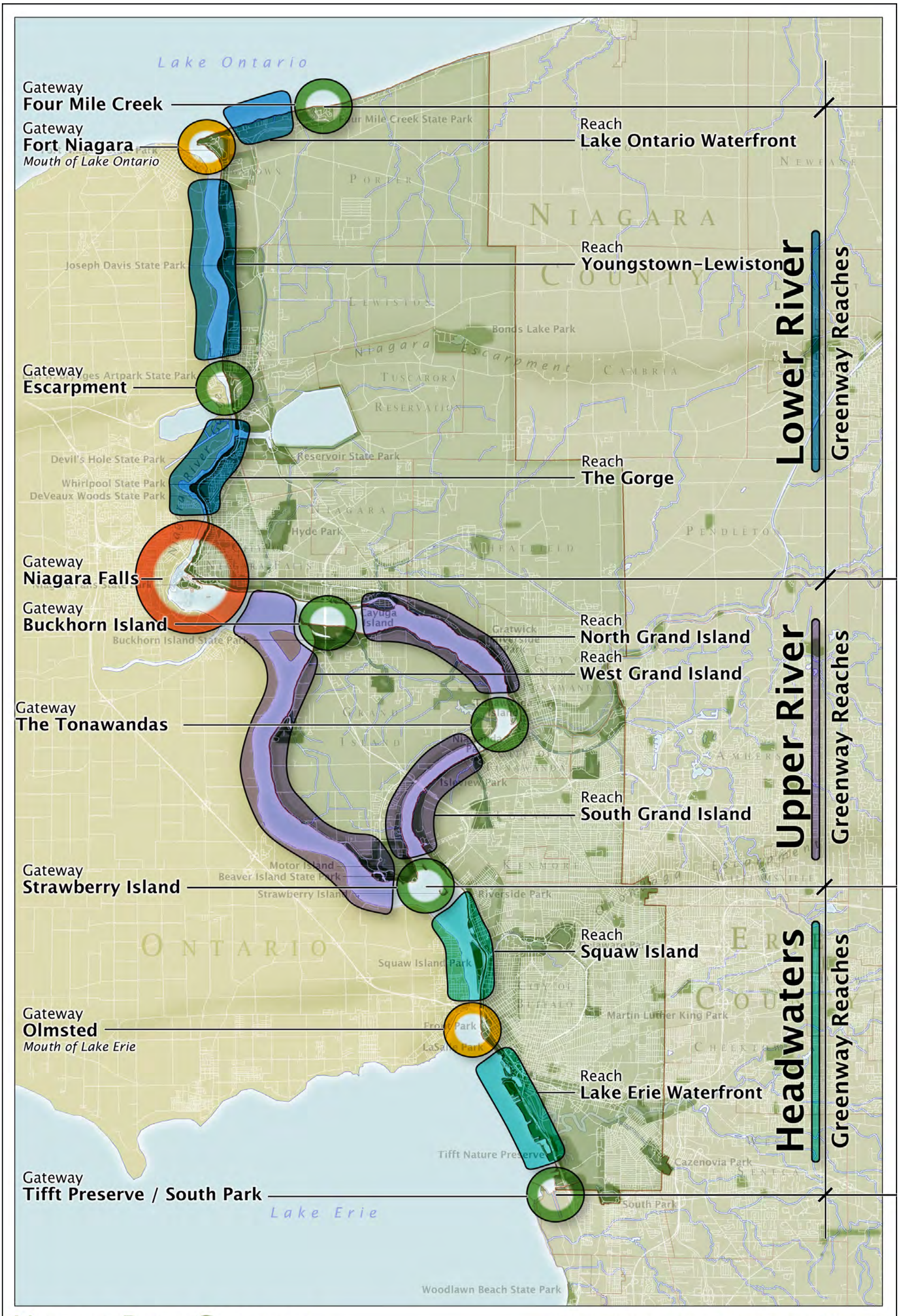
IMPLEMENTING CONCEPTS

MARCH 20, 2007

N

0 0.5 1 2 Miles

Figure 31



Niagara River Greenway

Capturing the Greenway Vision

March 20, 2007

Niagara River Greenway Area

Greenway Reaches

Greenway Gateways

N

0 0.5 1 2 Miles

Figure 32

CHAPTER 5: MUNICIPAL, STAKEHOLDER AND INDIAN NATION INPUT

5.0 MUNICIPAL, STAKEHOLDER AND INDIAN NATION INPUT

There have been dozens of projects forwarded by municipalities, Indian Nations and various stakeholder groups. Clearly, the Niagara River is an inspiration, and the communities have responded by forwarding a wide range of projects. The figures on the following pages document this input, and indicate the locations of these various projects. They show a natural concentration of activity near the river's edge, although they are not limited in geographic scope. Lists summarizing the input received from municipalities and stakeholders are included in Appendix E.

The list represents a wide variety of project types, at various stages of conceptualization. It includes projects that have a great deal of groundwork completed and are in the process of being implemented. It also includes projects that are early concepts, which will require much more work and thought before they are ready to move forward. Some projects are attached to a specific site or location, while others are more general in nature. In the latter category, some recommended projects are system-wide in nature, or pertain to a number of sites. Others are conceptual to the point where no specific site has been identified for the recommended activity.

The presentation of these projects in this plan does not imply endorsement by the Niagara River Greenway Commission.

Each project must be evaluated individually and on its own particular merits in terms of compatibility and consistency with the Niagara River Greenway Plan. They are provided here as a record of the grass roots public involvement process that has been the cornerstone of the Niagara River Greenway planning effort. The projects listed here are not intended to be limiting in any way. In fact, it is anticipated there will be a myriad of heretofore unknown projects that will be brought forward in the years and decades ahead that will advance the vision and add value to the Niagara River Greenway.

The communities participating in this process are to be commended on the amount of work and effort that has gone into developing the dozens of projects represented here. With very few exceptions, these projects are valuable concepts that will contribute toward making the Greenway a "world-class corridor."

A. Municipal Projects

The Niagara River Greenway Commission has received input from every municipality within the jurisdictional boundary. The Commission did not require lists of projects to be submitted, although such input was welcomed. The projects and concepts forwarded by the municipalities are depicted on Figures 33 through 42.

B. Stakeholder Projects

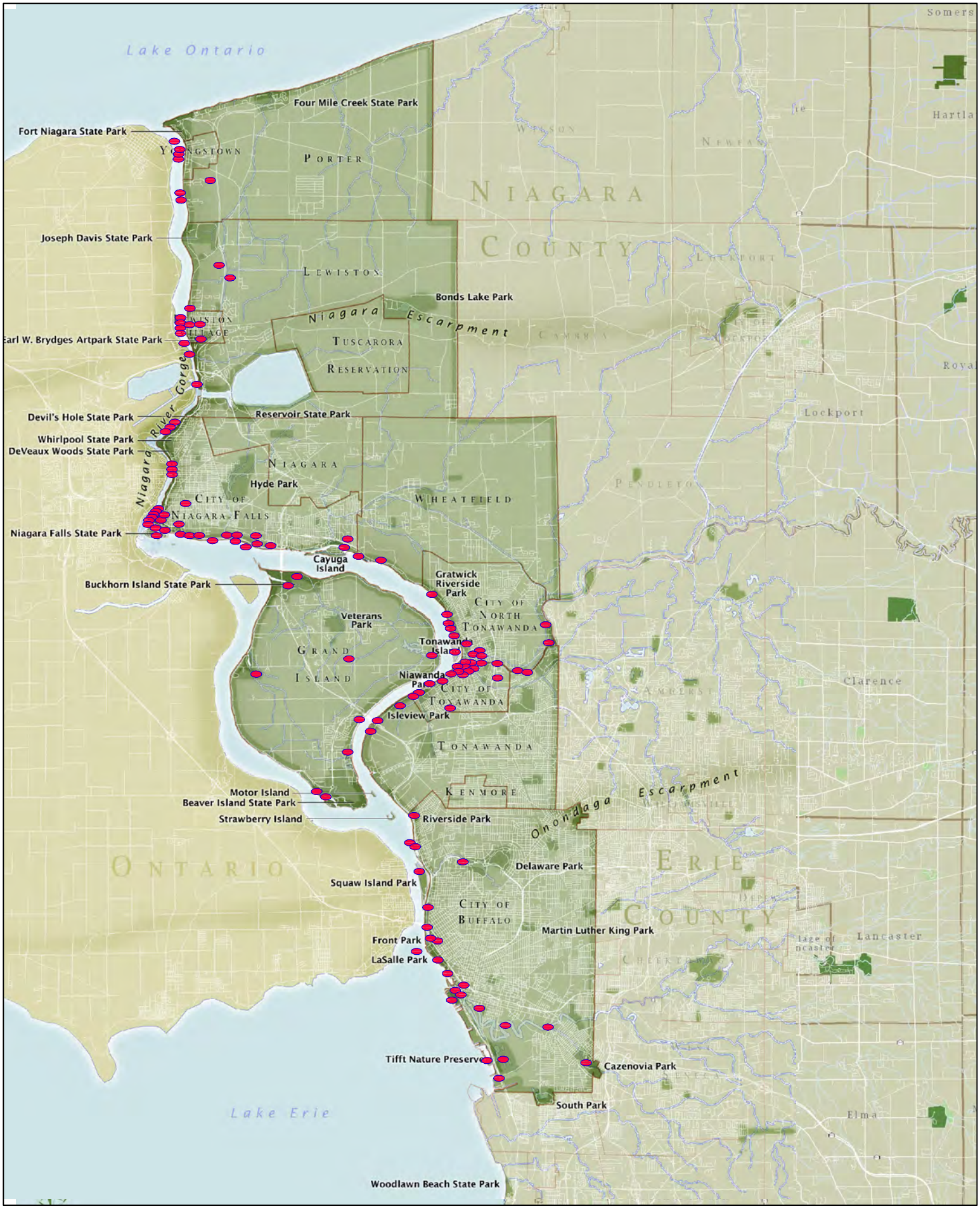
There are many non-for-profits, special interest organizations, neighborhood groups, volunteer groups, and other stakeholders who have forwarded specific projects for the Niagara River Greenway. In some cases, these projects are also endorsed by the relevant municipality, while others have not yet gone through that layer of review.

The projects forwarded by stakeholders represent a similar range of completeness as the official municipal projects. It is noted that the organizational capacity of these groups varies. Some have paid staff and are capable of sponsoring projects directly,

while others depend upon volunteers, and will likely depend upon partnering with a municipal or other sponsor to help bring their project to fruition. These lists of projects and concepts are representative and do not preclude additional ideas. Stakeholder input is depicted visually on Figures 44 through 51.

C. Indian Nation Projects

There are two Indian Nations located in or near the Greenway boundary. Projects submitted by these Nations depicted on Figure 52.



Niagara River Greenway

Municipal Projects Overall Map

Figure 33

20 March 2007

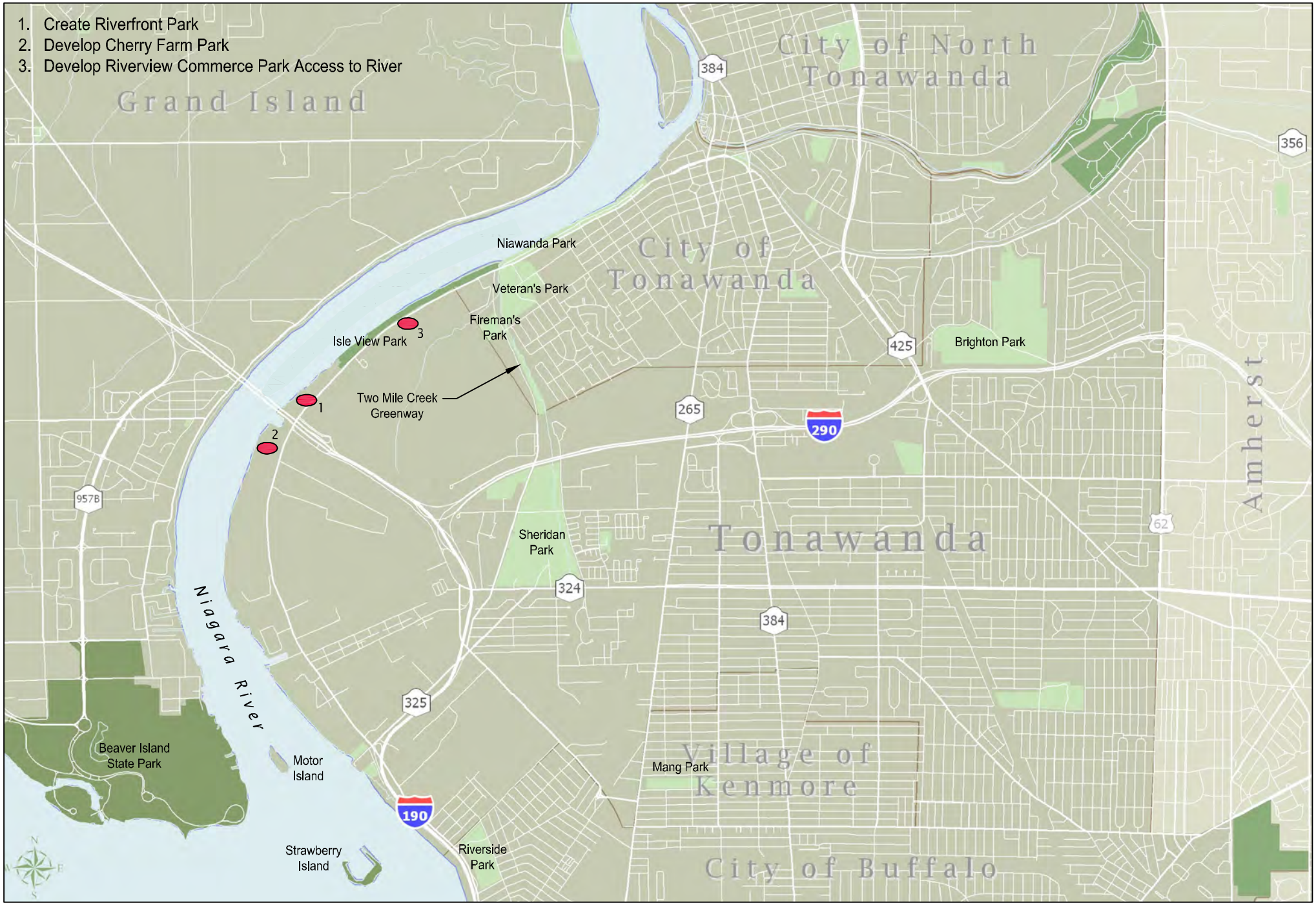
1. Bailey Avenue Confluence Point Open Space
2. Broderick Park Improvements
3. Buffalo Boat Harbor (Gallagher Beach and Small Boat Harbor)
4a. Inner & Outer Harbor Greenway Trail
4b. Buffalo River Greenway Trail
5. Buffalo River Sediment Remediation
6. Buffalo Sewer Authority Outfall Remediation
7. Cazenovia Park Redevelopment
8. Erie Street Project
9. Erie Canal Harbor Development
10. Front Park Restoration
11. LaSalle Park Restoration
12. Lower Niagara Street Revitalization
13. Ontario Street Boat Launch Improvements
14. Peace Bridge Improvements
15. Porter Avenue Improvements
16. Riverside Park Restoration
17. Scajaquada Corridor Improvements
18. Southtowns Connector (Rt. 5 Access Improvements)
19. Squaw Island Park Trails
20. Tifft Nature Preserve Expansion
21. Times Beach Nature Preserve
22. Towpath Park Improvements
23. Cotter Point
24. Inner Harbor-Naval Museum, Cobblestone Roads, Esplanade, etc.
25. Underground Freedom Trail
26. Niagara River International Gateway
27. Hoyt Lake Habitat Restoration
28. Scajaquada Creek Habitat Restoration
29. South Park Lake Aquatic Ecosystem Restoration
30. Legion Parkway Improvements

Niagara River Greenway

Municipal Projects
City of Buffalo

20 March 2007

Figure 34

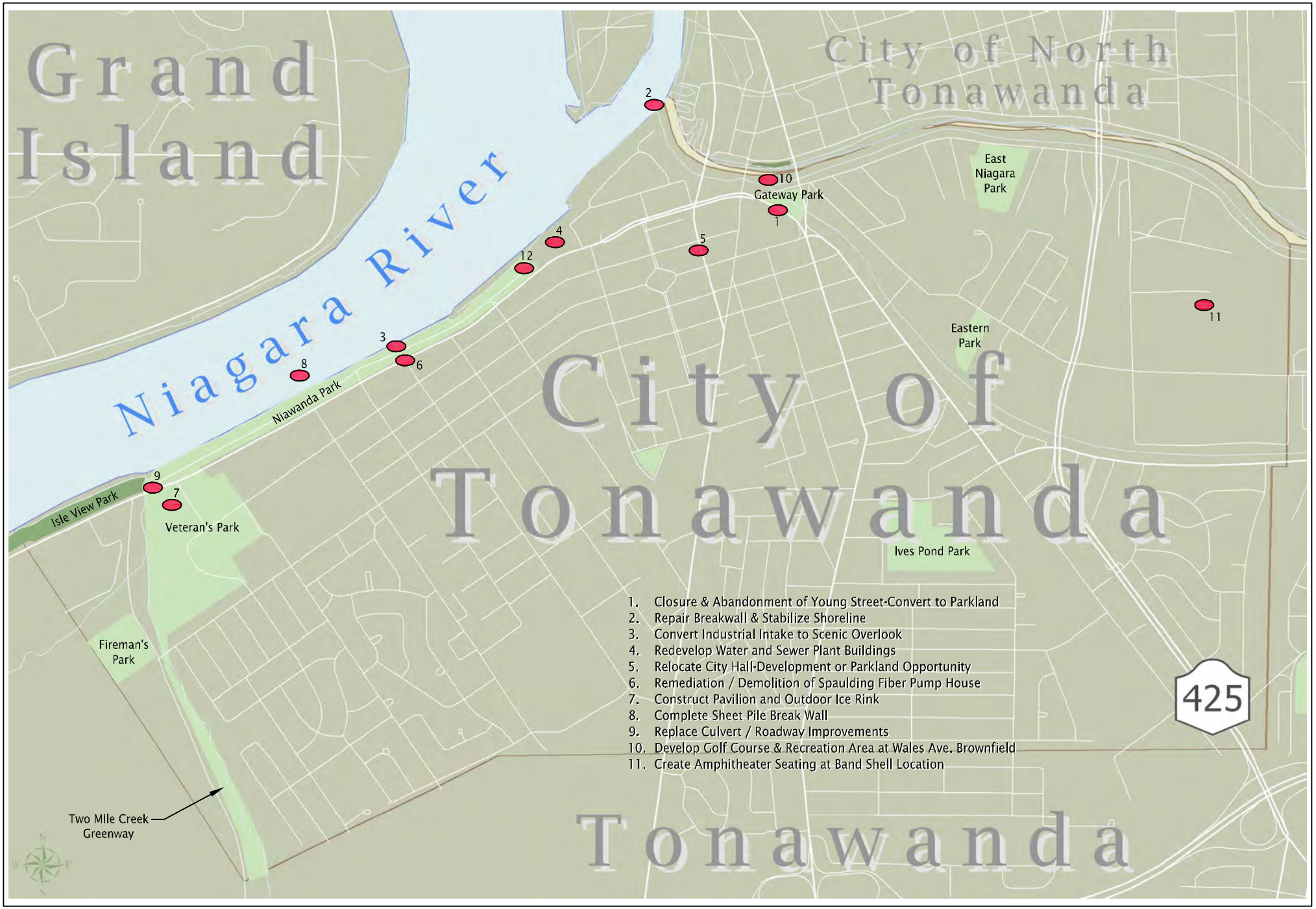


Niagara River Greenway

Municipal Projects
Town of Tonawanda

Figure 35

20 March 2007



Niagara River Greenway

Municipal Projects
City of Tonawanda

Figure 36

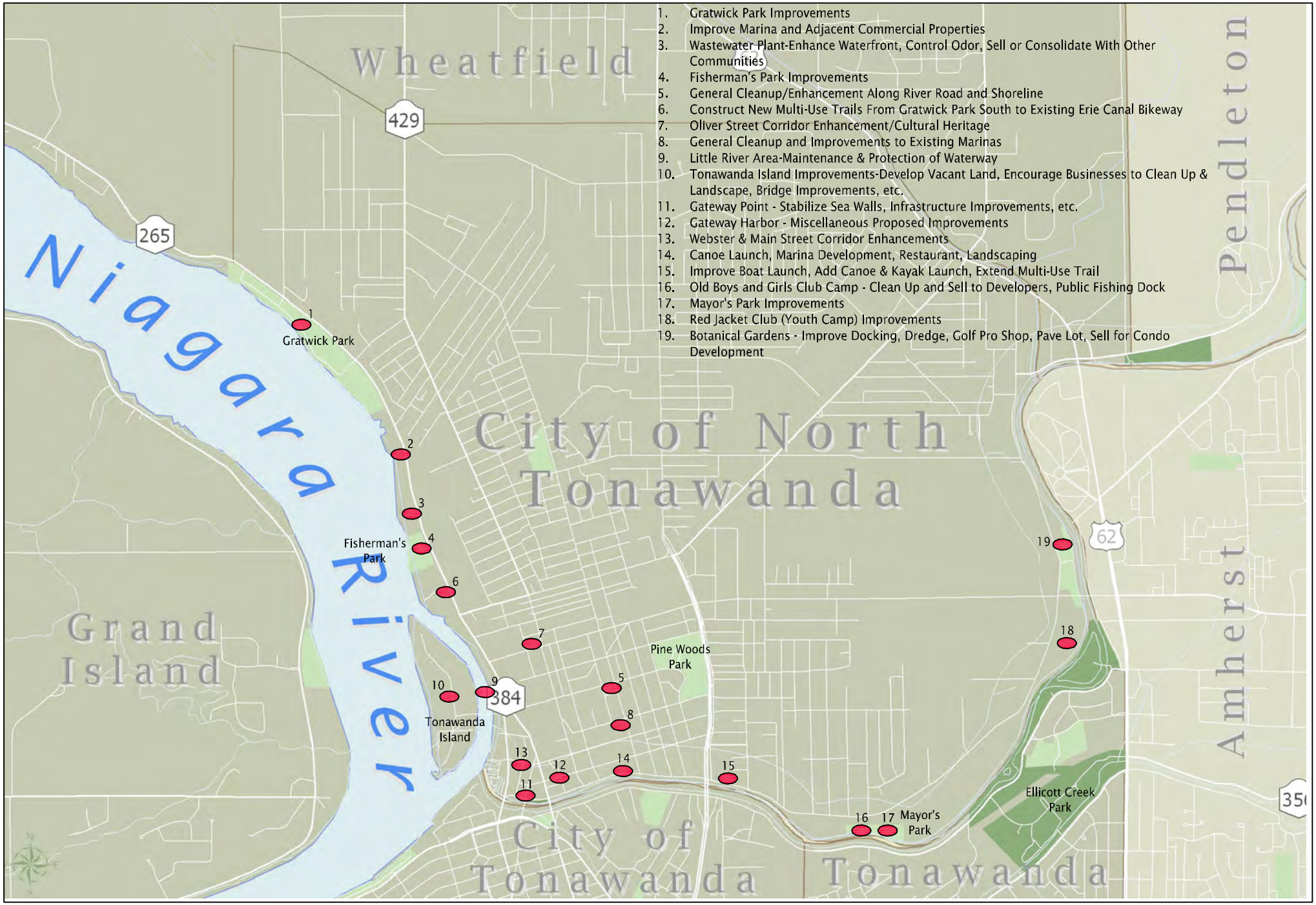
20 March 2007

Niagara River Greenway

Municipal Projects
Town of Grand Island

Figure 37

20 March 2007

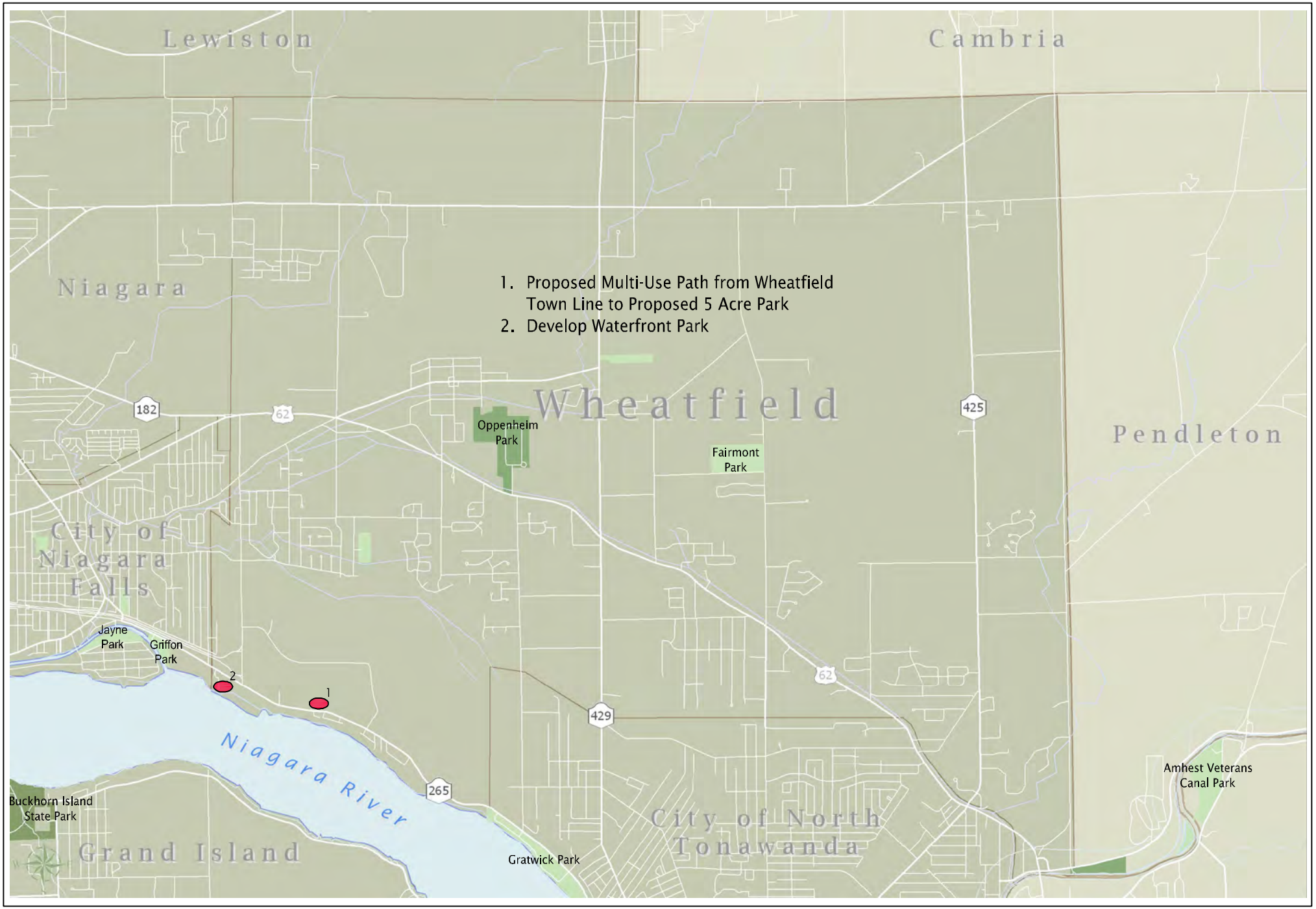


Niagara River Greenway

Municipal Projects
City of North Tonawanda

Figure 38

20 March 2007

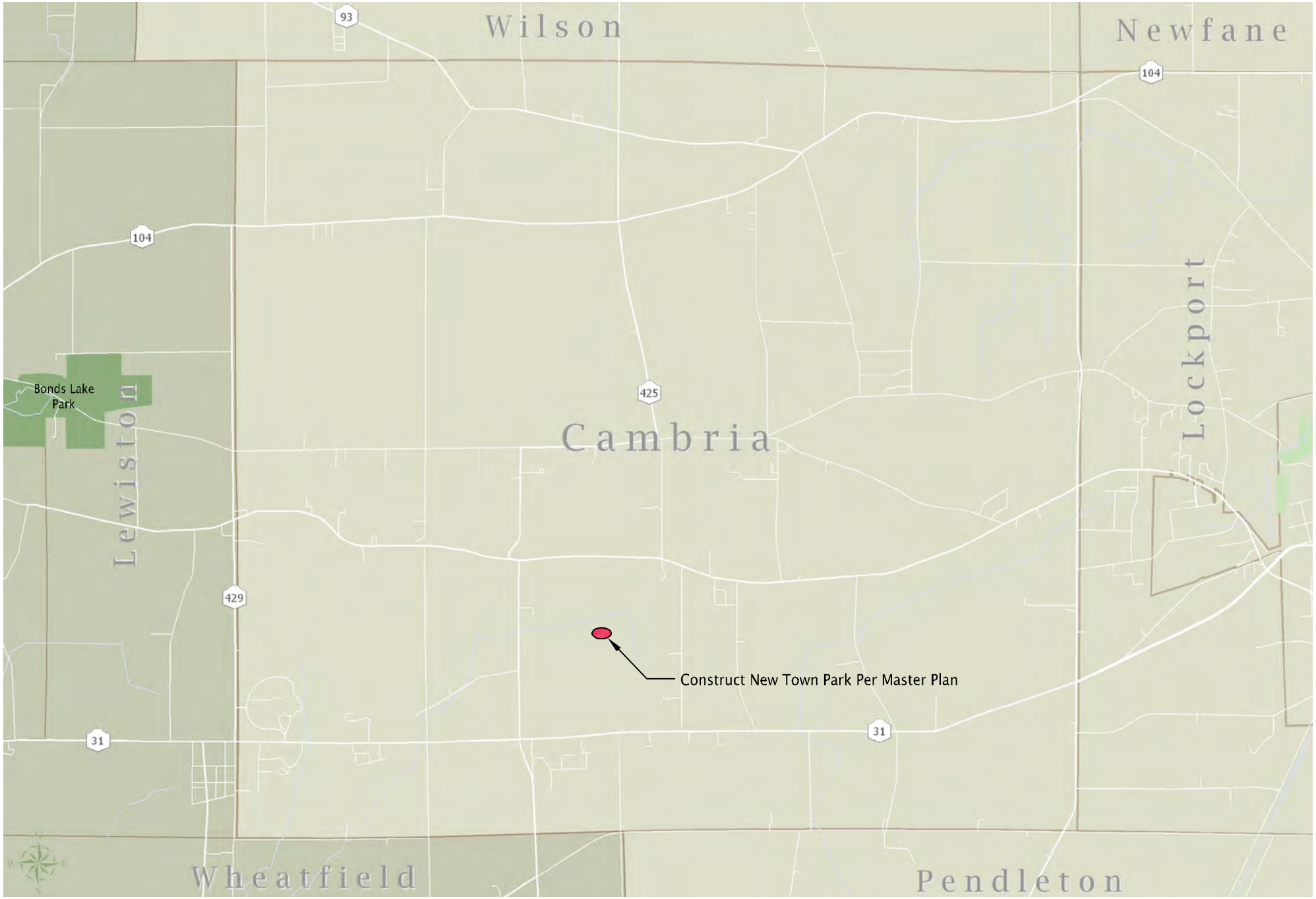


Niagara River Greenway

Municipal Projects
Town of Wheatfield

Figure 39

20 March 2007



Niagara River Greenway

Municipal Projects
Town of Cambria

Figure 40

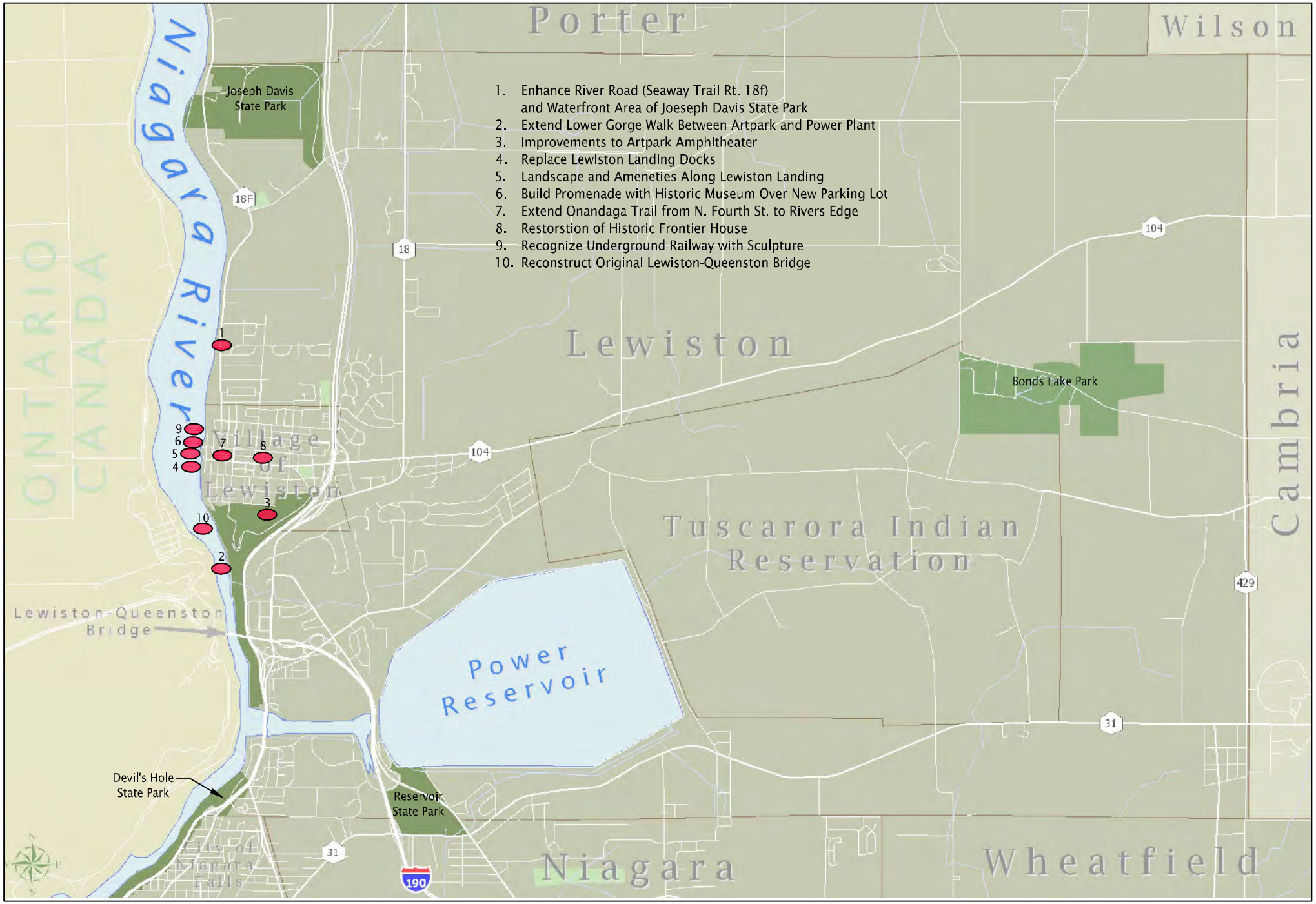
20 March 2007

Niagara River Greenway

Municipal Projects
Niagara Falls & Town of Niagara

Figure 41

20 March 2007

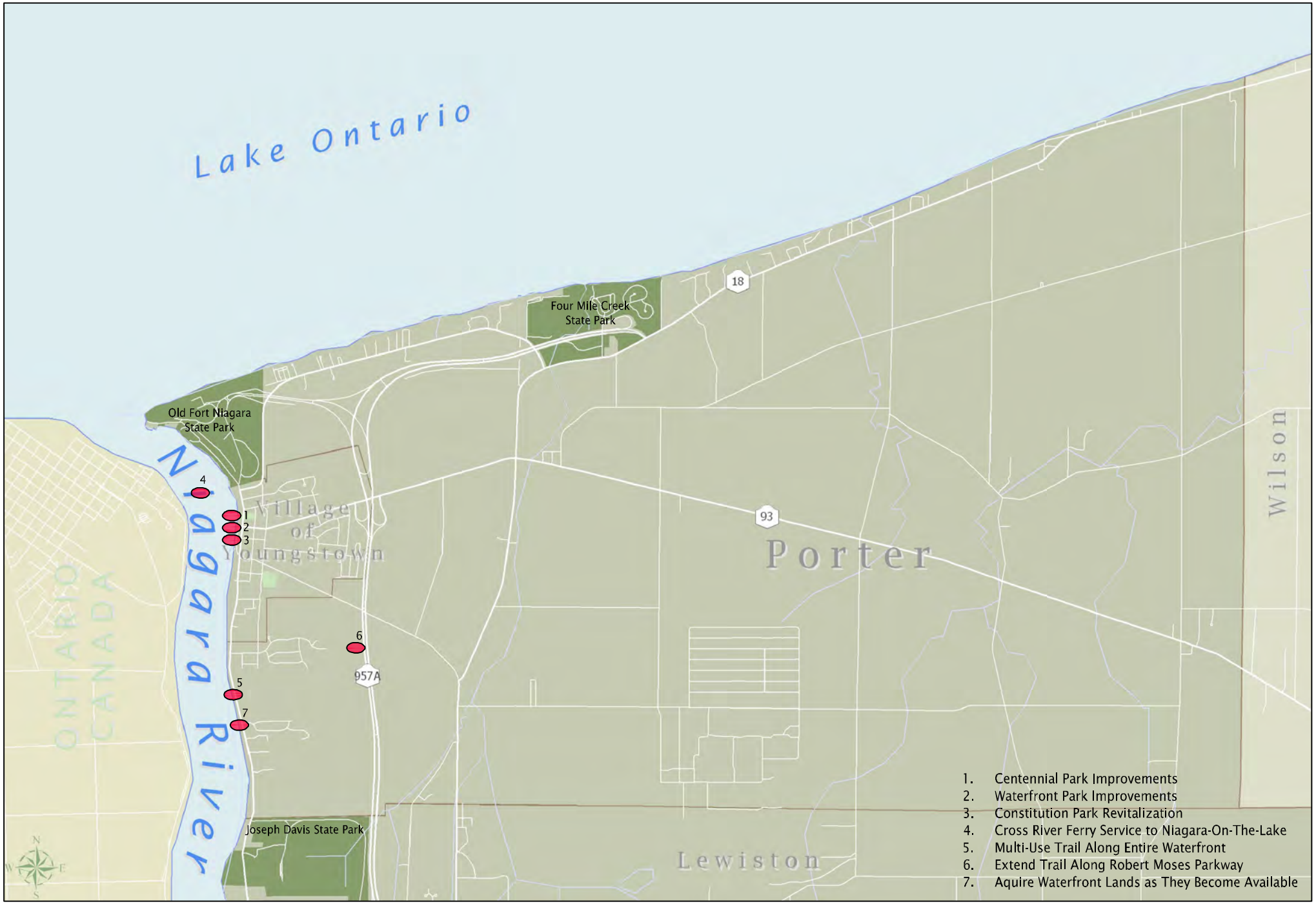


Niagara River Greenway

Municipal Projects
Town & Village of Lewiston

Figure 42

20 March 2007

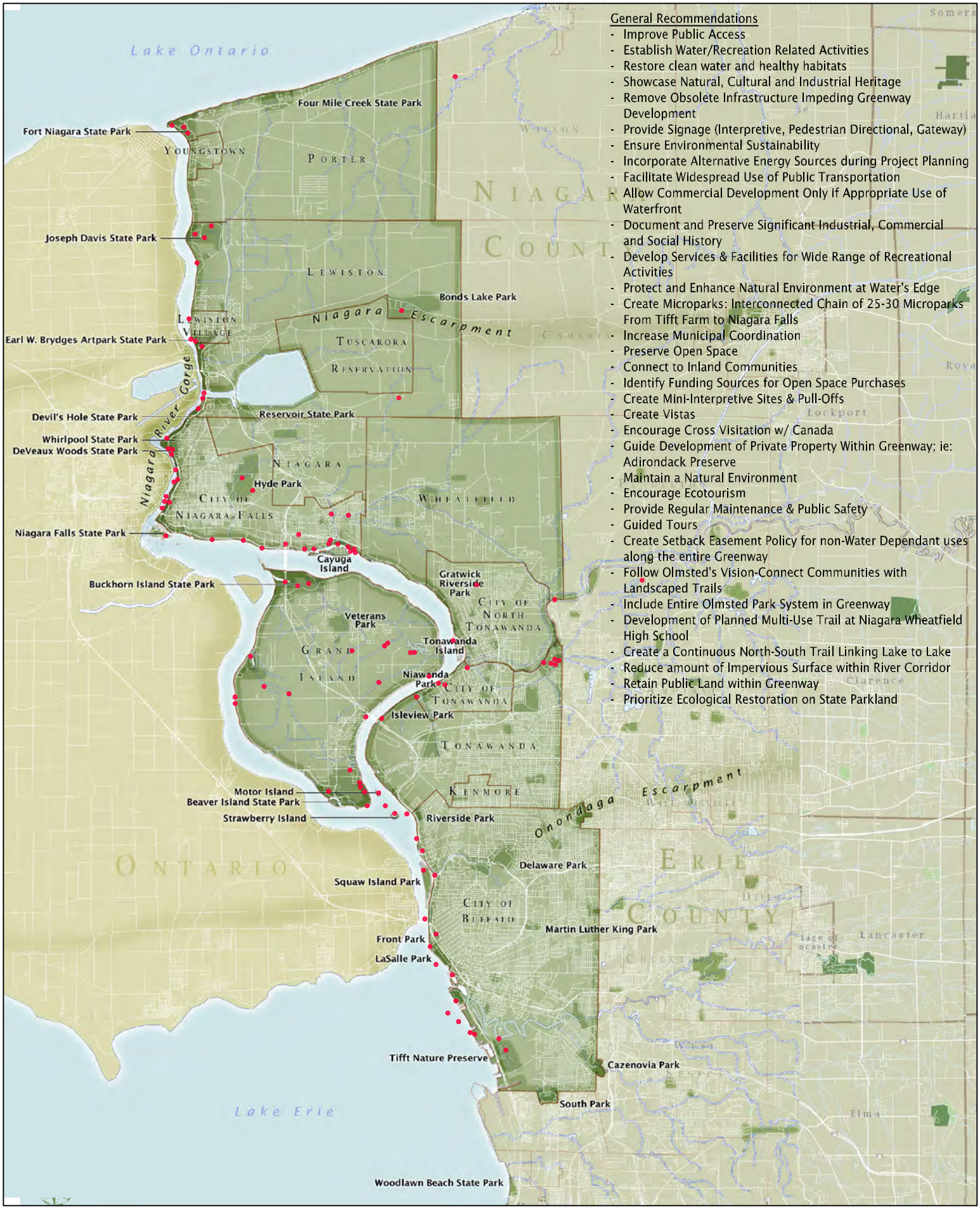


Niagara River Greenway

Municipal Projects
Porter, Youngstown, Wilson

Figure 43

20 March 2007



Niagara River Greenway

Representative Stakeholder Projects Overall Map

Figure 44

20 March 2007

Niagara River Greenway

Representative Stakeholder Projects
City of Buffalo

20 March 2007

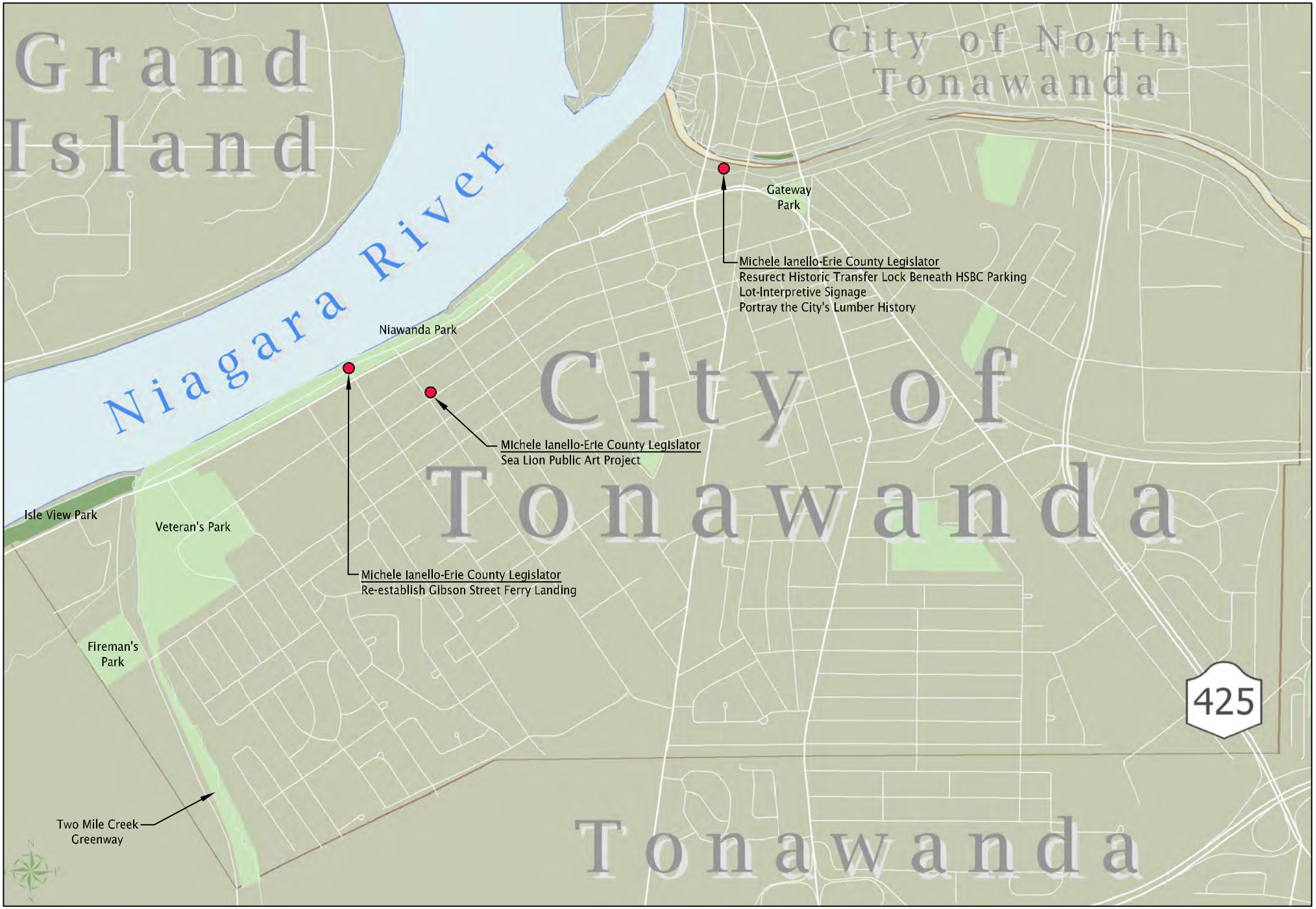
Figure 45

Niagara River Greenway

Representative Stakeholder Projects
Grand Island-Niagara River

Figure 46

20 March 2007

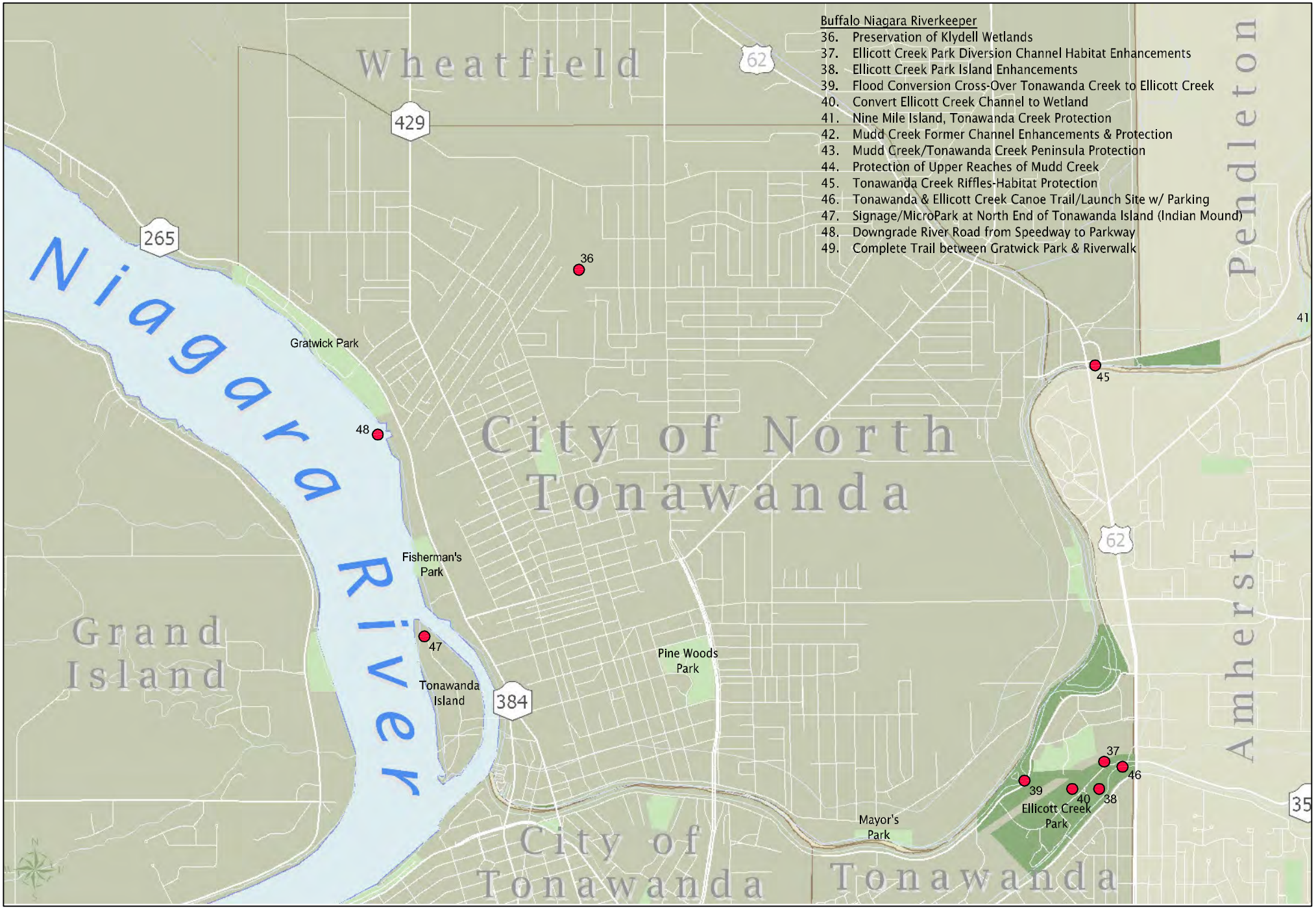


Niagara River Greenway

Stakeholder Projects
City of Tonawanda

Figure 47

20 March 2007



Niagara River Greenway

Representative Stakeholder Projects
North Tonawanda, Tonawanda Creek & Ellicott Creek

Figure 48

20 March 2007

Niagara River Greenway

Representative Stakeholder Projects
Niagara Falls - Niagara River

Figure 49

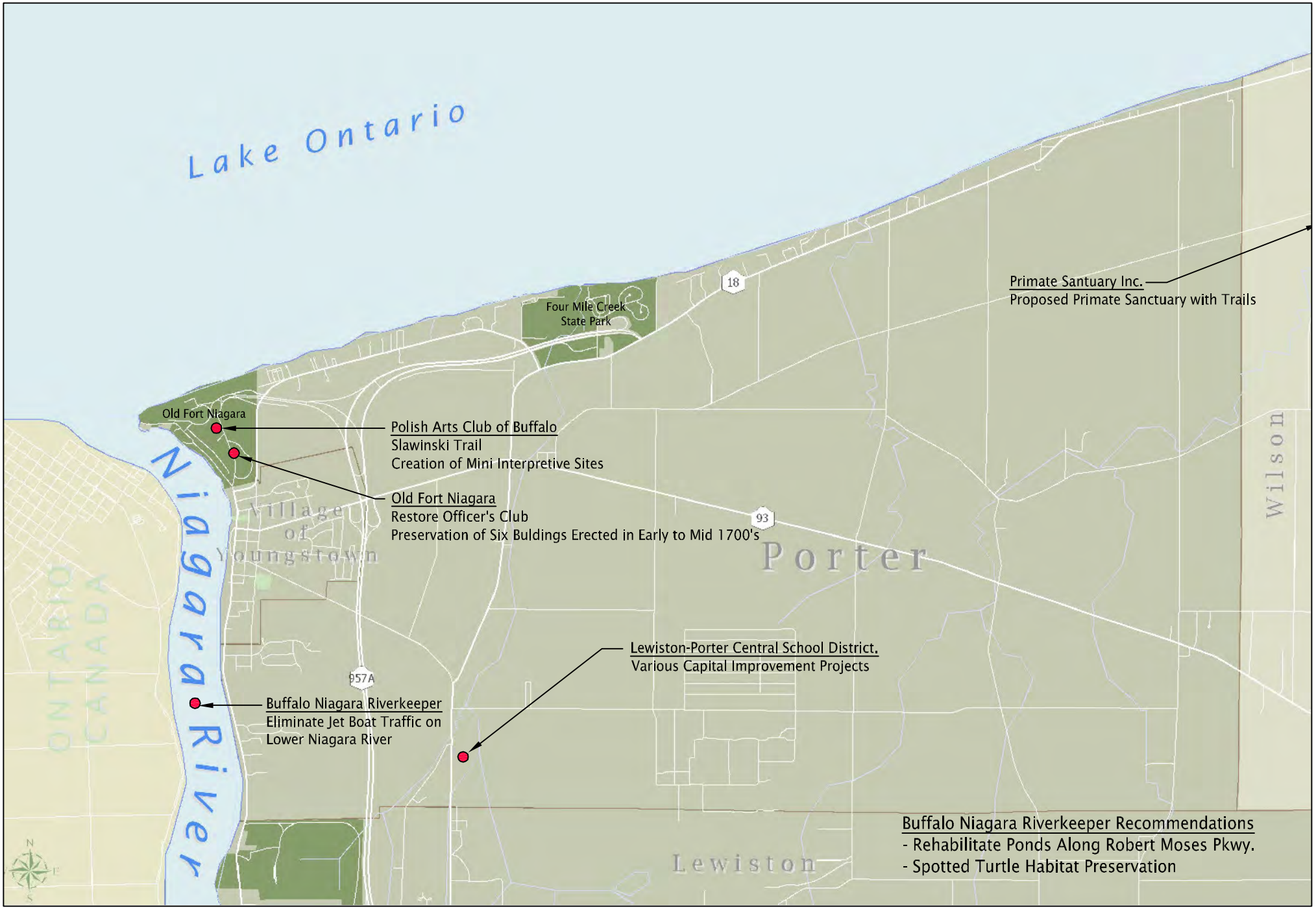
20 March 2007

Niagara River Greenway

Representative Stakeholder Projects
Town & Village of Lewiston

Figure 50

20 March 2007

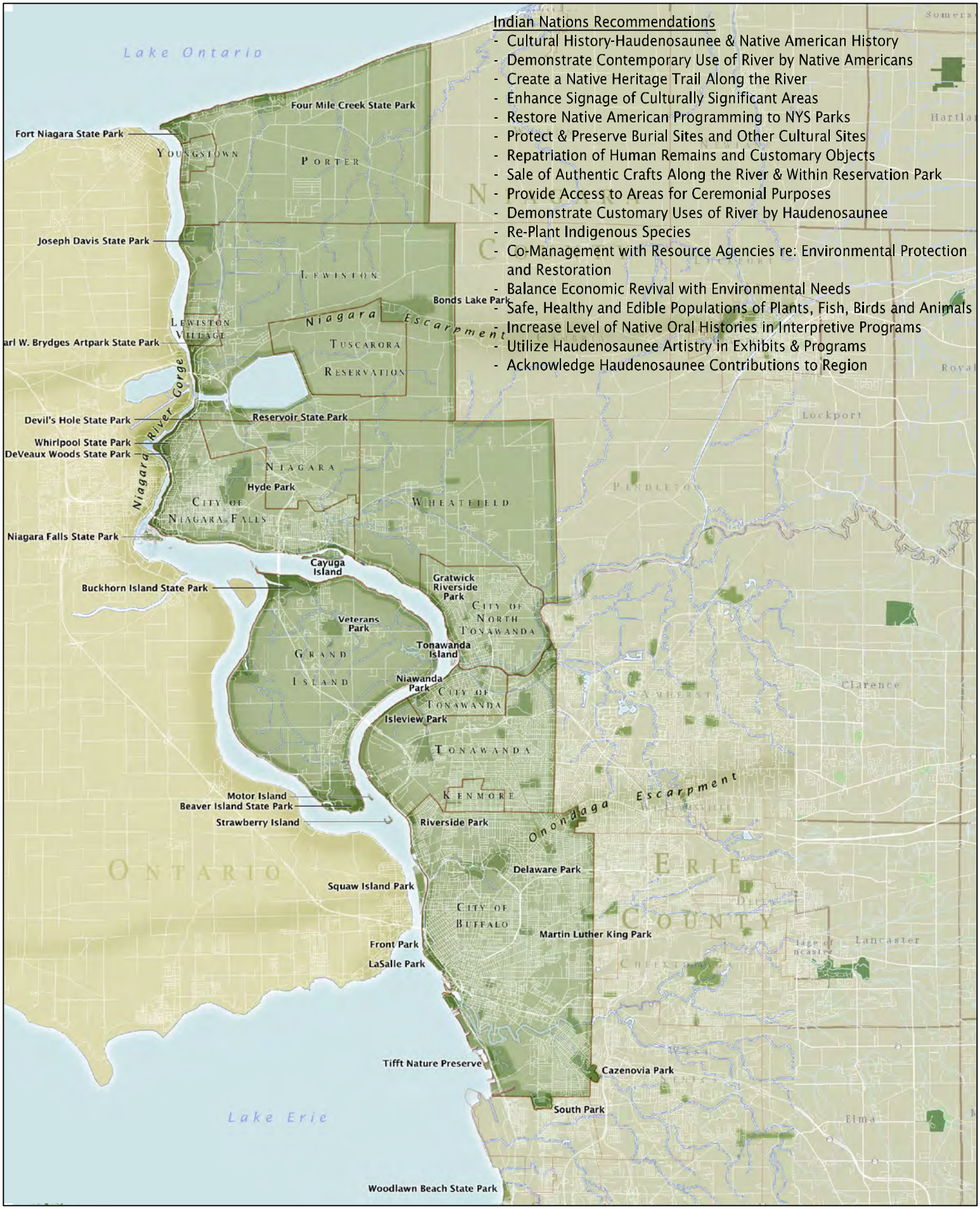


Niagara River Greenway

Representative Stakeholder Projects
Porter, Youngstown, Wilson

Figure 51

20 March 2007



Niagara River Greenway

Indian Nations Projects Overall Map

Figure 52

20 March 2007

CHAPTER 6: GEIS

6.0 GENERIC ENVIRONMENTAL IMPACT STATEMENT

A. Purpose and Need

In September 2004, Governor Pataki signed the legislation creating the Niagara River Greenway Commission. That legislation defines the Commission's purpose as undertaking "all necessary actions to facilitate the creation of a Niagara River greenway." As part of that legislation, the Commission was directed to develop a draft of the Niagara River Greenway Plan and Generic Environmental Impact Statement (GEIS) in order to "… implement or cause to be implemented a linear system of parks and conservation areas that will…redefine the Niagara riverfront by increasing landside access to the river; creating complimentary access to the Greenway from the river; augmenting economic revitalization efforts and celebrating the region's industrial heritage" The legislation also set forth a list of 15 elements to be addressed in the Niagara River Greenway Plan. This plan and the corresponding Final GEIS have been prepared in response to the legislation, as well as the grassroots support for a unified vision and coherent plan for the future of this resource. The Plan is necessary to help guide the development of the Greenway, including defining what a greenway will be and establishing a vision that will enable the region to achieve a world-class Niagara River Greenway. The Plan provides criteria to be used to evaluate activities, projects and proposals being advanced within the Greenway, in order to assess the consistency of a specific project with the goals and purposes of the Greenway. It also establishes a framework of implementation concepts that develop system-wide strategies for integrating the many assets and resources of the Greenway.

The region comprised of the counties of Erie and Niagara contains a wealth of assets and resources that are both natural and man-made. The Greenway Plan will serve as the foundation for organizing, evaluating, capitalizing upon and promoting these resources.

B. Description of Proposed Action

As mentioned in the previous section, the legislation establishing the Niagara River Greenway was enacted in 2004 and includes a list of 15 elements that must be addressed in the Plan. These elements are described in Chapter 1 of the Niagara River Greenway Plan. The plan is intended to guide the planning efforts throughout the Greenway by establishing a set of evaluation criteria with which proposed projects must comply. The action for review in this FGEIS has been defined as the adoption and implementation of the Niagara River Greenway Plan.

The Niagara River Greenway Plan and Final Generic Environmental Impact Statement (FGEIS) are both contained within this document. The Niagara River Greenway Plan is described in detail in Chapter 4 of this Document, and is included into the FGEIS (Chapter 6) by reference. The reader is encouraged to refer to Chapter 4 and previous sections of the Plan for a more detailed description of the Greenway Plan and planning process.

Projects that are undertaken, approved or funded by a state agency is required to demonstrate compliance with the State Environmental Quality Review Act (SEQR). As such, this chapter of the Plan addresses the proposed action and its implementation on a generic level. While this GEIS is necessarily focused on the types of environmental impacts that can reasonably be foreseen in most situations, individual projects may warrant a more site-specific environmental review and are not evaluated in the GEIS. The process by which future projects will be reviewed is described

in Section J of this GEIS, "Future Environmental Reviews." The Draft GEIS and the Draft Plan were the subject of public hearings and the public review process under SEQR. Public hearings were held on December 12 in Niagara Falls and December 13, 2006 in Buffalo. Comments on the Draft Plan and DGEIS were accepted until January 17, 2007. Changes to the Draft Plan and "comments and responses" are address in Chapter 7.

C. Alternatives

The alternatives to the proposed Niagara River Greenway are to take no action or to adopt the current proposal.

- **No Action Alternative.** This plan and the corresponding GEIS have been prepared in response to the 2004 legislation which created the Niagara River Greenway Commission and directed the Commission to develop a draft of the Niagara River Greenway Plan. As described in Chapter 1 Section A of this document, the legislation set forth a list of 15 elements to be addressed in the Plan. The 'no action alternative', or non-preparation of the Plan, is not a viable alternative since the legislation requires preparation of a Plan. At the implementation level, non-preparation of a Plan would mean no Plan for integrating the assets and resources of the Greenway; no set definition of a Greenway or boundary; and no vision to achieve a world-class Greenway. Individual municipalities would continue to be responsible for providing or procuring funding for individual projects that were not evaluated under a set of cohesive criteria.

- **Adoption and Implementation of the Greenway Plan.** This alternative, which is evaluated throughout this EIS, is a direct response to the 2004 legislation. This legislation requires definition of a Greenway; development of system-wide strategies for integrating the assets and resources of the Greenway; and establishing a vision that will achieve a world-class Niagara River Greenway. This alternative also addresses 15 elements required of the legislation. These fifteen elements, and plan criteria, are described in Chapter 1 Section A of the Plan. Selection of this alternative will meet the requirements of the 2004 legislation.

D. Environmental Setting, Impacts and Mitigation Measures

As mentioned above, the following discussion of Environmental Setting, Impacts, and Mitigation Measures applies to the proposed action, which is adoption and implementation of the Niagara River Greenway Plan. Chapter 2 of the Greenway Plan includes an Inventory of Greenway Resources which is hereby incorporated into this FGEIS. County-level and regional figures were utilized due to the generic nature of the Environmental Impact Statement. The GEIS was designed to assess the impacts of adoption and implementation of the Plan itself, as a document, and not any future projects that may result. Future projects may be required to undergo their own environmental reviews, based on the specifics of the project.

In general, the Niagara River Greenway Plan, when implemented, will provide benefits on a regional basis. Improved environmental quality, improved tourism development, improved connections to the Niagara River, direct/indirect economic activity and improved quality of life will provide real and substantial beneficial impacts that extend beyond the Greenway boundaries.

CHAPTER 6: GEIS

1. Land Use Controls and Patterns

The Niagara River Greenway boundary includes thirteen local municipalities in Erie and Niagara counties. Development within these municipalities and along the Niagara River Greenway is guided and controlled by a number of plans, proposals, and ordinances, all of which are targeted toward preservation, protection and revitalization. Each municipality has either a comprehensive plan and/or a Local Waterfront Revitalization Program which guides local development and permitted land uses. The New York State Coastal Zone Management Program is discussed in greater detail in Section D.2. of this GEIS.

Regional Land Use - Land use patterns along the Niagara River Greenway are mixed and they transition from one land use to another based on past development activity. Table 1 summarizes land uses in municipalities within the Greenway boundary, by County. As shown in the Table, residential development and agricultural comprise the largest percentage of uses throughout the Greenway municipalities. As shown in Figure 53, uses along the river transition from industrial/commercial and dense residential in the south, to low-density residential, recreational, and agricultural in the north. A more detailed discussion of land uses along the River and its tributaries follows.

Table 1: Greenway Land Use

Land Use Category	Acreage of Greenway Parcels in Erie County	Acreage of Greenway Parcels in Niagara County	Percent of Total Land Use Along Greenway
Agricultural	6	22,391	17%
Residential	18,790	24,122	31%
Vacant	10,191	13,146	17%
Industrial	2,343	2,623	4%
Commercial	5,347	3,009	6%
Community Services	3,023	2,031	4%
Public Services	1,709	3,085	4%
Wild, Forested, Conservation Lands	3,339	1,422	4%
Recreation and Entertainment	1,390	2,134	3%
Unknown*	2,649	11,986	10%
Total	48,787	85,949	100.0%

* primarily includes Niagara River

Along the southern portions of the river (e.g., City of Buffalo, Town of Tonawanda, etc), land use is primarily industrial and transportation oriented, with some areas of dense residential development and scattered parks/open space providing public waterfront access. Moving northward along the river, land use becomes more residential and recreational/open space, with intermittent industrial and commercial uses (e.g., Grand Island, Town of Wheatfield, etc). The Greenway becomes more urban and industrial in the Town of Niagara and the City of Niagara

Falls, particularly the lands between the North Grand Island Bridge and the Niagara Falls State Park. Below the Falls toward Lake Ontario, the land use becomes less dense with considerable Open Space and recreational uses and scattered residential development. Land uses in the Villages of Lewiston and Youngstown are more densely developed residential and recreational /open spaces, with the commercial areas tending to be removed from the River frontage.

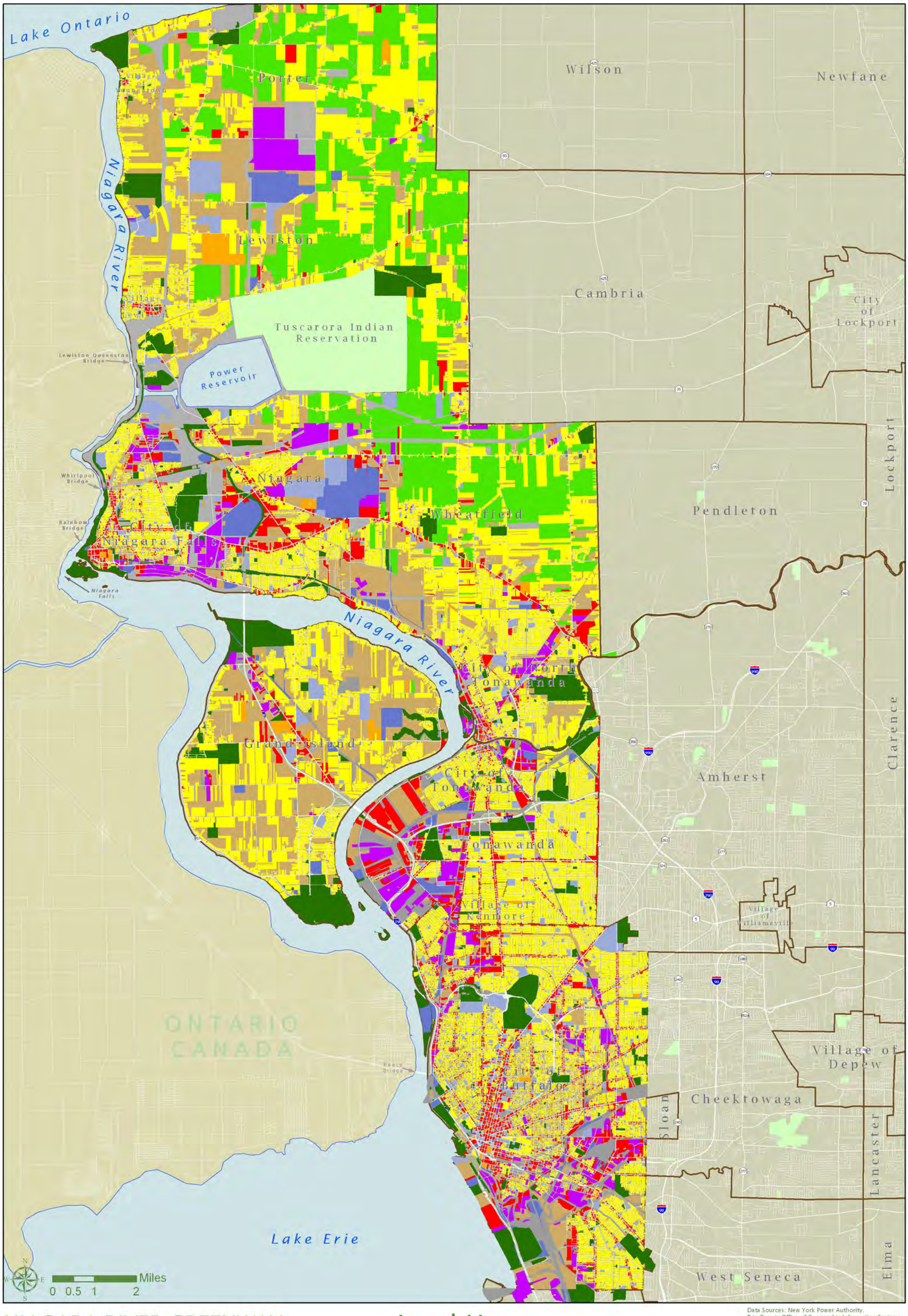
As indicated in Figure 53, the southern portion of the Greenway is characterized by heavy industrial, commercial, and higher density residential uses. Commercial uses are centered on major roadways in the Cities of Buffalo and Tonawanda, and the Town of Tonawanda. Industrial uses are concentrated in the southern portions of the City of Buffalo, particularly along the waterfront; along the Niagara River in the Town of Tonawanda, and in the northeastern portion of the City of Tonawanda. In the Town of Tonawanda, residential parcels and some recreational uses are concentrated east of Military Road. In the City of Tonawanda, commercial and recreational uses are located further inland. In the City of Buffalo, uses along the River are predominately industrial or commercial (19%); vacant (19%), a category which also includes vacant industrial parcels; and wild, forested, or conservation lands. Water-dependent recreational/entertainment uses such as marinas, boat launches or similar activities account for nearly 10% of uses along the River. In the Town and City of Tonawanda, industrial, commercial, or vacant uses comprise 30% of land uses along the River. An additional 27% of uses are wild, forested or conservation lands. Public services account for 11% of uses.

The central portion of the Greenway along the River traverses the Towns of Grand Island and Wheatfield, and the Cities of North Tonawanda and Niagara Falls. Overall, land use in the Towns consists of low to medium density single family residential units. In Grand Island, land uses along the riverfront consist of open space (44%) and residential areas (23%), with small intermittent areas of commercial use along the east side of the island. The industrial and commercial land use areas are located toward the center of the island clustered along Grand Island Boulevard and Alvin Road. Commercial and industrial uses account for 1% of uses along the Niagara River. Areas along the Niagara River in the City of North Tonawanda are residential (44%), industrial or commercial (16%), or vacant (16%). Recreation/open space accounts for 3% of uses. Land use in Wheatfield is predominately characterized by residential and agricultural uses (50%). Agricultural land use is generally concentrated in the northern part of the Town. Along the River, industrial/commercial and vacant areas account for with 3% and 18% of uses, respectively. Along the River in the City of Niagara Falls, land uses are characterized by a mix of open space (8%), recreation/entertainment (8%), heavy industrial land use, commercial, and vacant areas (29%), residential uses (31%), and community services (11%). Several state parks border the Niagara River in the vicinity of the Niagara Gorge and the upper Niagara River. These parks are described in Section D.6 of this GEIS.

The northern portion of the Greenway traverses the Towns of Lewiston and Porter. Land uses near the river are mainly recreational (5%) and lower density residential (18%), with intermittent industrial and commercial activity. The Towns of Lewiston and Porter are also characterized by agricultural uses (62%). The Tuscarora Indian Reservation is located solely within the Town of Lewiston and east of the Village of Lewiston. The reservation has a total land area of 9.3 square miles and land use is characterized by residential and recreational uses. The Village of Youngstown is located along the Niagara River in the Town of Porter and is characterized by residential (40%), recreational/open space (20%) and uses categorized as vacant.

NIAGARA RIVER GREENWAY

Land Use



Data Sources: New York Power Authority,
Erie County Office of Geographic Information Systems,
Niagara County Office of Real Property Tax

Land Use

- Tuscarora Indian Reservation
- Land Use
- Data Not Available
- Residential
- Commercial
- Industrial
- Utilities
- Community Services
- Recreation and Entertainment
- Agricultural
- Conservation Lands and Parks
- Vacant

Figure 53

Map Created: March 20, 2007 WD Project # 427001

Approximately 7.5% of parcels along the River and its associated tributaries, totaling nearly 45% of the land acreage, are publicly owned. Owners of these parcels include the various municipalities, the State of New York and the counties of Erie and Niagara.

1A. Impacts to Land Use - Impacts to land use will be generally positive across the entire Greenway. The guiding principles set forth in the Plan will have beneficial impacts upon existing land use by enhancing, maintaining and preserving areas of open space; developing areas for active recreational opportunities; and improving water access where such access is currently limited or obstructed. This could be accomplished on parcels that are currently publicly owned, or those that are transferred or acquired through Greenway funds. These beneficial impacts will also have the added indirect effect of increasing land and property values within the Greenway.

Project specific changes in land use may, however, result in some localized land use conflicts. For example, the extension of trails and public access across waterfront lands currently in active industrial use may result in conflicting usage. It is also possible that constructing and operating a new tourism destination may result in a commercial development with associated increase in noise/traffic in an adjacent residential neighborhood. These potentially adverse impacts are not expected to be significant given the geographic scope of the Greenway and can be mitigated. Potential land use impacts can be minimized or avoided by ensuring that development of projects within the Greenway are sited properly and are designed/operated consistent with existing land use plans, zoning ordinances, waterfront/coastal zone regulations, and other local laws.

1B. Mitigation Measures – Potential Land use impacts of proposed projects can be mitigated by ensuring adherence to and consistency with local land use/comprehensive plans, zoning ordinances, floodplain regulations, and other applicable ordinances and regulations. The local municipality would be responsible for approving individual projects that are subject to zoning, site plan review, or other local land use plans.

2. Coastal Zone Management and Consistency

The State Waterfront Revitalization of Coastal Areas and Inland Waterways Act includes provisions to assure consistency of state actions, and where appropriate, federal actions, with the policies of the coastal area and inland waterways, and with accepted waterfront revitalization programs of the area defined and addressed by such programs. At the local government level, municipalities with adopted Local Waterfront Revitalization Programs (LWRP) enact similar consistency provisions applicable to their decision-making. These requirements apply to municipal agency decision-making, such as decisions involving zoning changes, subdivisions, site plans, special use permits, municipal construction projects, and funding activities.

In New York State, coastal zone consistency review falls under the purview of the New York State Department of State, Division of Coastal Resources (NYSDOS). As the State's Coastal Zone Management Program Manager, it is the responsibility of NYSDOS to review all projects with State and federal agency involvement for consistency with the State's Coastal Management Plan. To receive NYSDOS concurrence with a consistency certification, a project must demonstrate consistency with all coastal policies, which include the following categories:

- development
- fish and wildlife

- flooding and erosion
- public access
- safeguards
- recreation
- historic and scenic resources
- agricultural lands
- wetlands
- energy and ice management, and
- air and water resources.

Project applicants are required to identify the relevant policies, assess potential impacts, and assess consistency of the project with each policy. The New York State Coastal Zone Management Program authorizes the State to encourage local governments to prepare an approved LWRP that incorporate the state's policies. The LWRPs typically expand upon the state's coastal policies by identifying issues of local importance or priority, and defining a local waterfront revitalization area to encompass locally significant coastal areas, features or habitats. Where a community has approved a LWRP, projects undertaken within the LWRP boundary must demonstrate consistency with each relevant policy identified in the LWRP.

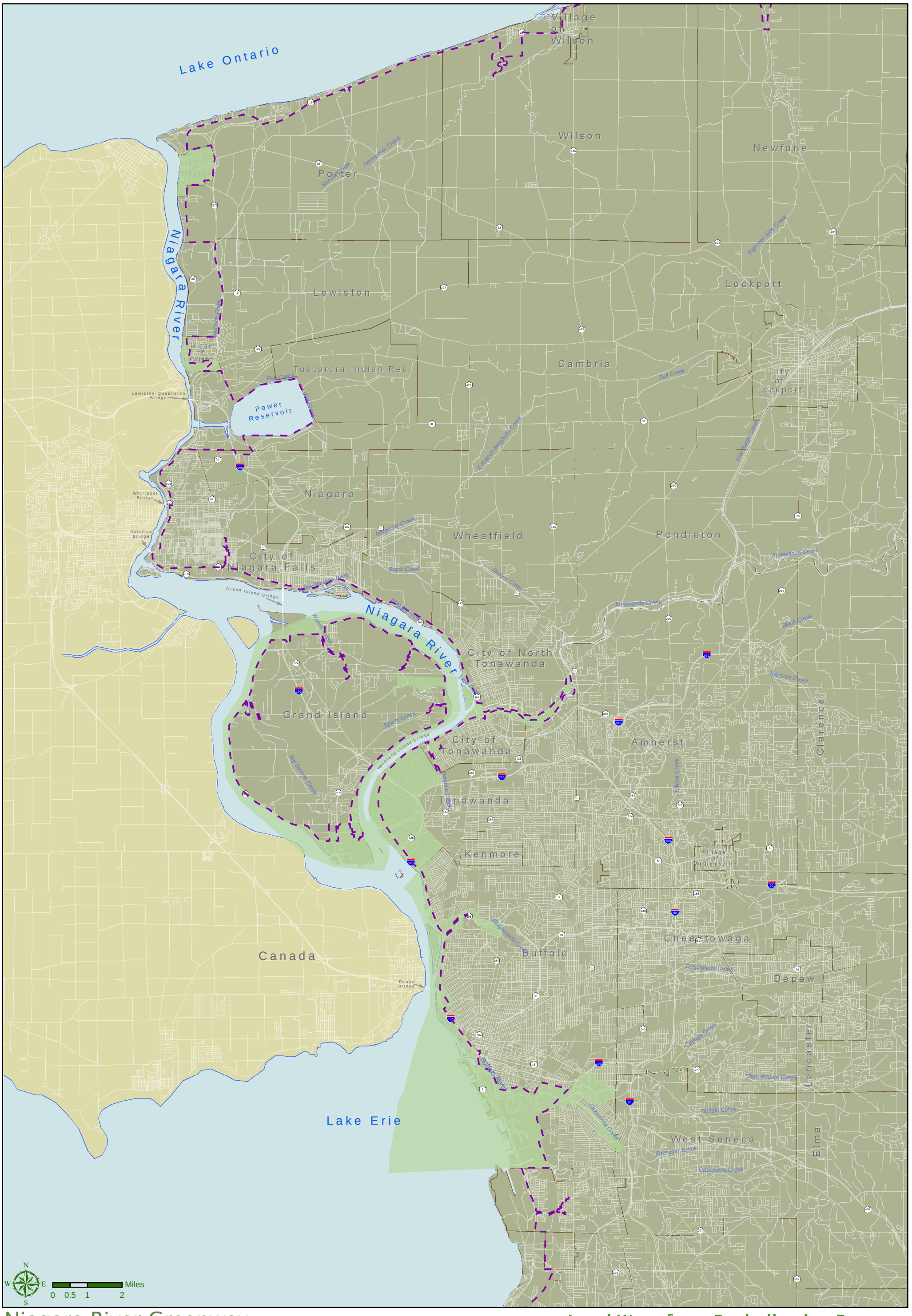
Seven municipalities within the Greenway have approved LWRPs (see Table 2). The LWRP boundaries are shown on Figure 54. As mentioned above, those communities that are not listed require consistency with the State coastal policies.

Table 2: Municipalities with Approved Local Waterfront Revitalization Programs

Municipality	Date Approved
Village of Youngstown	1988
Village of Lewiston	1991
Town of Grand Island	2006
City of North Tonawanda	1988
City of Tonawanda	1987
Town of Tonawanda	1997

Discrete areas which are considered to be most important for their habitat value are designated by the State as "significant coastal fish and wildlife habitats." State Policy 7 applies in communities where one or more Significant Fish and Wildlife Habitats have been designated.

The Coastal Management Program also oversees Scenic Areas of Statewide Significance (SASS). SASS designation helps protect the most scenic coastal areas from potentially adverse federal or State actions by assuring that certain performance standards are met before the action is approved. The CMP consistency provision provides protection at three governmental levels: federal, State and local. To date, all listed communities are on the Hudson River, but Niagara River communities may also be eligible. State Policy 24 applies to those communities where all or a part of a scenic resource of statewide significance has been designated.



Niagara River Greenway

Local Waterfront Revitalization Program and Coastal Area Boundaries

Coastal Area Boundary

L.W.R.P. Boundary

Stream

Data Sources: New York Power Authority,
Erie County Office of Geographic Information Systems,
Niagara County Office of Real Property Tax
NYS Department of State, Division of Coastal Resources

Figure 54

20 March 2007

2A. ***<u>Impacts to Coastal Zone Management</u>* –** As described in Chapter 3 of the Plan, the principles for the Niagara River Greenway promote high-quality, ecologically sensitive and sustainable activities and development. Among these principles are accessibility, sustainability, ecological integrity, restoration. Initial goals of the Greenway include improved access, protection and restoration of environmental systems, and promotion of long-term sustainability. In general, these principles and goals generally are consistent with the goals and vision of New York State's coastal policies and approved LWRPs, which include protection of water-dependent uses; protection and restoration of ecological resources, including significant fish and wildlife habitats, wetlands and rare ecological communities; improvement of public access to and use of public land and waters, among others.

The Plan was developed to be consistent with and advance applicable State coastal policies, and, as approved LWRPs reflect applicable State coastal policies, the Plan was developed to be consistent with and advance the policies and purposes of the approved LWRPs identified in Table 2 above. Implementation of individual projects may impact resources, habitats, and communities within the coastal zone. Each individual project will be required to demonstrate, and will receive an evaluation of its consistency with the state's coastal policies or the approved LWRPs as applicable.

2B. ***Mitigation Measures*** - Any potential impacts with the Coastal Zone or potential inconsistencies with approved LWRPs or policies of the NYS Coastal Zone Management Program will be mitigated by requiring that future proposed projects demonstrate consistency with the goals and vision of approved LWRPs or the State Coastal Zone Management Program.

3. ***Socioeconomics***

<u>Demographics</u> - As noted in the 2000 U.S. Census, Niagara and Erie counties have a combined approximate population of 1,117,000. Niagara County and Erie County have population densities of 420 and 910 people per square mile, respectively. Overall, the total population of the Buffalo-Niagara region and Erie and Niagara Counties has declined over the last ten years.

The two largest municipalities within the Greenway in Erie County are the City of Buffalo and the Town of Tonawanda. The largest municipality in Niagara County located within the Greenway is the City of Niagara Falls. The Niagara-Erie region has a median household income of $38,400 and a per capita income just over $20,000, with 12% of the population living below the poverty line. Demographics of the Greenway municipalities are shown in Table 3 below. The table includes data for the Tuscarora Reservation, a tribe of Iroquois, which is located in the town of Lewiston. As shown in the table, most of the municipalities have higher median household incomes than the Niagara-Erie Region. With exception of the City of Buffalo, Niagara Falls, the Tuscarora Reservation, the municipalities have lower poverty rates than the region as a whole.

Table 3: Area Demographics

Municipality	Population	Persons per Square Mile	Median Household Income	Persons Below Poverty
Erie County				
City of Buffalo	292,648	7,205.8	$24,536	14%
Town of Tonawanda	78,155	4,156	$41,453	6.9%
City of Tonawanda	16,136	4252.9	$37,523	7.1%
Town of Grand Island	18,621	653	$60,432	3.0%
Village of Kenmore	16,426	11,733	$42,252	5.2%
Niagara County				
City of Niagara Falls	55,593	3,955	$26,800	19.5%
City of North Tonawanda	33,262	3,293	$39,154	7.2%
Town of Lewiston	16,257	436	$50,819	5.8%
Town of Wheatfield	14,086	504	$51,700	4.2%
Town of Porter	6,920	85.7	$50,425	4.1%
Village of Lewiston	2,781	2,610	$37,598	8.6%
Village of Youngstown	1,957	1,687	$48,333	3.9%
Tuscarora Reservation	1,138	122.8	$32,500	13.0%

Revenues and Expenditures - Municipalities within the Greenway have budgets ranging from $1.1 billion (City of Buffalo) to just over one million dollars for many of the smaller municipalities. As indicated in Table 4, in 2004, revenues are derived from state, federal and other governmental aid, real property and non-property taxes, and other revenue sources. The local tax base of each municipality is derived primarily from real property taxes. Other major contributors to the local tax base are sales taxes, licensing and fees, and intergovernmental transfers. A mix of heavy manufacturing, light industrial and storage/warehousing uses within the Greenway contributes to a stronger tax base in some communities within the Greenway. For example, uses in Tonawanda include Tonawanda Coke, Huntley Coal, General Motors, DuPont, Goodyear-Dunlop, FMC, and NOCO Energy.

A breakdown of each municipality's expenditures is shown in Table 5. In 2004, the municipalities that spent the smallest percentage of total budget on cultural/recreational expenditures were the cities of Buffalo, Niagara Falls, and Tonawanda, and the Village of Kenmore (3.1% to 5.7% of total budget). The towns of Wheatfield, Tonawanda, and Lewiston, and the Village of

Youngstown, spent the highest percentages of total budget on this same expenditure (10.6% to 33.9% of total budget).

Employment and Income - Total employment and total personal income in the Buffalo-Niagara MSA have fluctuated over the past several years. While there has been overall growth in personal income, the number of jobs (total employment) essentially has remained constant (See Table 6). According to statistics on personal income by industry, most individuals derive their income from manufacturing, government jobs, health care and social assistance, professional services and retail trade. The number of full-time employees by industry parallels the personal income industries mentioned above. The top five industries by number of employees in the Buffalo-Niagara Falls, NY MSA area are government, manufacturing, health care and social services, retail trade, and accommodation and food services (Bureau of Economic Analysis 2006).

The region's economy also benefits from a key location and large endowment of natural resource assets. In addition to the economic sectors mentioned above, the Niagara frontier/WNY regional economy is linked to the natural resources of the Niagara River, Niagara Falls, and the Great Lakes; proximity to Canada; historic forts and battle locations; world-renowned architecture; and agriculture (fruits, vegetables and wine).

Tourism is a significant economic factor along the Niagara River Greenway Corridor. Niagara Falls is one of the premier tourist attractions in the State of New York and was ranked as the 30th most popular destination for foreign tourists visiting the United States by the US Department of Commerce, Office of Travel and Tourism's Annual Survey of International Air Travelers. As stated in Section 2.A of the Plan, there are approximately 8 million visitors to Niagara Falls State Park per year. The economic impact of tourism in the Buffalo-Niagara MSA, particularly in Niagara Falls, accounts for more than $2.82 billion in annual spending, and wages of $1.5 billion.

In a study commissioned by the USA Niagara Development Corporation, it was estimated that approximately 9.3 million person trips were made in 2003 to tourist attractions in Niagara Falls, NY. An additional 14.2 million person trips were made to Canadian attractions during the same time period. This influx of tourists injects a large amount of funds into the regional economy. In 2002, an average person visiting the Greater Niagara region spent approximately $83.50 per person per day. Assuming 9.3 million person trips per year this equates to an injection of almost $780 million a year into the city's economy (Economics Research Associates 2004).

Table 4: Total Revenues by Municipality by Major Revenue Sources – 2004

Municipality	Total Revenues						
	Real Property Taxes	Non-Property Taxes	State Aid	Federal Aid	Other Gov't Aid	Other Revenue Sources	Total
Erie County	**157,898,659**	**270,857,748**	**202,739,656**	**185,762,573**	**17,785,918**	**142,008,500**	**977,053,054**
City of Buffalo	85,448,734	76,695,740	114,826,006	15,242,519	5,308,373	84,213,953	381,735,325
Town of Tonawanda	31,894,340	6,301,856	2,427,042	3,047,555	1,927,089	18,368,142	63,966,024
Town of Grand Island	6,009,636	2,169,587	1,050,933	0	161,016	4,196,786	13,587,958
Village of Kenmore	5,864,660	1,454,991	730,195	197,079	254,897	2,781,735	11,028,660
City of Tonawanda	7,613,442	3,748,032	2,692,739	145,764	366,111	3,264,713	17,830,801
Niagara County	**74,048,345**	**50,538,932**	**39,882,066**	**40,073,565**	**26,035,528**	**50,073,489**	**280,651,925**
City of Niagara Falls	27,384,968	15,188,583	12,440,169	8,668,247	2,223,642	11,092,086	76,997,695
City of North Tonawanda	11,815,269	7,558,081	5,391,438	3,964,183	62,783	9,364,199	38,155,953
Town of Lewiston	1,843,135	4,475,024	511,095	0	170,558	3,436,215	10,436,027
Town of Wheatfield	2,681,308	2,740,074	548,851	0	54,025	2,021,825	8,046,083
Town of Porter	443,878	968,946	353,918	0	69,419	1,678,767	3,514,928
Village of Lewiston	598,476	646,807	102,977	0	184,500	804,909	2,337,669
Village of Youngstown	477,478	371,046	59,663	0	51,655	431,286	1,391,128

Source: New York State Comptroller Office - http://www.osc.state.ny.us/localgov/datanstat/findata/index_choice.htm

Table 5: Total Expenditures by Municipality by Major Expenditure Recipient - 2004

Municipality	Total Expenditures										
	General Gov't	Educ.	Police	Fire	Other Public Safety	Health	Transportation	Economic Assistance	Cultural / Recreational	Home and Comm. Services	Total
Erie County	125,216,934	55,966,953	120,213,704	1,854,971	13,928,120	70,308,866	80,338,192	610,694,577	38,762,613	121,884,509	1,239,169,439
City of Buffalo	67,194,850	0	97,312,135	78,844,671	17,421,013	1,397,761	35,131,929	2,181,896	10,754,954	36,533,473	346,772,682
Town of Tonawanda	7,868,716	0	11,726,359	580,558	3,081,578	1,379,949	8,458,920	270,824	11,374,950	28,502,914	73,244,768
Town of Grand Island	2,402,662	0	184,003	709,074	309,980	71,233	2,288,162	296,590	1,158,810	5,962,858	13,383,372
Village of Kenmore	1,231,258	0	2,742,459	586,768	1,095,043	0	1,304,921	20,953	221,280	4,134,669	11,337,351
City of Tonawanda	2,343,088	0	3,411,857	2,907,175	423,999	0	3,152,205	47,108	682,231	4,138,189	17,105,852
Niagara County	46,132,976	18,135,107	33,779,323	178,223	2,344,147	36,599,054	12,670,622	119,809,848	3,466,500	12,125,476	285,241,276
City of North Tonawanda	5,653,737	0	5,433,556	4,228,663	1,161,923	0	4,121,652	214,371	2,393,769	13,217,134	36,424,805
Town of Wheatfield	1,169,532	0	15,428	664,478	338,404	9,886	1,453,060	23,315	713,208	2,350,844	6,738,155
City of Niagara Falls	15,545,455	0	17,498,200	14,691,820	3,569,381	0	6,229,957	1,285,702	4,722,681	19,560,719	83,103,915
Town of Lewiston	1,489,056	0	727,418	738,337	173,723	29,723	2,073,140	186,152	4,414,207	3,199,167	13,030,923
Village of Lewiston	607,603	0	183,032	276,773	17,827	2,137	380,957	96,430	188,407	741,936	2,495,102
Village of Youngstown	375,937	0	86,779	71,787	8,832	0	201,351	5,000	170,348	461,076	1,381,110
Town of Porter	650,416	0	10,441	112,034	46,510	11,917	1,110,453	11,500	255,762	1,242,956	3,451,989

Source: New York State Comptroller Office - http://www.osc.state.ny.us/localgov/datanstat/findata/index_choice.htm

Table 6: Total Industry Employment and Income for Buffalo-Niagara Falls, NY MSA, 2001-2004

	2001	2002	2003	2004	% Change 2001 - 2004
Personal Income	32,306,291	32,951,233	34,135,135	35,773,370	10.7%
Total Employment	639,539	636,221	638,575	644,089	0.7%

Source: Bureau of Economic Analysis 2006

In addition to the obvious economic benefits from Niagara Falls tourism, the local economy benefits from other tourism and recreational activities that are directly associated with the river, such as fishing, recreational boating, and wildlife viewing. Throughout the Greenway, commercial uses such as restaurants, marinas, boat sales/services, and active/passive recreational opportunities such as fishing and hunting contribute to local employment and to spending. For example, in 2001, there were a total of 108,264 fishing license sales in Erie and Niagara counties. This represented approximately 10.4% of the total fishing license sales for the entire state (while Erie and Niagara only represented about 6% of the total State population in 2000). For the same year, according to a report published by the U.S. Department of the Interior, among other agencies, it was estimated that the average angler in New York State spent about $685 per year. Combining these two figures, there was an estimated $74.2 million expending on activities related to fishing in Erie and Niagara counties during the 2001 season. In addition, in western New York, recreational boating account for $159.5 million in trip and non-trip related expenditures, boat purchases, as well as direct, indirect and induced economic impacts. While this figure accounts for boating activities on more bodies of water than just those related to the Niagara River, it does show the significance of these boating activities to the overall economy.

3A. Socioeconomic Impacts - Implementation of the Plan is expected to have significant positive economic impacts such as direct, indirect and induced economic impacts arising from:

- Enhanced recreational opportunities;
- Increased residential property values for parcels within the Greenway and river;
- Increased use of the River ecosystem for tourism and recreational boating;
- Increase in industrial heritage and cultural tourism opportunities;
- Increase in eco-tourism opportunities such as bird watching, kayaking, and diving;
- Increased opportunity to attract hunters and fishermen from outside western New York;
- Returning vacant or underused property and brownfields to productive use and possibly to the local tax rolls;
- Provision of construction and tourism-related jobs arising from development of individual projects; and
- Increased employment in certain commercial, retail, entertainment, food service, and hotel/motel sectors due to influx of visitors and tourists.

The Plan and associated projects are not anticipated to significantly impact area population growth and density, or overall median household income or poverty rates.

Implementation of projects and components of the Plan will entail one-time construction and implementation costs as well as annually recurring operational and maintenance (O&M) costs.

These costs cannot be accurately projected as they will vary depending upon the project and associated annual costs. It is anticipated that some projects will have associated user fees that will fund or offset the annual O&M costs associated with that particular project. These include such items as visitor's centers, nature/heritage centers, museums, youth camps, educational programs, commerce parks, aquariums, and marinas, among others. Proposed projects such as these would ideally be self-sufficient once the capital costs are spent for construction out of the Greenway funds.

Projects that do not have user fees will be expected to prepare an O&M budget that considers the costs of maintenance, programming and events, resource stewardship and enhancement, marketing and promotion, and oversight and coordination. Preference will be given to projects that have a local sponsor or partner such as a municipality, non-profit or volunteer group(s); that leverage/identify matching funds through local, state, federal and private funding sources; and that demonstrate economic viability, i.e., identify potential revenue streams or dedicated funding sources to cover costs.

A more detailed Assessment of the economic and Operations & Maintenance costs is provided in Appendix E of this Plan.

3B. Mitigation Measures – Since the adoption and implementation of the Greenway Plan will not result in any adverse social or economic impacts, no mitigation measures are necessary.

4. Brownfields

New York State Law defines the term "brownfield" as "any real property, the redevelopment or reuse of which may be complicated by the presence or potential presence of hazardous waste, petroleum, pollutant, or contaminant." The US EPA more broadly describes brownfields as abandoned, idled, or under-used industrial and commercial facilities at which expansion or redevelopment is complicated by real or perceived environmental contamination.

The decline in industrial operations in the western New York region has yielded a large number of brownfields throughout the Greenway. The NYSDEC, NYSDOS, and EPA administer funding, technical assistance and pilot programs to facilitate reuse of underutilized sites and help promote the revitalization of communities where brownfield sites have hindered redevelopment. The EPA has awarded over $1,000,000 in grant funding to coordinate community education efforts, and conduct site assessments at various sites in Erie and Niagara Counties. According to the agency, there are approximately 200 petroleum-contaminated brownfields sites throughout Niagara County, with 17 sites (approximately 386 acres) in the City of Niagara Falls. The Brownfield Opportunity Areas (BOA) Program grant funding has provided over $2 million for municipalities and community based organizations to provide an in-depth and thorough description and analysis for properties in proposed BOAs, with an emphasis on the identification and reuse of strategic sites as catalysts for revitalization. The Department of State, Division of Coastal Resources administers the BOA Program that provides funding to non-profit community based organizations for pre-nomination, nomination and assessment of properties that could be suitable for remediation and redevelopment. Current projects include an award of $375,000 to the City of Niagara Falls for the Highland Community to conduct a nomination study for an approximate 560-acre area with 15 potential brownfield sites; an award of $85,900 to the City of Niagara Falls for a pre-nomination study for a 1,100-acre area characterized by 30 to 45

brownfield sites in the Buffalo Avenue corridor; and, several grants of over $700,000 for the City of Buffalo to prepare several BOA plans, including the southern portion of the city and Buffalo River corridor.

The NYSDEC provides various means of support to public and private entities to support the redevelopment of brownfields through a Brownfield Cleanup Program (former Voluntary Cleanup program); the Environmental Restoration Program (former Brownfields program); and the State Superfund Program. The goal of the Brownfield Cleanup Program is to enhance private-sector cleanups of brownfields. Tax credits are available to a taxpayer who remediates a site under the program. Through the Environmental Restoration Program, municipalities are reimbursed for the cost of investigation and remediation activities of municipal-owned properties. Once remediated, the property may be reused for commercial, industrial, residential or public use. The State Superfund program is a cleanup program for inactive hazardous waste disposal sites, and hazardous substance waste disposal sites.

In the municipalities within the Greenway, 115 former industrial or commercial sites (over 2,530 acres) are enrolled in NYSDEC's brownfield programs (see Table 7). While many of these sites are located on parcels that are in active productive use, others are vacant. The sites within the Greenway boundary are shown on Figure 55.

Table 7: NYSDEC Brownfield Programs

Program	Number of Sites	Acreage
Brownfield Cleanup/Volunteer Cleanup Program	10	135
Environmental Restoration/Brownfields Program	16	165
State Superfund	89	2,234

Source: NYSDEC, 2006

The Greenway Plan Implementation Concepts identifies the Niagara Mohawk Cherry Farm Site (Tonawanda) as the type of project which would qualify for Greenway funds for remediation and restoration. The 53.5-acre former landfill site was remediated several years ago and includes an 18-acre wetland, 2,550 feet of shoreline, a restored section of the Erie Canal and a section of the Riverwalk linear park. Future uses are limited to passive recreational activities.

4A. ***Impacts to Brownfields*** **-** Implementation of the Greenway Plan will likely have beneficial impacts to brownfields and contaminated sites. The development of individual projects could be used to leverage other sources of state and federal brownfield funding to redevelop underutilized sites along the Niagara River. Cleanup and subsequent development of brownfields within the Greenway can directly and indirectly encourage infill development, attract businesses to suitable sites, provide jobs and increase local property tax revenues.

The extent of positive impacts involving brownfield redevelopment realized within the Greenway will depend upon the future involvement of private sector parties who are willing to work with local agencies and make the investment to appropriately address the real or perceived contamination. The goals, objectives, guidance and funding provided by the Greenway Plan will

be an important economic development tool in brownfield redevelopment in portions of Erie and Niagara counties.

4B. Mitigation Measures – Potential impacts associated with future brownfield redevelopment will be generally positive. In order to minimize or avoid any potential adverse impacts to adjacent landowners and land uses, potential adverse impacts of future brownfield redevelopment projects will be mitigated by ensuring that any "brownfield redevelopment" project will be subject to the appropriate review.

5. Community Services

There are numerous community facilities throughout the Greenway, as depicted on Figures 56 and 57. These include government facilities, police and fire departments, cultural and recreation facilities, religious establishments, healthcare facilities and cemeteries. A variety of educational facilities and services are also present, including public, private and parochial schools, colleges and universities, libraries and other educational facilities. In the northern portion of the Greenway the community services are clustered closer to the riverfront, whereas they are numerous but more widely spread out in the south.

5A. Impacts to Community Service - Adoption and implementation of the Greenway Plan will not result in significant adverse impacts to community services.

5B. Mitigation Measures - Since the adoption and implementation of the Greenway Plan will not result in any adverse impacts to community services, no mitigation measures are necessary.

6. Cultural Resources

Parks and Public Lands - The Buffalo-Niagara region and Niagara River corridor includes numerous parkland resources (see Figure 2). The most prominent and highly visited park within the Niagara River corridor is Niagara Falls State Park, which encompasses the lands and waters surrounding the Falls. In addition, a chain of State Parks extends along the length of the River, both north and south to the Lake Ontario and Lake Erie shorelines. Figure 2 illustrates the location of parks and parklands throughout the region, and Table 8 identifies state, local and county parks and public lands within the Greenway boundary.

Table 8: Greenway State Parks and Public Lands

State Park/Public Land	Description
Strawberry Island and Motor Island Nature Preserve	Niagara River south of Grand Island: Significant habitats. Not developed as parkland, although informal passive recreational use occurs on Strawberry Island. Some remedial work to halt erosion and restore habitats has been completed; additional remedial work is underway. Strawberry Island is considered part of Beaver Island State Park. Motor Island Nature Preserve is under the jurisdiction of NYS Department of Environmental Conservation.
Beaver Island State Park	Southern end of Grand Island: wide range of active and passive recreational facilities, including a beach, marina, nature trails bicycle/pedestrian paths and golf course.

Table 8: Greenway State Parks and Public Lands

State Park/Public Land	Description
Buckhorn Island State Park	Northern end of Grand Island: marshes, wet meadows, riparian woodlands and upland forests. Passive recreational area with water and land trails and wildlife observation. Additional wetland restoration work and the addition of more trails is planned
Niagara Falls State Park	City of Niagara Falls: Oldest State Park in the United States; originally designed by Frederick Law Olmsted. Major tourism site with numerous scenic overlooks. Access to the Niagara River rapids, the Falls, Goat Island and Prospect Point. Facilities include an interpretive visitor center, Niagara Gorge Discovery Center, Observation Tower, Maid of the Mist and Cave of the Winds tours, trails, and scenic trolley.
Whirlpool State Park	City of Niagara Falls: Overlooks of the Niagara River whirlpool and gorge with passive recreational facilities (picnic areas and playgrounds) on the gorge rim. Stairs provide access from the gorge rim to trails and fishing access points along the rapids of the lower Niagara River.
DeVeaux Woods State Park	City of Niagara Falls: old growth woodland, passive recreation, limited active recreational facilities. Adjacent to Whirlpool State Park.
Devil's Hole State Park	City of Niagara Falls: upstream of the New York Power Authority project. Scenic overlooks of the gorge and the lower Whirlpool rapids. Trails follow the gorge and provide access to popular fishing spots.
Reservoir State Park	Town of Niagara: Active recreation facilities including athletic fields and designated areas for kite flying. Includes an overlook for Robert Moses Power Plant Reservoir, fishing access and other passive recreational facilities.
Earl W. Brydges Artpark State Park	Village of Lewiston: Dramatic and visual arts, classes, workshops and cultural demonstrations. Includes a performing arts theatre, nature trails and the Lower Landing Archeological District (historic site).
Joseph Davis State Park	Town of Lewiston: Passive and some active recreational facilities; handicapped accessible fishing access. Nature trails. Adaptive reuse of former pool complex.
Fort Niagara State Park	Town of Porter: Boat launching facilities, swimming pool, trails, scenic views of mouth of River and Lake Ontario. Mix of active and passive recreational facilities.
Old Fort Niagara State Historic Site	Town of Porter: Adjacent to Fort Niagara State Park. Includes historic Fort Niagara, the old Niagara River Lighthouse and a visitor's center. Future plans include development of a museum at the former Officers Club.
Four Mile Creek State Park	Town of Porter: Campsites (275 sites) including 21 sites on the shore of Lake Ontario. Scenic views, hiking trails, wildlife areas, picnic areas, playground. (Sited on Lake Ontario, not the Niagara River)

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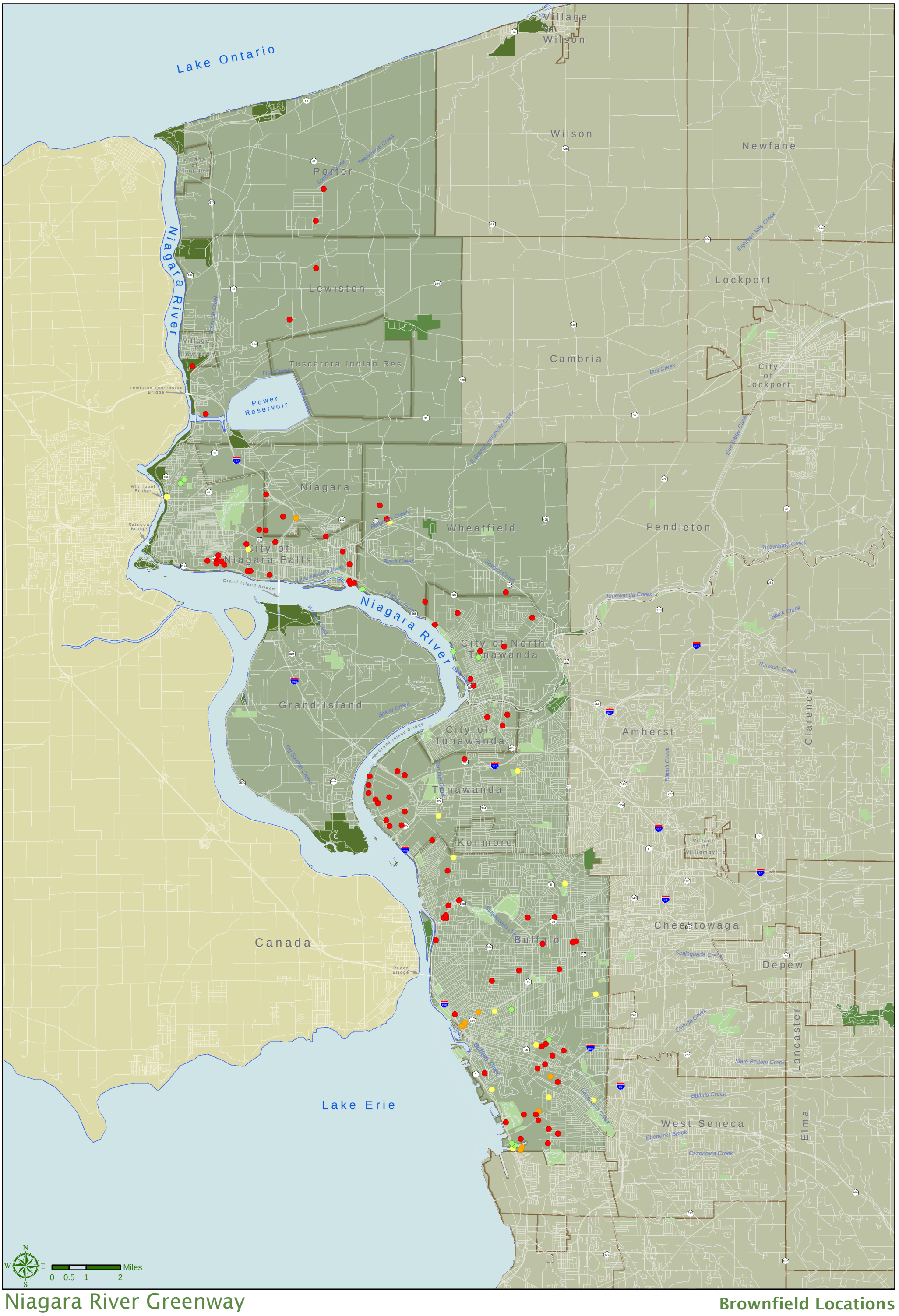


Niagara River Greenway

Brownfield Locations

NYSDEC Brownfield Program Sites

- Brownfield Cleanup Program
- Environmental Restoration Program
- State Superfund Program
- Voluntary Cleanup Program
- Stream
- Greenway Boundary

Data Sources: New York Power Authority, Erie County Office of Geographic Information Systems, Niagara County Office of Real Property Tax, NYSDEC.

Figure 55

20 March 2007

NIAGARA RIVER GREENWAY

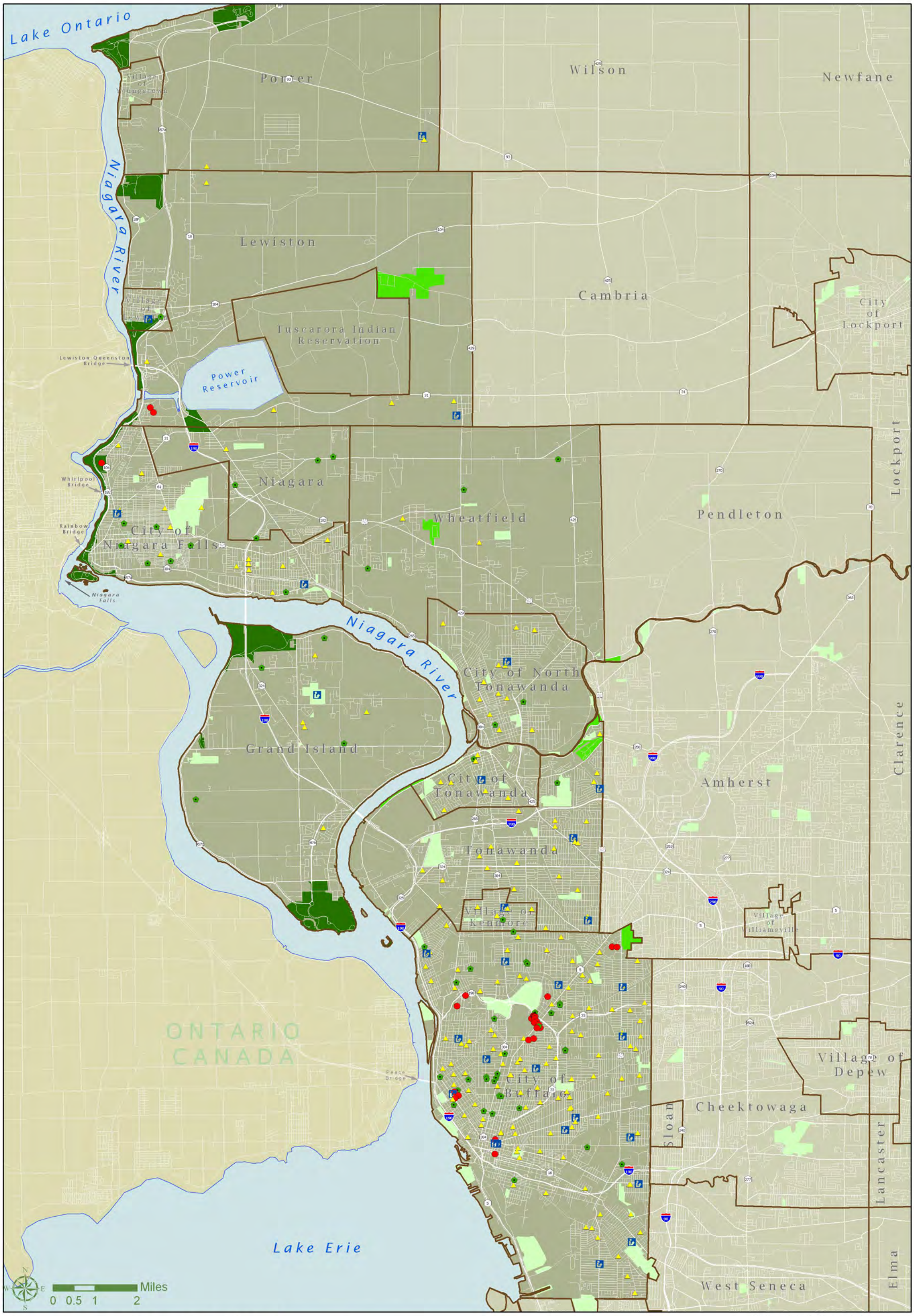
Community Services

- Religious
- Miscellaneous Public Services
- Health Facility
- Government Facility
- Police and Fire Departments
- Cultural / Recreational
- Cemeteries
- Roadway

Data Sources: New York Power Authority,
Erie County Office of Geographic Information Systems,
Niagara County Office of Real Property Tax

Figure 56

Map Created: March 20, 2007 WD Project # 427001



NIAGARA RIVER GREENWAY

Educational Facilities

Data Sources: New York Power Authority, Erie County Office of Geographic Information Systems, Niagara County Office of Real Property Tax

▲ Schools ● College/University ⬟ Other Educational Facilities ◪ Library

Figure 57

Map Created: March 20, 2007 WD Project # 427001

While most of the parks identified on Figure 2 were designed to serve the recreational needs of local residents, many are important resources along the Niagara River and attract visitors from the Western New York region and across the State. These parks include the Tifft Nature Preserve, the Small Boat Harbor, Erie Basin Marina, LaSalle Park, Squaw Island Park, Broderick Park, the Bird Island Pier, Tow Path Park and Riverside Park in the City of Buffalo; Isle View Park in the Town of Tonawanda; Niawanda Park in the City of Tonawanda; Gateway Harbor in the Cities of Tonawanda and North Tonawanda; Fisherman's Park and Gratwick Park in the City of North Tonawanda; and Lewiston Landing in the Village of Lewiston.

The Frederick Law Olmsted parks in the City of Buffalo and the City of Niagara Falls are also a unique resource of this region. In Buffalo, Olmsted Park System includes Riverside Park, Delaware Park, Martin Luther King Jr. Park, Front Park, Cazenovia Park and South Park, as well as a number of connecting parkways and circles. In the City of Niagara Falls, Frederick Law Olmsted was instrumental in the preservation and restoration of the lands that now comprise Niagara Falls State Park, also known as the Niagara Reservation. The New York State Office of Parks, Recreation and Historic Preservation (OPRHP) manages the Olmsted landscapes in Niagara County, while the Buffalo Olmsted Parks Conservancy, a not-for-profit organization, is charged with the oversight of the Buffalo Olmsted Parks. Both groups have or are in the process of developing master plans to preserve these landscapes for their cultural and historic value, as well for their open spaces.

The region also has an extensive network of both land and water trails, which can be considered "linear parkland." Figure 3 depicts the existing trail network through the waterfront region and connecting trail systems. Several new trail systems are in the planning and development stage, including a scenic trail between Lewiston and the City of Niagara Falls, trails in the Town of Tonawanda tying into the Riverwalk, and the Outer Harbor Trails in the City of Buffalo, which will provide waterfront access along previously inaccessible Niagara Frontier Transportation Authority (NFTA) lands. Numerous proposals for completing segments of trails throughout the region are also in the process of obtaining funding. In addition, the Greater Buffalo Niagara Regional Transportation Council (GBNRTC) is leading an effort to implement a "Shoreline Trail" system. The Shoreline Trail will run along the Lake Erie and Niagara River shorelines from the southern end of Erie County in Brant to the mouth of the Niagara River in Porter. Completion of the Niagara River section of the Shoreline Trail is also a priority for the Niagara River Greenway. More information about the existing trails, trail gaps and efforts to complete the network is included as an Implementation Concepts in section 5 of the Plan.

There are also a number of important waterfront access sites along the length of the River. Many of these sites are associated with public parkland. Figure 4 indicates the location of water access, including boat launches, marinas and official fishing access points. There are also many locations along the length of the River and its tributaries where there are informal fishing access spots and locations where paddle powered boats such as canoes and kayaks can be launched.

Heritage Sites - A number of properties in the region are listed on the National Register of Historic Places, which is the nation's official list of significant buildings, sites, properties, archeological and cultural resources. Properties on the National Register have been evaluated according to set criteria and are officially designated by the National Park Service as worthy of preservation due to their architectural, cultural and/or historic significance. Many of these

historic sites are located along the Niagara River. Of these, over a dozen sites in the region are also designated as a National Historic Landmark or National Historic Site, which are the highest designation of historic and/or architectural significance. All but one of these dozen sites is located within the boundary of the Greenway. There are also a number of historic districts, areas where there is such a concentration of historic or architecturally significant structures that the entire neighborhood is designated as historic. In addition, many historic and culturally significant sites and buildings across the region are eligible for listing in the National Register of Historic Places, but have not been officially designated. Figure 7 depicts historic districts, sites that listed or eligible for listing and significant sites that have been identified in local planning documents but that are not officially on the National Register.

6A. Impacts to Cultural Resources - Adoption and implementation of the Greenway Plan will result in significant positive impacts to existing parks and recreational facilities throughout the Corridor. The Plan lays the foundation for the protection, enhancement, preservation, and improvement of parks and associated recreational lands/facilities. The Plan will allow parks to be improved and/or expanded to provide more public waterfront access and improve the quality of services and amenities currently provided at these parks. In addition to state/locally owned parks, other recreational facilities that may benefit from the Plan include bikeways, trails, scenic overlooks, historic/heritage sites, public fishing access points, recreational boating launching facilities, marinas, and disabled access programs.

6B. Mitigation Measures - All properties containing historic and/or cultural resources are subject to the protection provided by the State Historic Preservation Act of 1980. This law requires that all state agencies consider historic resources during project planning. Adoption and implementation of the Greenway Plan will not have adverse impacts on cultural resources, therefore, no mitigation measures are required. Potential adverse impacts to cultural resources resulting from specific projects will be mitigated by consultations with the NYS State Historic Preservation Office (SHPO). As appropriate, the SHPO will determine the appropriate level of site investigation, inventory, documentation, evaluation and mitigation to ensure mitigation of potential adverse impacts to cultural, archaeological, historic and/or heritage resources.

7. Access and Circulation

The Greenway is serviced by a variety of roadways ranging from major limited-access arterials to small minor collector and connector streets. Although the major roadways, including Interstate Routes 90, 190 and 290, provide an efficient means of moving motor vehicles into and out of the region, they are not safe alternatives for use by pedestrians or those utilizing non-motorized means of transport. Many of the major thoroughfares are complemented by multi-use trails and in some cases designated bike lanes (see Figure 3), but even so there are still gaps in this trailway system.

Shoreline and waterside access is also available along the Niagara River shoreline, including marinas, street ends, parks and boat launches (Figure 4). There are many locations that provide access for shoreline fishing and public viewing.

7A. Impacts to Access and Circulation - Implementation of the Plan, particularly through improved connectivity and enhancement of trails, water, and gorge access will result in significant beneficial impacts to users of the Greenway. More effective and consistent signage

and wayfinding tools also will be a beneficial impact resulting from the Plan. Not only will vehicular and pedestrian access be improved and made safer in general, handicapped access opportunities will also be strongly encouraged.

Impacts associated with increased traffic volumes and impaired traffic circulation by future Greenway projects will be addressed on a project-specific basis. Since a primary tenet of the Plan is to encourage pedestrian and bike path access to the Niagara River and points within the Greenway, a significant increase in vehicular traffic will be discouraged. However, it is likely that as development projects become realized and tourism/public use of the Greenway expands, that some increase in traffic and need for parking near destinations or key linkages will result on a localized, site-specific basis (e.g. vehicular access to and parking for an Underground Railroad Museum or at the connection with the Erie Canal Heritage Corridor). It is expected that this increase will not be significant within the Greenway, and can be mitigated through effective project siting and design. Potential increases in traffic volumes, circulation, and parking demand will be a criteria considered in funding and undertaking future projects. While increases in traffic and parking are not the desired outcome of the plan, this would be an indicator that the Plan is being effective at promoting and realizing public use/access/enjoyment of the Niagara River and that direct/indirect economic benefits are also being realized within the Greenway.

7B. Mitigation Measures – Potential impacts to traffic and pedestrian flow and circulation will be mitigated on a project-specific basis based on consultation and input from involved agencies such as NYSDOT, State Parks, County Department of Public Works officials, public safety officials, and local municipalities. The Greenway Commission will consider impacts to flow and circulation in their evaluation of proposed projects, and may request input from appropriate traffic and transportation officials. Adherence to standard designs and specifications for roads, trails, pedestrian facilities, and parking lots will be required for all proposed projects.

8. Geology, Soils and Topography

Geology

Geologic Formations - The Niagara Greenway is located within a very large geologic region which extends from Lake Michigan to Georgian Bay. The areas south of Lewiston are comprised of Silurian and Devonian middle Paleozoic rock south of Lewiston, and areas north of Lewiston contain Ordovician upper Paleozoic rock. This rock formation, along with the functions of pressure, heat and erosion, has largely led to the creation of the Niagara Escarpment. Layers of hard rock were deposited on layers of soft rock and were not horizontally aligned. Over time, the softer layers have eroded, but are protected by the harder upper layer, which causes cliff erosion. The result of this erosion is the formation of escarpments and other natural cliffs including Niagara Falls.

Bedrock - The bedrock found throughout the area is stratified limestone, dolomite and shale of the Silurian and Devonian age. The hard nature of this material has contributed to the creation of the natural features in the area including the Niagara Gorge and Niagara Falls. Other bedrock formations in the area include Onondaga limestone which extends from the City of Buffalo to Tonawanda. Akron Dolomite and Bertie Limestone formations are also found in a narrow strip just north of the Onondaga limestone. Camillus shale, Syracuse formation and Vernon shale are other bedrock types found from the Town of Tonawanda to the Town of Wheatfield, including

Grand Island. Lockport Dolomite is found from the City of Niagara Falls to Lewiston and is the hard bedrock material that forms the Niagara Escarpment.

Surficial Deposits - The surficial deposits throughout the Buffalo and Niagara Falls region can be classified according to the physiographic province of the area. This area includes the Erie Lowlands, which border and are part of the Lake Erie basin at its lowest elevations; and the Ontario Lowlands, which occupy the area south of the Lake Ontario basin.

The Erie lowlands consist of both glacially-derived deposits, such as glacial till (as terminal moraines and ground moraines), granular deposits (as kames, glacial outwash and beach ridges) and glaciolacustrine deposits (as varved silt, clay and fine sand deposits), as well as recent deposits consisting of river and stream alluvium, and recent lake and beach deposits. The majority of the Erie Lowlands are underlain by glaciolacustrine (lake) deposits comprised of silt and clay. A persistent, linear beach ridge is also present as the southeast border of the lake deposits and represents the ancient shorelines of glacial lakes which formerly occupied the Lake Erie basin. This southwest-northeast trending ridge actually consists of two parallel ridges from the State line northeast to Cattaraugus County. At this point, the two ridges coalesce to become one ridge that continues on to the northeast and "inland" all the way to the vicinity of Alden in Erie County. Bedrock is exposed within some of the major southeast to northwest flowing streams that discharge into Lake Erie, such as along Cattaraugus Creek, Silver Creek, Chautauqua Creek and Twenty Mile Creek, as well as in bordering or flanking upland areas near Irving and Silver Creek extending into southern Erie County.

The Ontario Lowlands consist primarily of glaciolacustrine lake silts, clays and fine sands, with major areas overlain by glacial till or ground moraines. The province also contains several notable east-west oriented linear surficial deposits consisting of either moraines (glacial ice-front deposits) or beach ridge deposits. One prominent terminal moraine runs across the Western Region, from the Niagara River near Lewiston Heights, eastward to Lockport and into Orleans County. Similarly, a prominent beach ridge runs east, from a point opposite Queenston in Canada, to the eastern end of Orleans County.

Minor deposits of sand and gravel are found in localized, glacially-related ice contact and outwash deposits. Recent sand and gravel deposits are found as alluvium in many major stream valleys.

Soils

The soil composition along the Niagara River consists of a variety of soil types, some of which exhibit hydric or partially hydric properties. The northern portion of the Greenway area from Lewiston to Niagara Falls consists of soils in the Hudson-Rhinbeck Collamer series. Heading further south to the City of Niagara Falls, Wheatfield and the Tonawandas, the area consists of soils in the Urban Land category as well as units of the Howard, Niagara, Niagara-Canandaigua and Collamer soil series. The Erie County portion of the Greenway from Buffalo to the Town of Tonawanda consists of a variety of Urban Land soil complexes. Smooth gravel fill is found along the riverfront in these areas. Several locations along the Niagara River have been filled and graded and currently contain manmade fill. Smooth gravel fill (Udorthents) is present along the entire Niagara River shoreline of the City of Tonawanda. The majority of this fill is located at the

northern tip of the City at the mouth of Tonawanda Creek. The south tip of Squaw Island, the northern tip of Grand Island in Buckhorn Island State Park and the portions of Beaver Island State Park located at the southern end of Grand Island also contain gravel deposits, although the majority of soil on the island consists of various poorly drained clay soils exhibiting hydric properties. The soils found near the river on Grand Island are more varied. The most abundant soils in this area are Raynham silt loam and Schoharie silt loam.

Many of the soils in the inland areas not immediately adjacent to Lake Erie or the Niagara River tend to be well drained with slopes ranging from 0 to 25 percent and a depth to bedrock of greater than 60 inches. Soils directly adjacent to Lake Erie and the Niagara River tend to exhibit different properties and have moderate to high susceptibility to water erosion and low susceptibility to wind erosion. These soils also tend to have a higher potential for surface runoff. On Grand Island, soil complexes vary in susceptibility to erosion. None of the soils identified in Niagara and Erie Counties are subject to wind erosion due to the coarse fragments on the surface or because of surface wetness.

Topography

The topography of the land adjacent to the Niagara River is relatively flat, except for the Niagara Gorge and the Niagara Escarpment. The flat land corresponds to the urban land use pattern that is present along the upper Niagara River from Buffalo through the City of North Tonawanda and the City of Niagara Falls. The steepest slopes are found from Niagara Falls to Lewiston along the Niagara Gorge and edges of the Lower Niagara River. The Niagara Escarpment forms an area of steep slopes south of the Village of Lewiston, and reduces in elevation to northern Lewiston and Porter, where the topography returns to a relatively flat expanse.

Lake Erie's ordinary high water elevation is 573.4 feet based on the International Great Lakes Datum (IGLD). Lake Erie drains into the Niagara River which falls 14 feet in elevation before it reaches the brink of Niagara Falls. At Niagara Falls, the Niagara River descends 212 feet in elevation where it travels northward toward Lake Ontario via the deeply incised rock channel of the Niagara Gorge. From the base of Niagara Falls, the lower Niagara River descends another 95 feet before reaching Lake Ontario. Lake Ontario is at an elevation of 247.3 feet, IGLD.

8A. Impacts to Geology, Soils and Topography **-** Implementation of the Greenway Plan will not result in any impacts to geologic resources, soils or topography in the project area. Minor soil erosion may occur during construction of projects and activities funded under the direction of the Greenway Plan (i.e. trails, wetland enhancements, etc), however these impacts are considered temporary and minor, and can be avoided or mitigated via typical soil erosion and sedimentation control measures during ground disturbance and construction activities. Implementation of those portions of the plan that target corrective measures for erodible shorelines will reduce erosion, sedimentation and turbidity providing incremental improvements in overall water quality and habitat value.

8B. Mitigation Measures - Since the adoption and implementation of the Greenway Plan will not result in significant adverse impacts to soils, geology or topography, no mitigation measures are necessary. For individual projects, Best Management Practices will be followed for all construction and ground disturbing activities in order to avoid or minimize soil erosion.

Mitigation of short term construction impacts would be accomplished through adherence to DEC's stormwater management and erosion and sediment controls.

9. Water Resources

The Niagara River is the main outlet for Lake Erie and four other Great Lakes. The river flows roughly 37 miles before entering Lake Ontario. The Niagara River has an average flow of 212,300 cubic feet/second, providing 83% of Lake Ontario's tributary flow. Flow rate ranges from 4 to 8 miles per hour (FERC 2006). Although water resources in the Niagara River are influenced by drainage and surface water discharges from both the US and Canadian side of the border, this Generic EIS focuses on water resources on the US side of the border.

In the United States, the federal and state government separates various watersheds into Hydrologic Unit Codes (HUCs). These HUCs provide a geographic categorization of various water resources into hydrologic units. The main HUC for the river, Lake Erie, drains an area of approximately 263,700 square miles. The other HUCs that drain into the Niagara River from the US side of the border include Buffalo-Eighteenmile and the Niagara (Tonawanda Creek and surrounding tributaries). The Buffalo-Eighteenmile HUC drains the land areas in New York State in the vicinity of the city of Buffalo (Buffalo River) and southern Erie County (Eighteenmile Creek). The major tributaries include Buffalo River and its major tributaries, Cazenovia and Cayuga Creeks, Smokes Creek (south of the Buffalo Outer Harbor) and Scajaquada Creek (in the northern portion of the HUC). The Niagara HUC drains the city of Niagara Falls and the surrounding areas, and includes the following major tributaries: Tonawanda Creek/Erie Canal, Cayuga Creek, Gill Creek, and Fish Creek.

Groundwater

The principal aquifer that is located along the Niagara River is the New York and New England carbonate rock aquifer. This aquifer exists within the boundaries of the City of Buffalo and extends from the Town of Wheatfield to southern Lewiston. The three bedrock aquifers located within the principal aquifer are the limestone aquifer occurring in the Onondaga Limestone, the Akron Dolomite, and the Bertie Limestone; Camillus aquifer occurring in the Camillus Shale formation, the Syracuse Formation, and the Vernon Shale; and the Lockport aquifer occurring in the Lockport Dolomite. In general these aquifers only yield small to moderate quantities of water, and are not used for significant water withdrawals, particularly within the Greenway boundary, since the Niagara River provides an abundant surface supply.

Surface Water

As mentioned above, there are three main watersheds (hydrologic units) included in the Greenway. Surface waters within the project area include flowing and non-flowing systems. Primary surface water resources include Lake Erie, the Niagara River, the Black Rock Canal which is the receiving water body for drainage from Scajaquada Creek, Buffalo River, Tonawanda Creek, Lake Ontario and intermittent drainages (see Figure 5).

NYSDEC classifies all larger surface waters of the state to assist in water quality management. This classification scheme is based on physical, chemical, and biological characteristics that take into account economic and social considerations (NYSDEC 2004). The main classifications of

waters in the Greenway include: Class A waters (waters that serve as a source of water supply for drinking or food processing purposes, contact recreation, and fishing), Class B waters (waters that serve as contact recreation and fishing), and Class C waters (waters that serve as a location fish and have the potential for some contact recreation). In addition, if waters support various species of trout, or support trout reproduction, they are given an additional t or ts, respectively, in their classification.

In addition, to satisfy Clean Water Act (CWA) requirements, the NYSDEC Division of Water released a 2004 summary of the public health of waters in New York State (NYSDEC 2004). This report provides a list of the waters that are on the Priority Waterbodies List in the Niagara River/Lake Erie Basin. About one-fourth of the waters are listed as either not supporting intended-uses or having minor impacts or threats to water quality and 16% are considered *Impaired*, which frequently do not support appropriate uses. The majority of the shorelines of Lake Erie, Lake Ontario and the Niagara River located within the Greenway are considered *Impaired*, due to toxic/contaminated sediments. There are no waters within the Greenway that are considered *Precluded*, which are waters which do not support appropriate uses. In some instances, there is insufficient data to characterize the impairments of a waterbody; in those instances, the waterbody is listed as needs verification.

There are 24 permitted stormwater discharge points along the Niagara River, Little Niagara River (the Niagara River portion on the north side of Cayuga Island) and the Cayuga Creek. These discharges often contain outflows that are a combination of stormwater and raw sewage overflow that may or not be functioning under the terms and conditions of a discharge permit. Seventeen discharge points are associated with the City of Niagara Falls.

Major surface water bodies and streams along the US side of the Niagara River include:

- **Lewiston Power Reservoir -** The Lewiston Power Reservoir is an artificial reservoir located in the Town of Lewiston. The reservoir is supplied by two water intakes located in the City of Niagara Falls on the upper Niagara River. The water enters the Lewiston Pump Generating Plant and is released into the Forebay that feeds the Robert Moses Niagara Power Plant. The Robert Moses Niagara Power Plant uses the water to generate power and is returned to the lower Niagara River, 4.5 miles downriver from Niagara Falls.

- **Ellicott Creek** - Ellicott Creek is tributary to Tonawanda Creek and then the Niagara River. It originates in Genesee County and flows through northern Erie County. The creek joins Tonawanda Creek and the Erie Canal and empties into the upper Niagara River forming the boundary between Erie and Niagara Counties. The lower reach of Ellicott Creek is classified as Class B waters, by the NYSDEC, at the mouth where it enters Tonawanda Creek. The NYSDEC has designated the lower portion of Ellicott creek as *Impaired* waters, which are those that frequently do not support appropriate uses. The upper reach of Ellicott creek is classified as Class C waters and the water quality is being verified by the NYSDEC.

- **Niagara River/Black Rock Canal -** The Niagara River conveys flow from Lake Erie to Lake Ontario and is approximately 37 miles in length. The Black Rock Canal was built along the east bank (right descending bank) of the Niagara River for the purpose of providing safe navigation around the rapid near the present day Peace Bridge, and extends from the Buffalo

Outer Harbor for 3.5 miles to the northern end of Squaw Island. The canal is defined by the eastern shoreline of the Niagara River and a break wall, which runs roughly parallel to the shoreline. The northern terminus of the Black Rock Canal ends at the Black Rock Lock which is operated and maintained by the US Army Corps of Engineers. The canal receives inflow from the Buffalo River, numerous stormwater outfalls and all of the drainage from Scajaquada Creek. This Class C waterbody is listed as impaired for metals, but is listed as being verified by the NYSDEC (NYSDEC 2004).

- **Buffalo River** - The Buffalo River empties into Lake Erie at the head of the Niagara River. Its watershed drains an area of 446 square miles in the counties of Erie, Genesee, and Wyoming. The main stem of the river is approximately 8.5 miles in length and extends from the mouth of Cayuga Creek to the confluence with Lake Erie. Water from the Buffalo River directly enters the Niagara River and the Black Rock Canal. The Buffalo River is classified as Class C waters, by the NYSDEC. Based on the magnitude of the flow of the Niagara River, the discharge from the Buffalo River is insignificant. However, the Buffalo River is a source of contaminants. The lower 6 miles of the river, including the City Ship Canal and the lower portion of Cazenovia Creek are classified by the USEPA as one of the 43 Great Lakes Areas of Concern (AOC); areas that are severely degraded geographic areas in the Great Lakes Basin (USEPA 2006). The NYSDEC also rates the Buffalo River as an Impaired waterway, that frequently does not support appropriate uses. The Buffalo River and its sediments have been impaired by inputs from inactive hazardous waste sites, combined sewer overflows (CSOs) and other point and nonpoint sources of pollution. The major sources of contamination in the Buffalo River AOC include contaminated bottom sediments and non-point source pollution (Niagara Riverkeeper 2006); contaminants of concern include: PCBs, PAHs, heavy metals, and industrial organics.

- **Tonawanda Creek** - Tonawanda Creek is a major tributary of the Niagara River. The creek meanders for over 90 miles and drains nearly 650 square miles of land in five counties. It is classified as Class C waters, by the NYSDEC, where it enters the Niagara River. The waters of this creek are considered best suited for fishing and supporting recreational uses, fish propagation and survival, but other factors limit their use for these purposes. The NYSDEC has determined that the lower reach of the Tonawanda Creek is considered Impaired and frequently does not support appropriate uses. The lower middle segment of the creek has only minor impacts to water quality. However, the upper reaches of Tonawanda Creek located in Genesee County are also considered Impaired.

- **Niagara River -** The Niagara River, approximately 37 miles in length, and consists of an upper river segment and a lower river segment divided by Niagara Falls. The upper Niagara River extends 22.5 miles before reaching Niagara Falls. The section between Lake Erie and Grand Island is deep exhibiting depths greater than 20 feet and a substantial current. At Grand Island the river divides into two channels before reuniting at the Chippewa-Grass Island Pool located at the north end of Grand Island that leads to Niagara Falls. The lower river extends from the Niagara Falls to Lake Ontario, a distance of approximately 15 miles. The Niagara Gorge portion of the lower river is a mix of rapids and turbulent pools which range in depth from 35 to 200 feet (FERC 2006). From the Robert Moses Power Project to Lake Ontario the river varies in depth from less than 20 feet to a range of 30 to 150 feet in the center of the channel. The NYSDEC has determined that the entire length of the Niagara

River is considered Impaired, due to chemical contamination. PCB and dioxin contamination is reported to be the cause of the majority of the contamination in this reach; however additional chemicals such as Mirex and chlordane are also contributing factors.

The main channel portion of the Niagara River does not contain substantial deposits of the fine-grained sediments, since the high water velocities and water volumes result in a predominately scoured channel of bedrock and boulders, and gravels in slower velocity areas. The majority of the fine sediments (and locations of contaminated sediments) exist in localized sediment pockets at certain tributary mouths and nearshore areas, where slow water conditions exist and fine sediments accumulate. There is a known presence of contaminated sediment pockets which are contributing to a degradation of benthos use impairment at these areas. The USEPA and NYSDEC have identified contaminated sediments in three embayment areas namely the mouth of the Pettit Flume, 102nd Street embayment and the mouth of Gill Creek (USEPA 2006). In addition, sediment from Buffalo Harbor, the Black Rock Canal, the Riverside nearshore area, Tonawanda Channel nearshore area, Wheatfield nearshore area and the Lower Niagara River nearshore are known to contain a wide variety of organic and inorganic contaminants.

Major surface water bodies and streams along the Canadian side of the border include Lyons Creek, Ussher's Creek, Black Creek, and Frenchman's Creek.

Floodplains

Flooding is common along many of the region's rivers and streams. The100-year floodplain has been mapped for every river and stream in the region and can be found along the courses of tributaries at the northern and southern tips of Grand Island, and where the Buffalo River and Tonawanda Creek flow into Lake Erie. Large areas along the eastern segment of Tonawanda Creek are particularly prone to flooding. The existence of fluctuating water levels can be beneficial for preservation of riparian corridors, wetlands and sensitive habitats since they pose a significant constraint to development. Excessive rates of surface stormwater runoff, sediment from agriculture and construction, and the loss of vegetation pose additional threats for increased river and stream bank erosion, as well as downstream flooding potential. Figure 58 shows areas that are located within and outside of the 100-year and 500-year floodplains.

9A. Impacts to Water Resources - Implementation of the Greenway Plan will not result in any impacts to groundwater resources. Beneficial impacts to surface water resources and quality along the Niagara River are expected to result from implementation of the Greenway Plan. Funding that will be used to correct Combined Sewer Overflow (CSO) problems, eliminate or minimize point source discharges of contaminants, address issues of non-point source runoff into Niagara River or its tributaries, or that enhance the function and value of wetlands and wetland complexes would all have beneficial impacts to surface water resources. Beneficial impacts of any individual project may vary and will be dependent upon the magnitude of the problem and achieving the desired result. However, cumulative impacts of multiple projects over several years will result in significant positive impacts to water resources and quality.

Implementation of the Greenway Plan is not expected to have significant adverse impacts to floodplains. Individual projects may be located in floodplains due to the nature of the waterfront

area; however uses such as passive recreation will have no significant impact on the function of floodplain systems. In many cases active floodplains may be targeted for preservation since there continued existence with shield downstream properties from excessive damage due to flooding. If structures are necessary within floodplain areas conventional flood proofing measures will be incorporated into projects to protect property and to ensure continued function of the floodplain. The optimal approach is to ensure that permanent structures are not placed within designated 100-year floodplains of the Niagara River or its tributaries.

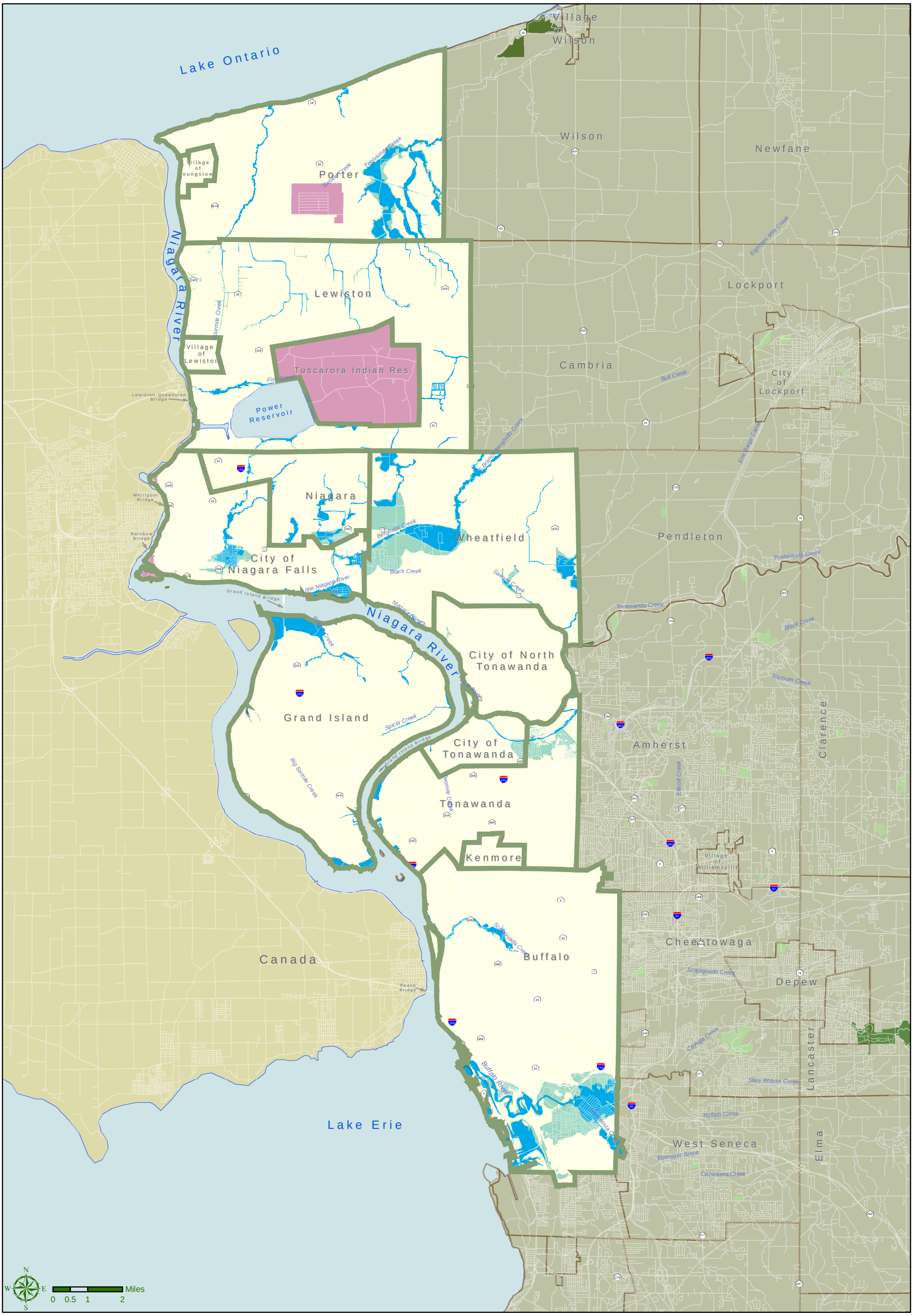
9B. Mitigation Measures - Since the adoption and implementation of the Greenway Plan will not result in any significant adverse to water resources, no mitigation measures are necessary. However, mitigation of short term impacts due to site-specific construction and potential project-related erosion, would be accomplished through adherence to Best Management Practices and adherence to such guidelines as DEC's stormwater management and erosion and sediment controls.

10. Wetlands

Wetlands are defined as lands where the saturation with water dictates the nature of the soil development and types of plant and animal communities on its surface (Cowardin 1979). Wetlands in New York State are regulated by the United States Army Corps of Engineers (USACE) and NYSDEC, depending upon the size and conditions of the specific wetland (see below for additional discussion). Wetlands are important to the environment because they improve water quality to surface (and ground) waters; maintain a more natural water quantity/hydrology relationship in watersheds; and provide a variety of wildlife habitats. Water quality improvements occur in wetlands as water passes through wetlands or is temporarily stored there, and sediments, nutrients, and potentially contaminants are removed from surface flow. Wetlands also provide a more natural hydrologic cycle by reducing peak flows during storm events, potentially decreasing downstream erosion, and providing for groundwater recharge in areas with favorable geology. In addition, wetlands provide a wide range of fish and wildlife habitats, and in some instances provide habitat for threatened or endangered plant or animal species.

Wetlands in the Niagara River corridor are subject to regulation by the USACE pursuant to Section 404 of the Clean Water Act and the NYSDEC under Article 24 of New York State Conservation Law. All wetlands regardless of size are regulated at the federal level. Federal wetlands are defined on the basis of three criteria namely vegetation, soils, and hydrology. When all three of these parameters are met the wetland is subject to federal regulation. New York State uses the same criteria as the federal process, but only regulates wetlands that are greater than 12.4 acres in size or are of significance in their local setting.

Several sources were used to assess the potential for wetland occurrence within the Greenway. including National Wetland Inventory (NWI) maps, NYSDEC Freshwater Wetlands maps (see Figure 5), hydric soil maps for Erie and Niagara Counties (see Figure 59), and aerial photographs of the Greenway.



Niagara River Greenway

FEMA Floodplains

Greenway Boundary

Area Not Mapped

Flood Zone

Areas Outside 100 & 500-Year Floodplain

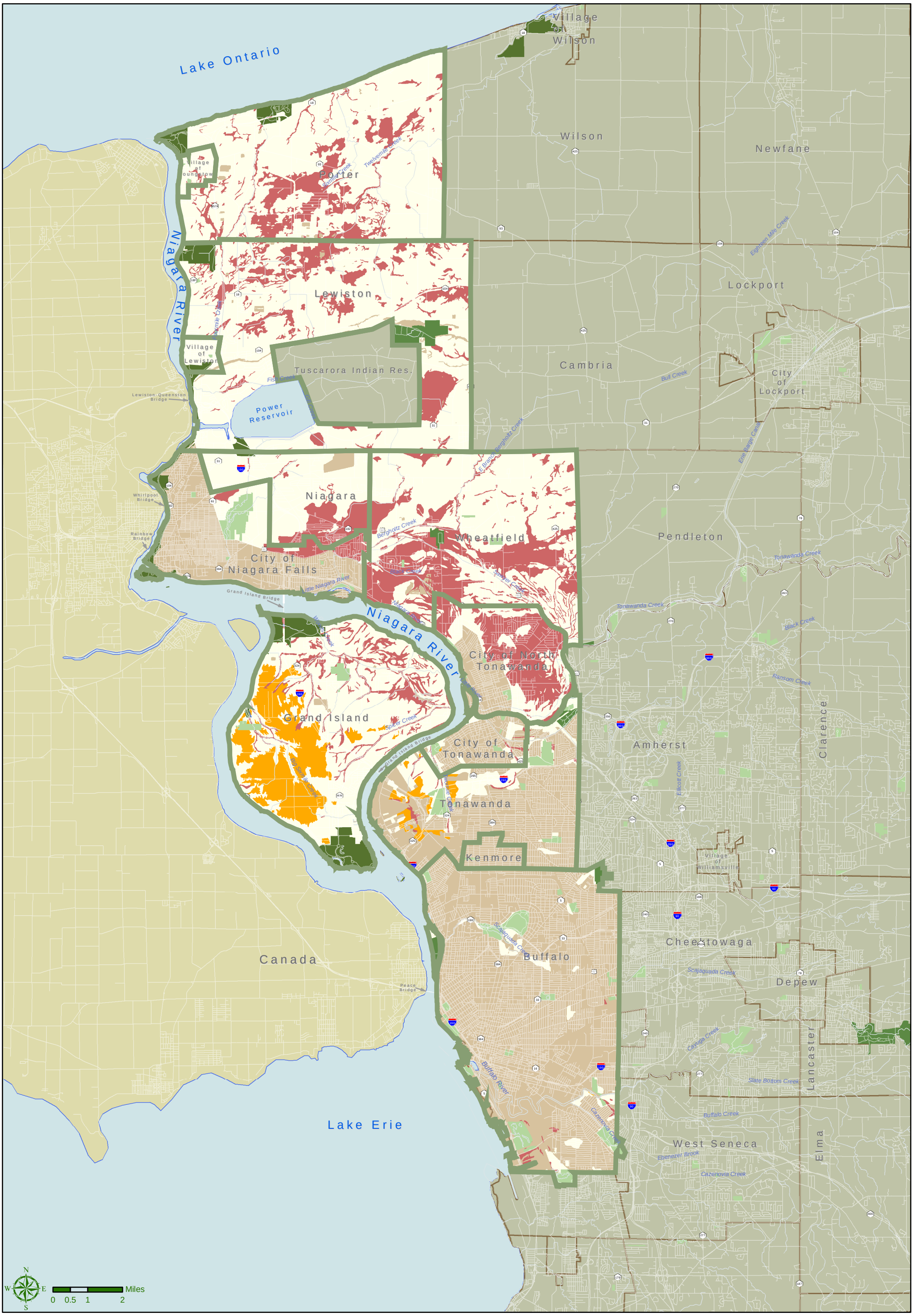
100-Year Floodplain

500-Year Floodplain

Data Sources: New York Power Authority, Erie County Office of Geographic Information Systems, Niagara County Office of Real Property Tax Federal Emergency Management Agency

Figure 58

20 March 2007



Niagara River Greenway

Hydric Soils

- Greenway Boundary
- Stream
- All hydric
- Not hydric
- Partially hydric
- Unknown

Data Sources: New York Power Authority, Erie County Office of Geographic Information Systems, Niagara County Office of Real Property Tax
U.S. Department of Agriculture

20 March 2007

Figure 59

Federally Regulated Wetlands

NWI maps are often used as a tool for the preliminary screening of wetland sites. However, this mapping system cannot be used to precisely locate the limits of wetlands that are subject to regulation by the U.S. Army Corps of Engineers (COE). . The majority of mapped NWI wetlands occurs along and adjacent to the Niagara River waterfront. The river shoreline in Erie County and southern Niagara County has undergone considerable modification as a result of suburban and urban land uses, development of transportation infrastructure and the filling and bulkheading of riverfront property. While historically abundant, wetland resources within the Niagara River corridor have diminished significantly. A total of 107 wetland types were identified within the Greenway and include a mixture of palustrine emergent marshland, forested wetland, and scrub-shrub habitat. The forested/scrub-shrub wetlands habitat type was identified as being the most abundant wetland type within the Niagara River corridor. In addition, the NWI also identified 39 types of freshwater ponds, riverine, lake and wetland areas within the corridor.

To determine the location of federally regulated wetlands, a site-specific delineation must be conducted. Under this procedure, plant cover, soils and hydrologic characteristics are assessed and from these data a boundary line is drawn. The placement of dredged or fill material in wetlands cannot take place without authorization by the COE. The COE must apply specific guidelines and conduct a public interest review to determine if a permit should be issued for the filling of wetlands. In most cases developers are compelled to reduce or eliminate wetland impacts and in some cases permit requests are denied.

New York State Regulated Wetlands

The NYSDEC designates wetlands as Class I, II, or III. Class I wetlands merit the highest level of protection. Class II wetlands provide important wetland benefits, the loss of which is acceptable only in very limited circumstances. Class III wetlands supply wetland benefits, the loss of which is acceptable only after the exercise of caution and discernment. Impacts on these wetlands are permitted only if it is determined that the proposed activity satisfies a pressing economic or social need that clearly outweighs the loss of or detriment to the benefit(s) of the Class II or Class III wetland. Class II and III wetlands act as pollution or flood buffers and may provide habitat for endangered, threatened, or vulnerable species.

The NYSDEC Freshwater Wetlands maps depict the regulated wetlands within the Town of Grand Island, Town of Tonawanda, City of Tonawanda and the Town of Wheatfield. These wetlands are designated as Class I, II and III, of which Class II wetlands are the most abundant.

Unmapped Wetlands

Another way to identify potential wetland sites is to use the soils maps contained in the County Soil Surveys published by the Natural Resource Conservation Service. Since wetlands are often defined by the presence of saturated or hydric soils and related plant communities and hydrology are often associated with these soils, it is reasonable to use mapped hydric soils as a screening tool for regulated wetlands at the Federal and State levels. However, this method is not all encompassing and wetlands can occur in areas outside the mapped hydric soil units. Wetlands can also occur in areas not mapped as such by the NWI or the NYSDEC.

The soils maps indicate that the majority of the hydric soils present in the Greenway are located in the Town of Wheatfield, Town of Grand Island and the northern portion of the City of North Tonawanda. Areas further away from the river corridor in the City of Niagara Falls, Town of Lewiston and Town of Porter also contain scattered areas of hydric soil. A majority of the Greenway in Erie County and southern Niagara County is underlain by urban land that is defined as land in which 60 to 80% or greater of the surface is covered by asphalt, concrete, buildings, or other structures thus limiting the areas where hydric soils could occur.

Unique Wetland Areas

- **Riverfront Park** - Riverfront Park is located on the Niagara River in the Town of Tonawanda, just north of the Grand Island Bridge. The park's shoreline is 2,200 feet in length, extending from the foot of the South Grand Island Bridge to the industrial property just south of Isle View Park. The park consists of 19.7 acres of riparian habitat that includes a mixture of forested wetlands and floodplain forest habitat and historically was a part of the Erie Barge Canal. The Erie County Riverwalk linear park follows the eastern perimeter of this parcel and includes a spur that gives the public direct access to the Niagara River waterfront.

- **Spicer Creek -** A tributary of the Niagara River, Spicer Creek empties into the east channel of the Niagara River on the east side of Grand Island. The creek is slow and meandering with depths less than 6 feet and a heavily silted and debris laden bottom. The upper reaches of the creek are ephemeral while perennial stream conditions persist in the lower reach that empties into the Niagara River. At the creek outlet there is an extensive emergent wetland and forested wetland complex. A portion of this area comprising about 16 acres has been acquired by the New York State Department of Environmental Conservation while a larger adjacent tract just downstream is owned by the Town of Grand Island. Historically, wetlands in this area extended well into the Niagara River, but erosion caused by fluctuating water levels and boat traffic has significantly reduced their size. The shallows just offshore of the mouth of Spicer Creek are littered with the remains of old wharves and barges; and the river bottom sediments in this area are in a constant state of suspension precluding the establishment of stabilizing submerged aquatic plant beds that are typical elsewhere in the upper river.

- **Cherry Farm Park -** Cherry Farm Park is located on the Niagara River in the Town of Tonawanda, south of the Grand Island Bridge. The park consists of 53.5 acres of land including an 18-acre wetland, 2,550 feet of shoreline, a restored section of the Erie Canal and a section of the Riverwalk linear park. This parcel is a former landfill that was remediated several years ago. Wastes on the site were consolidated and capped and drainage from this area is collected and treated in accordance with regulatory requirements. Due to the need to protect the landfill cap, future use of the site will be limited to passive recreational activities.

- **Grand Island Tributaries -** The Grand Island Tributaries include portions of four major tributary streams and their associated wetlands on Grand Island. The Grand Island tributary streams on Grand Island and their associated wetlands include Woods Creek, Gun Creek, and Big Sixmile Creek. All of these watercourses are slow, meandering, and less than 6 feet in

depth, with heavily silted and debris-strewn bottoms. Portions of these tributaries are intermittent while the lower reaches exhibit flow rates that are nearly undetectable except during periods of heavy runoff.

- **Beaver Island Wetlands -** This site is located at the southernmost tip of Grand Island at the west channel of the Niagara River. This area comprises about 10 acres and is located wholly within Beaver Island State Park. The wetland contains some high quality aquatic beds and a species of iris that is not common to the western New York area. A narrow corridor of riparian habitat exists along the northern border of this wetland that has been enhanced by the addition of wildlife plantings and the use of environmentally compatible mowing practices. However, grass is mowed nearly to the water's edge along the south side of this area reducing its value to some degree. The adjacent upland to the south of this site is a designated Habitat Improvement Project that will be funded as a result of the Relicensing settlement with the New York Power Authority.

- **Buckhorn Island -** Buckhorn Island wetlands are located in Buckhorn Island State Park, at the northern end of the Town of Grand Island. The Buckhorn Island Wetlands area comprises the largest coastal wetland complex in western New York. This 500-acre area is comprised of emergent marsh and deciduous forested wetlands, associated with Burnt Ship Creek and Woods Creek. A large, shoal area containing beds of submergent and emergent aquatic vegetation lies offshore of the mouth of Woods Creek.

  Burnt Ship Creek is a very shallow backwater channel of the Niagara River, bordered by a dense stand of cattail. Woods Creek, the largest tributary on Grand Island, is a relatively broad, deep channel, exhibiting slow to moderate flows. The creek is bordered by a broad area of sedges, rushes, and grasses. Also included in the habitat unit is a relatively large, shoal area containing beds of submergent aquatic vegetation that lies between Burnt Ship Creek and Navy Island. Buckhorn Island Wetlands is located in Buckhorn Island State Park, at the northern end of the Town of Grand Island. The Buckhorn Island Wetlands area comprises the largest coastal wetland complex in western New York. This 500-acre area is comprised of emergent marsh and deciduous forested wetlands, associated with Burnt Ship Creek and Woods Creek. A large, shoal area containing beds of submergent and emergent aquatic vegetation lies offshore of the mouth of Woods Creek.

- **Strawberry Island and Motor Island** - This island complex is located in the upper Niagara River, near the southern tip of Grand Island and includes approximately 400 acres of riverbottom that supports a diverse system of submergent aquatic plant life. The shoal areas around the islands contain areas of emergent and submergent vegetation. Strawberry Island is a horseshoe-shaped island approximately 20 acres in size that contains a mixture of woodlands, emergent marshes and submerged plant beds. Strawberry Island-Motor Island is a state-designated Significant Coastal Fish and Wildlife Habitat. The area is discussed in additional detail later in this Section.

10A. Impacts to Wetlands - Implementation of the Greenway Plan is anticipated to beneficially impact wetlands, both on a system-wide basis throughout the Niagara River and on specific sites that can achieve their full biological potential with the application of enhancement or restoration measures using Greenway funding. Many wetlands have been impaired, filled or

have declined in value as a result of human intrusion and/or encroachment. The use of Greenway funds to protect, preserve, or restore impaired wetlands will restore their functions and values to their full potential and in turn will result in significant long-term beneficial impacts.

Although the actual amount of wetland area to be protected or restored under the Greenway Plan is not known with certainty at this time, it is clear that the opportunity exists to realize some dramatic and significant improvements in wetland resources along the entire Niagara River. Wetlands that will benefit from this program include those along the Niagara River itself, as well as those found along tributary corridors. The extent of positive impact also will be determined by the level of wetland degradation that has occurred, and the effectiveness and sustainability of proposed rehabilitation and restoration measures.

It is possible that site-specific and relatively minor adverse impacts may occur in wetlands areas along the Niagara River as a result of the construction and operation of some facilities relating to other aspects of the Greenway Plan. For example, completion of a trail linkage connecting two trails may require that a small area of wetland be impacted. Or, remediation of a brownfield area may result in grading or soil removal in areas currently classified as wetland. All such instances are expected to be minor and localized, and could easily be mitigated.

10B. Mitigation Measures - Potential adverse impacts to wetland resources will be evaluated on a project-specific basis and will be mitigated by appropriate delineations, avoidance or mitigation as negotiated in the NYSDEC/USACE permitting process. In addition, mitigation of short term impacts due to site-specific construction and potential project-related erosion would be accomplished through adherence to Best Management Practices and adherence to such guidelines as DEC's stormwater management and erosion and sediment controls.

11. Terrestrial and Aquatic Ecology

The ecological resources described in this section include the terrestrial and aquatic environments of the Niagara River Greenway. Vegetation and wildlife resources in this area are characteristic of the Erie-Ontario Lake Plain Ecoregion. The Niagara Region is largely formed of glacial till, which affects the development of existing biological resources, as well as the influence of human settlement in the area.

Terrestrial Environment

The terrestrial environment of the Niagara River Greenway comprises a variety of ecological communities characteristic of northern successional systems. During the terrestrial habitat mapping work associated with the relicensing of the Niagara Power Project, a total of 23 ecological communities within four subsystems were identified, including: open uplands, barrens and woodlands, forested uplands, and terrestrial cultural lands (FERC 2006). The majority of the undeveloped lands are the open upland and forested upland, characterized by successional communities. Some of the most unique terrestrial communities consist of the limestone woodland, calcareous cliff, and talus slope communities of the Niagara River Gorge along the Lower Niagara River.

As discussed, the majority of the land use in Upper Niagara River is characterized by urban, transportation, or industrial development. Consequently, the remnant undeveloped areas have

been influenced by past disturbance and typically have successional vegetation communities. In some areas there are patches of more undisturbed habitats, including beach maple mesic forests and oak hickory communities. Wildlife that inhabit these areas include whitetail deer, Eastern cottontail rabbit, grey squirrel, woodchuck, and wild turkey. In addition, based on the location and physical conditions of the Niagara River, other wildlife species include water-dependent bird species which use the Niagara River as a migratory corridor and/or staging area, a breeding area, or a wintering area.

The Niagara River corridor has been designated as a globally significant, binational Important Bird Area (IBA). The IBA program is a global initiative coordinated by BirdLife International to identify and conserve sites important to bird species worldwide. The IBA program is implemented at the provincial level in Canada and by the National Audubon Society in the United States.

The Niagara River Corridor IBA encompasses the majority of the Greenway, extending 37 miles throughout the length of the Upper and Lower Niagara River and inland, east and west of the Niagara River. A primary use zone (areas within 3.5 miles of either side of the Niagara River) has been identified by the IBA working group as having significant concentrations of use by the IBA species at and near the river. A secondary use zone includes areas of additional use and/or influence areas, which may extend for many miles on either side of the river and include areas such as sanitary landfills or possible roosting and/or nesting sites. The Niagara River corridor is recognized as important primarily for the large concentrations of gulls and waterfowl that stage in the area during migration and as a wintering site. The four species that are found in this IBA in globally significant numbers include: Bonaparte's gull, herring gull, canvasback, and common merganser. Numerous other water-dependent bird species, including colonial waterbirds, primarily herons and egrets, are found along the Niagara River corridor; and other avian species utilize the river as a migration corridor. In addition, a significant heron rookery is located on Motor Island, which provides a large wooded island habitat in the river for herons and it contains the only great egret nesting colony in upstate New York.

Several state- or provincially-listed threatened and endangered bird species are identified in the Greenway area. These include the pied-billed grebe, least bittern, black tern, common tern, bald eagle, peregrine falcon, northern harrier, and sedge wren. Bald eagles have been regularly observed along the Niagara River during winter months for a number of years and a pair nested on Navy Island in 2005 and 2006. Peregrine falcons have bred near Niagara Falls nearly annually since 1998. These birds were the first naturally established pair to breed in southern Ontario in over 50 years (Niagara River Corridor IBA Working Group 2002).

Table 9 below identifies the type of bird species found throughout the Niagara River Corridor, as provided by NYSDEC. The location of and types of bird species are described further in the discussion of Significant Coastal Fish and Wildlife Habitats.

Table 9: Sensitive Bird Areas along Niagara River Corridor

Location	Type of Bird Species
Buffalo Harbor: Donnelly's Wall, South Breakwall and Short Breakwall	Approx. 1,300 pairs of common tern
Former Bethlehem Steel Site	Gulls: Ring-billed, Herring, Great Black Backed
Motor Island	Great Egret, Black-crowned Night Heron, Great-blue Heron, Double-crested cormorant
Strawberry Island	Cormorant and Great-blue Heron
Tonawanda and N. Tonawanda Water Intake	12-75 pairs of terns
Buckhorn Weir	Historical tern colony, abandoned c. 1988. Ring-billed and Herring gulls, Double-crested cormorants
Near Crib/Far Crib (NYPA-owned parcels)	2-80 pr. Terns
Tower Island	Historical tern colonies, abandoned c. 1998
Goat Island	Ring-billed gulls, Herring gulls, Double-crested cormorants, peregrine falcon nest

Source: NYSDEC, 2006

Aquatic Environment

The Niagara River watershed encompasses the Great Lakes region upstream and including Lake Erie, and accounts for approximately 83% of the flow into Lake Ontario. The location of the Niagara River and its tributaries in the Great Lakes ecosystem influences the availability and distribution of aquatic species within the Niagara River Greenway. Both the upper and lower Niagara River and some of their tributaries support self-sustaining warmwater and coolwater fisheries (e.g. fish that reside in warm water areas or cool water areas). A total of 92 fish species have been recorded from the Niagara River (FERC 2006). Typical fish species include: smallmouth bass, walleye, white bass, yellow perch, white sucker, muskellunge, northern pike, carp, various shiners, brown bullhead, bluegill, and rainbow smelt.

When discussing the aquatic environment, the mainstem Niagara River is typically separated into the Upper Niagara River and the Lower Niagara River, as the Niagara Falls represents a significant barrier to fish and other aquatic biota distribution. Accordingly, there are some noticeable differences in the fish community in the upstream and downstream sections of the river, most notably the presence of coldwater fish (e.g. trout or salmon). A put-and-take cold-water fishery exists in Lake Erie through stocking efforts in Lake Erie tributaries by the NYSDEC. None of these fish are stocked in the Upper Niagara River, but stocked individuals have the potential to drift or migrate into portions of the river. The NYSDEC stocks a variety of coldwater fish into the Lower Niagara River and the western basin of Lake Ontario, including steelhead, brown trout, chinook salmon, and coho salmon. These stocking efforts result in large migrations of these cold water fish into the Lower Niagara River during various times of the year.

These fishery resources are an important component to the recreational nature of the Niagara River.

While there are no federally listed species in the Niagara River, several state listed species occur throughout the river and have the potential to occur in some of the Niagara River tributaries. These include the state endangered silver chub; the state threatened lake sturgeon and the mooneye; and state species of special concern including the black redhorse sucker and the redfin shiner.

Numerous benthic macroinvertebrates are found in the river, with a range of species indicative of large river systems. Studies by the NYSDEC indicate that the species diversity and assemblage has increased since the 1970s indicating improved water quality (NYSDEC 1997). Native mussels are rare in the mainstem river, which may result from the presence of non-native zebra mussels and quagga mussels (FERC 2006). There are a few remnant populations of native mussels in a Grand Island tributary and in Buckhorn Island State Park that are state listed sensitive species (FERC 2006).

New York State Significant Coastal Fish and Wildlife Habitats

The New York State Department of State Division of Coastal Resources has designated significant coastal fish and wildlife habitats (SCFWH) throughout the State's coastal areas. These areas have been identified as providing habitat diversity, a unique habitat type or support a concentration of wildlife species at certain times of year. There are 250 of these habitats throughout New York State, eleven of which are located within the Niagara River Greenway (see Figure 6). Each of the areas is listed below from south to north with a description of the location and associated unique features. A habitat narrative and map for all of the SCFWH areas follows.

- **Tifft Nature Preserve -** The Tifft Nature Preserve is located approximately three miles south of downtown Buffalo, in Erie County. It is a 264-acre nature preserve with an environmental education center, which contains a diversity of fish and wildlife habitats. Within the preserve area there is a 75-acre cattail marsh, several small freshwater ponds, remnants of an old canal, old fields, forested wetlands, and a shrub-sapling successional area. The wetlands in this area are relatively undisturbed even though they occupy lands that were extensively disturbed historically. This urban wetland is the largest of its kind along the Lake Erie shoreline. Active and vacant industrial facilities and railroad properties surround the preserve.

  The area is used as a stopover during spring and fall migrations by many species of waterfowl, shorebirds, herons, osprey, and passerine birds. Other wildlife use the preserve year round, including: muskrat, mink, raccoon, eastern cottontail, red fox, gray fox, meadow vole, common garter snake, northern water snake, snapping and painted turtles, bullfrog, green frog, northern leopard frog, and Jefferson salamander. Tifft also contains a population of burrowing crayfish one of only three known localities for this species in New York State. The freshwater ponds in the preserve contain many warm water fish species including black crappie, yellow perch, rock bass, pumpkinseed sunfish, bluegill, bullhead, carp, largemouth bass, gizzard shad, freshwater drum, northern pike, and longnose gar.

- **Times Beach Nature Preserve (Diked Disposal Site) -** Times Beach is located within the City of Buffalo just south of the Buffalo River, on the Buffalo Harbor waterfront. This approximate 55-acre area is a man-made, partially filled and diked dredge spoil disposal area that is a currently designated wildlife preserve. Times Beach contains several distinct physical zones, including: a deep water zone, a low-lying mud or silt flat zone, a gradually sloping shallow water zone and an upland zone. The lake side is surrounded by porous stone dikes, while the upland a portion of the habitat is bordered by the U.S. Coast Guard base, a marina, abandoned industrial developments, the ice boom storage area, port facilities and the Furhman Boulevard bicycle and pedestrian trail.

  The Times Beach dredged material diked disposal site is one of the few sizeable wetland areas along the New York shoreline of Lake Erie. In addition to its location on an important migratory flyway it is a significant fish and wildlife habitat. Times Beach is an important resting and feeding area for gulls, terns, shorebirds, dabbling and diving waterfowl, marsh birds, and passerines during spring and fall migrations. Many birds use this area during the breeding season including: mallard, American wigeon, ring-billed gull, common tern, least bittern, Virginia rail, sora, common moorhen, ring-necked pheasant, killdeer, spotted sandpiper, belted kingfisher, and red-winged blackbird. Many uncommon and rare birds have been observed at this location. Other wildlife found in the area include: the muskrat, raccoon, eastern cottontail, several smaller mammals, common garter snake and bullfrog.

- **Small Boat Harbor – Buffalo** - The Small Boat Harbor is located on the shoreline of Lake Erie in City of Buffalo, Erie County. This approximate 165-acre fish and wildlife habitat is located in a relatively shallow water area of Buffalo Harbor that is protected by a rock rubble mound breakwater and the perimeter of an old dredged material disposal site. The area has undergone extensive disturbance as a result of past waterfront industrial uses. The west side of the small boat harbor is open to the waters of the Buffalo Outer Harbor that includes a maintained deep draft navigation channel. Heavily used, the small craft harbor includes docks, launch ramps, and other marina support services. During the winter months this area is frequented by ice fishermen.

  The Small Boat Harbor is one of the most important fish and wildlife habitat areas in the Buffalo metropolitan region because it provides substantial protection from wave action for fish, wildlife, and supports an extensive bed of aquatic vegetation. As a result, the harbor supports a highly productive and diverse littoral community. The major adult fish found in the area include: pumpkinseed, yellow perch, brown bullhead, largemouth bass, muskellunge, carp, and freshwater drum. This is also a spawning location for centrarchids, shiners, yellow perch, carp and drum. In addition, the harbor supports a productive macrobenthic community, dominated by snails and clams. The Small Boat Harbor attracts concentrations of waterfowl and migratory birds during spring and fall migrations. The most abundant birds observed here during these periods are the diving ducks, including canvasback, scaups, mergansers, common goldeneye, bufflehead, along with mallard, Canada goose, loons, grebes, and gulls.

- **North Buffalo Harbor -** North Buffalo Harbor is located in the northeast corner of Lake Erie, at the head of the Niagara River, in the City of Buffalo, Erie County. The North Buffalo Harbor fish and wildlife habitat comprises an approximate 800-acre area of open water within the lake and upper river channel, extending roughly from the mouth of the Buffalo River to

the Peace Bridge. The eastern border of the North Buffalo Harbor fish and wildlife habitat is the Black Rock Canal, and immediately west are the Canadian waters of Lake Erie. North Buffalo Harbor supports some valuable fish and wildlife resources, despite the loss of fish and wildlife habitats in this area as a result of land development, dredging, storm protection projects, discharges of domestic and industrial wastes, and inflow of polluted upland runoff.

North Buffalo Harbor is one of the three major nesting areas of gulls and terns in western New York State. Gulls and terns nest in the cracks in concrete structures along the break walls and piers. The open water areas of the harbor are important for feeding and nesting terns, as well as wintering waterfowl. Waterfowl use this area during winter because the installation of the Lake Erie ice boom up river allows a large part of this area to remain free of ice. Concentrations of many waterfowl species, along with loons, grebes, gulls, and terns, occur in the North Buffalo Harbor during the spring and fall migration periods.

North Buffalo Harbor also supports a major urban fishery or regional significance. Predominant fish species occurring include rock bass, white bass, smallmouth bass, yellow perch, walleye, northern pike, muskellunge, brown trout and rainbow trout. No critical spawning or nursery areas have been documented in this area (NYSDOS 2004).

- **Strawberry Island and Motor Island Shallows -** This area is located in the upper Niagara River and is roughly bounded by Strawberry Island, Motor Island, and the southern tip of Grand Island. This approximate 400-acre area is located in the Town of Grand Island and Tonawanda, Erie County. This fish and wildlife habitat contains an extensive shallow shoal area that supports beds of submergent aquatic vegetation, and patches of emergent wetland vegetation in shoreline areas.

  Strawberry Island - Motor Island Shallows is the largest area of riverine littoral zone in the Niagara River. Riverine littoral zones, which are rare in the Great Lakes plain ecological region, are extremely valuable fish and wildlife habitat. The shallows are one of the most productive fish spawning areas in the upper Niagara River for small mouth bass, yellow perch and various other resident freshwater fish species. One of two principal spawning grounds for muskellunge in the river is located within the shallows.

  The Strawberry Island and Motor Island Shallows area is considered to be one of the most important waterfowl wintering areas in the northeastern United States. This area also serves as a major feeding and resting area for diving ducks, including, common mergansers, red-breasted mergansers, common goldeneye, canvasbacks, scaup, and bufflehead. Waterfowl use of the area during winter varies each year based on the extent of ice cover throughout the region. Concentrations of waterfowl also occur in the area during spring and fall migrations. Summer use of the area by wildlife is not known to be as significant.

- **Buckhorn Island Tern Colony** - Buckhorn Island Tern Colony is located at the northern tip of Grand Island, Erie County, and in the City of Niagara Falls, Niagara County. This fish and wildlife habitat consists of several man-made structures located within the Tonawanda Channel of the Niagara River, which consist of an approximate one-quarter mile long rock and boulder dike, and two transmission tower footings. These structures are isolated from the mainland, and are flat and gravelly, with little vegetation.

The Buckhorn Island Tern Colony encompasses a small group of man-made channel structures that do not represent an unusual ecosystem type, but provide valuable habitats for terns and gulls. These structures serve as a major nesting site for common terns, ring-billed gulls, and herring gulls. The gull and tern colonies present here are one of only three active gull and tern colonies in western New York. There are no significant human use activities associated with the Buckhorn Island Tern Colony (NYSDOS 2004).

- **Buckhorn Island Wetlands** - This fish and wildlife habitat is located in Buckhorn Island State Park, at the northern end of the Town of Grand Island, Erie County. Covering approximately 500 acres, the area consists of emergent forested wetlands associated with Burnt Ship Creek and Woods Creek; and a large, shoal area containing beds of submergent aquatic vegetation. The land adjacent to this habitat consists of undeveloped forestland and fields in various stages of ecological succession.

  The Buckhorn Island Wetlands area is the largest coastal wetland complex in western New York. The habitat includes the only undeveloped marsh of significance located on the river and a major riverine littoral zone (NYSDOS 2004). These wetlands serve as feeding, resting and breeding areas for ducks, herons, coots, moorhens, and rails. During spring and fall migrations considerable numbers of waterfowl also occur in the area. Other wildlife species in the Buckhorn Island Wetlands and Woods Creek and, to a lesser extent, Burnt Ship Creek, include muskrat, mink, raccoon, and white-tailed deer.

  The creeks within this area provide extensive and valuable littoral habitat that is used by warmwater fish species of the Niagara River. Woods Creek contains significant concentrations of spawning northern pike from February through April, with many remaining until July. The littoral area between Burnt Ship Creek and Navy Island is a principal spawning ground for northern pike and muskellunge, and also one of the most productive smallmouth bass spawning areas in the upper Niagara River. Other warmwater fish present in the creeks include the yellow perch, black crappie, bullhead, rock bass, white sucker, and carp.

- **Grand Island Tributaries** - The Grand Island Tributaries extend from the Tonawanda and Chippawa channels of the Niagara River into the Town of Grand Island, Erie County. Portions of four major tributary streams and their associated wetlands on Grand Island make up this fish and wildlife habitat. These streams include Woods Creek, Gun Creek, Spicer Creek, and Big Sixmile Creek, which are slow, meandering, and less than 6 feet deep, with heavily silted and debris-strewn bottoms. Also included in this habitat is a 10-acre wetland in Beaver Island State Park which opens directly into the Niagara River.

  The Grand Island Tributaries are similar to the majority of Niagara County stream ecosystems, but are the least developed of those which drain into the Upper Niagara River. The five areas which comprise this habitat are an integral part of the upper Niagara River ecosystem and provide important spawning and nursery areas for warmwater fish species, especially northern pike. Locally significant use of these areas may occur, including nesting by mallard and wood ducks, feeding or resting by migrant waterfowl, and year-round habitation by muskrat and raccoon.

- **Buckhorn Island and Goat Island Rapids** - This zone is located between Grand Island and Goat Island, in the City of Niagara Falls, Niagara County, and the Town of Grand Island, Erie County. This 850-acre area is a wide, fast-moving, and relatively shallow section of the upper Niagara River, which extends from the Buckhorn Island water diversion structures to the Goat Island Bridge and Three Sisters Islands, including Tower Island north of the Ontario Hydroelectric project in Ontario, Canada.

  The Upper Niagara River is a unique ecosystem in the western Great Lakes region of New York State containing extensive areas of undisturbed natural habitat. The Buckhorn Island-Goat Island Rapids is part of one of the most important waterfowl over wintering areas in the northeastern United States, especially for diving ducks and other waterfowl. The Buckhorn Island and Goat Island Rapids serves as a major feeding and resting area for common and red-breasted mergansers, goldeneye, scaup, mallard, and bufflehead among other waterfowl species. During the spring and fall migration seasons a variety of waterfowl use this area. Common terns and ring-billed gulls nest near Buckhorn Island, and there is a known colony of common terns located on Tower Island. The rocky shoals and swift currents of the Buckhorn Island - Goat Island Rapids also provides a favorable habitat for fish populations, which includes spawning by smallmouth bass.

- **Lower Niagara River Rapids** - This area is located below Niagara Falls in the Niagara Gorge, between the Whirlpool Rapids Bridge and the Village of Lewiston, the City of Niagara Falls and Town of Lewiston, Niagara County. This fish and wildlife habitat is an approximately four and one-half mile segment of river channel, situated in the Niagara Gorge. The Niagara Gorge is generally characterized by steep cliffs and wooded slopes, rising over 200 feet above the river. This section of the river is very narrow, deep and fast-moving. Maximum depths range from 50-160 feet.

  The Lower Niagara River Rapids provide some unusual habitat conditions due to its natural physical environment and the effects of hydroelectric power projects on the area. The rapids support a productive coldwater fishery. The concentrations of steelhead that occur in the Lower Niagara River rapids are among the largest in New York State. Substantial numbers of coho salmon, chinook salmon, and brown trout also occur in the area during the spring and fall spawning periods.

  Development of the Niagara Falls area, including hydroelectric power projects, generally limits resident wildlife populations to only the most commonly occurring species such as red-tailed hawk, rock pigeon, downy woodpecker, blue jay, American crow, gray catbird, American robin, common grackle, song sparrow, eastern cottontail, and raccoon. In addition, however, the Lower Niagara River rapids have one of the largest winter concentrations of gulls in western New York with the hydroelectric stations in the gorge. A variety of waterfowl species also feed in the Lower Niagara River rapids during migration periods and winter, but concentrations are limited due to the lack of resting areas. Diving ducks, such as mergansers, scaup, old squaw, and common golden eye are numerous in this area.

11A. Impacts to Terrestrial and Aquatic Ecology **-** Implementation of the Greenway Plan is anticipated to have significant beneficial impacts on terrestrial and aquatic resources over a system-wide basis along the Niagara River, and on specific habitats and sensitive areas that will

be enhanced or improved via Greenway funding. Many ecologically sensitive areas have been lost, or have been detrimentally impacted by human activity. Use of Greenway funds to protect, preserve, or restore impaired terrestrial and aquatic resources will have a significant and long-term beneficial impact on the environment and local economy.

Although the amount of fish and wildlife habitat and resources to be enhanced or restored under the Greenway Plan is not known at this time, it is clear that the opportunity exists to realize some dramatic and significant improvements in terrestrial and aquatic resources along the entire Niagara River. The extent of positive impacts will also be determined by the degree of resource degradation and the effectiveness of proposed restoration and enhancement measures.

Beneficial impacts to restoring impaired sensitive fish or wildlife habitats include environmental, social and economic impacts. The natural environment will benefit by having improved habitat for resident and migratory birds, fish and other species. Improved natural habitats will provide for improved feeding and nesting opportunities for rare, threatened and endangered species and will improve conditions for other species that reside in the region year-round. Terrestrial and aquatic enhancements will result in beneficial social impacts as they add value to aesthetic, recreational and educational opportunities available within local communities. From an economic standpoint, habitat improvement projects will result in increased property values along the waterfront, and increased use and enjoyment of the resource by birdwatchers, fisherman, and sportsmen alike.

Many individual habitat improvement initiatives and projects intended to improve terrestrial, aquatic and sensitive ecological resources have been identified by the public and interested groups during the Greenway Planning process. Individually, these projects will result in site specific impacts that are, in general, positive. Some temporary adverse impacts may result due to construction activities and localized disturbance, but these impacts will be temporary and can be mitigated or avoided during sensitive parts of the year through the use of resource sensitive construction techniques and the scheduling of work activities to avoid spawning and migration.

11B. Mitigation Measures - As adoption and implementation of the Plan itself will not result in any significant adverse impacts to terrestrial and aquatic ecology, no mitigation measures are necessary. However, adverse impacts may result from construction activities and localized disturbance to terrestrial and aquatic habitats and ecology, but these impacts will be temporary and can be mitigated or avoided during sensitive parts of the year through the use of resource sensitive construction techniques and the scheduling of work activities to avoid spawning and migration. Mitigation of short-term impacts due to site-specific construction and potential project-related erosion would be accomplished through adherence to Best Management Practices and adherence to such guidelines as DEC's stormwater management and erosion and sediment controls.

In order to protect and preserve a significant habitat, land and water uses or development shall not be undertaken if such actions would either destroy the habitat, or significantly impair the viability of a habitat. Development of projects within the Greenway that are located in or near a Significant Coastal Fish and Wildlife Habitat are required to address potential impacts of a project on the habitat– if a federal agency permit or approval is required for the project– through the NYSDOS coastal consistency review process

E. Cumulative Impacts

A cumulative impact is one that could result from the incremental impact of a proposed action on the environment when added to other past, present or reasonably foreseeable future actions. Cumulative impacts can result from individually minor but collectively significant actions that take place over time. Potentially, cumulative impacts associated with the proposed Niagara River Greenway plan include beneficial economic and tourism impacts, preservation and restoration of ecologically significant or unique areas, and enhanced access to and enjoyment of natural resources via linkages and trails. The net impact of these resources is expected to be positive in the context of past, ongoing and future projects, which may or may not be supported by Greenway funds.

Numerous planned or potential projects identified by various interest groups to date would result in social, economic and environmental impacts at varying levels both individually and cumulatively. Project specific impacts may include improved waterfront access. However cumulative impacts may result not only in benefits such as better trail linkages that provide improved waterfront access and a continuous lake to lake connection, but also provide linkages to ecologically significant fish and wildlife habitats as well as connections to cultural tourism destinations.

Following the criteria established in this Plan, Greenway-funded projects will be expected to be compatible with existing and future land uses and local development objectives. Given the annual and long-term nature of the funding and project approval process, individual projects will be scheduled or phased so that cumulative adverse impacts are minimized.

F. Irreversible and Irretrievable Commitment of Resources

Proposed projects will require the irreversible and irretrievable commitments of certain human, material, and financial resources. As described in Section 1 of the Plan, projects will involve the commitment of New York Power Authority relicensing settlement and other funds that will not necessarily be recouped over the long-term operation, maintenance and funding of the Greenway through job creation and retention. The commitment and expenditure of various resources will advance project goals; preserve, restore and enhance environmentally, locally and culturally significant areas within the Greenway; support and increase tourism/eco-tourism; support local economic development objectives; and contribute to an improved quality of life for residents within the Greenway and in the Buffalo-Niagara Region.

G. Unavoidable Adverse Effects

Unavoidable adverse impacts are defined as those that meet the following two criteria:

- There are no reasonable practicable mitigation measures available that would eliminate the impact; and
- There are no reasonable alternatives to the project that would meet the purpose and need of the action, eliminate the impact, and not cause other or similar significant or adverse impacts.

No significant unavoidable adverse impacts are expected to result from adoption and implementation of the Niagara River Greenway Plan.

Depending on the scope and location of a particular project its construction or continued operation may potentially result in localized, minor and unavoidable adverse impacts on air quality, noise, visual resources, sensitive environmental resources, and traffic and transportation. These impacts would be short-term and localized to the vicinity of the particular project, and would not be expected to impact use and quality of the Greenway as a whole. The physical alteration of sites for park, trail, greenway and/or waterway access development may cause some temporary erosion, turbidity, and sedimentation problems. These problems are generally negligible and short term especially with the systematic use of appropriate control measures and best management practice. With the expected increase in Greenway use by the public, there may be impacts such as littering, noise, and increased traffic. Appropriate mitigation measures will be employed to protect sensitive habitats and environmental resources from increased human intrusion.

Where potentially significant adverse impacts are anticipated based on the scope or location of a specific project not currently envisioned or proposed, impacts would be minimized by adherence to environmentally sound construction practices and conformance to all applicable federal, state and local regulations and guidelines. Individual projects may be expected to comply with the requirements of the State Environmental Quality Review Act, and, depending on the scope and magnitude of these projects, the National Environmental Policy Act.

H. Effects on the Use and Conservation of Energy

Depending on the nature and scope of the proposal, projects approved by the Greenway Commission will likely have minor impacts on the use of energy during construction. Construction will require the use of nonrenewable sources of energy, mostly in the form of gasoline, diesel fuel, and lubricating oils. These energy resources will be used where necessary for grading, excavation, demolition, or other activities associated with construction, operation or project maintenance.

The use of energy for project operation is negligible, and would likely remain consistent with current use. While some projects will result in energy conservation by increasing access to passive recreational opportunities (walking, jogging, hiking along newly linked paths, thereby reducing automobile use), others may result in indirect energy use. Employees, visitors, and boaters would utilize gasoline for travel and recreation; or a visitor center could require the use of natural gas and electricity for the heating and cooling of buildings. Any estimates for the energy resources or uses described above would be speculative, however they would not be considered significant based on the types of projects that have been identified to date for potential funding.

I. Growth Inducing Aspects of the Proposed Action

Funding of specific projects may induce localized growth associated with a particular destination or industry. This growth is considered positive and consistent with the economic development goal that is inherent within the Greenway Plan, and was one of the intents of the Governor/State Legislature in drafting and passing the legislation which mandated that this Plan be prepared.

It is expected that the Plan will induce growth in the tourism and related service industries, although much of the growth will be seasonal in nature. Seasonal growth would be expected in the areas including, but not limited to, eco-tourism (bird watching), cultural/heritage tourism, hunting/fishing opportunities, recreational boating, and dining/entertainment at establishments

located along the Niagara River. As the Plan is implemented and the use and viability of these destination-induced activities increases, seasonal growth would also be realized directly and indirectly via purchasing/spending of out-of the-area visitors in the areas of lodging, car rental, restaurants, and other commercial/retail and related service and entertainment industries (i.e. visiting retail outlet malls, amusement parks, casino, etc) within the Greenway communities.

Increased use/visitation within the Greenway resulting from this Plan may also result in induced seasonal growth outside of the Greenway communities. For example, visitors to attractions/destinations within the Greenway may also stay in the Erie/Niagara county area for non-Greenway activities such as to attend a professional sporting event; see a play or musical in downtown Buffalo; visit architectural gems such the Frank Lloyd Wright's Graycliff estate or the Roycroft Campus; attend the Ellicottville Jazz Festival; or follow the Wine Trail in Niagara County.

Implementation of the Greenway Plan will not result in increased residential growth in the affected municipalities. The Plan will not result in extensions of roadway, water or sewer infrastructure into previously undeveloped areas. This project will neither increase nor influence the flow of trade, goods, services or vehicles crossing any of the international bridges that traverse the Niagara River.

J. Future Environmental Reviews

There are two types of possible future environmental reviews. First, projects that are undertaken, approved or funded by a state agency or municipality are required to demonstrate compliance with the State Environmental Quality Review Act (SEQR). The site specific impacts and mitigation of these projects will be assessed individually by the designated lead agency under SEQR. The lead agencies will use the information in this Plan/GEIS as an aid in their assessment of impacts under SEQR. Such projects may be found to be consistent with the information and Findings of this Plan/GEIS and this can be so stated in the lead agency's environmental review. In the end, however, the lead agency will be responsible for compliance with SEQR and issuance of a SEQR Determination of Significance.

The second possible type of environmental review is a review that supplements this Plan/GEIS. This Plan/GEIS addresses among other items the 15 elements specified by the legislation creating the Greenway Commission. Should there, in the future, be additional elements added or significant modifications made to the elements addressed in this Plan/GEIS, an assessment would be required to determine if such change may result in a significant adverse impact under SEQR. If this is the case, a supplemental review under SEQR would be required. If the changes to the Plan/GEIS would not result in such impacts, the Commission can either issue a determination of consistency with the Plan/GEIS or prepare an environmental assessment. If the Findings from such an assessment demonstrate the absence of any significant adverse impacts, a Negative Declaration could be issued in compliance with SEQR.

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CHAPTER 7: COMMENTS AND RESPONSES

7.0 COMMENTS AND RESPONSES

This section contains the responses to the comments received by the Office of Parks, Recreation and Historic Preservation (OPRHP), as Lead Agency, for the Niagara River Greenway Plan and Draft Generic Environmental Impact Statement (GEIS). The draft plan/GEIS was released for public review on November 27, 2006. Two public hearings were held. The hearing in Niagara County was held on December 12, 2006 at the Niagara Falls Convention Center, Niagara Falls, NY. The hearing in Erie County was held on December 13, 2006 at the Buffalo and Erie County Historical Society, Buffalo, NY. Both meetings were well attended, with approximately 70 to 100 attendees at each meeting. A total of 34 attendees made verbal statements on the first night, and 32 attendees spoke on the second night. Several attendees also provided written materials for the record. Transcripts of both meetings have been entered into the comment record, as well as written materials provided by attendees.

The public comment period closed on January 17, 2007. During the comment period, the Agency received an additional 28 comment letters and e-mails providing input on the draft Niagara River Greenway Plan and Draft GEIS. Together, a total of 128 comments (written and verbal) were provided to the Agency. A list of persons and organizations who attended the hearings and/or provided comments is contained at the end of this chapter.

The types of comments received included general support for the concept of a Niagara River Greenway, additional stakeholder input, questions about procedural or organizational issues and comments relating to specific aspects of the plan. Other comments pertained to aspects of the Niagara River Greenway that are outside the scope of this document or outside the legislative authority of the Niagara River Greenway Commission. All comments were reviewed and subsequently organized by categories. Section A of this Chapter is a summary of changes made to the draft Plan and DGEIS. Section B of this Chapter is a listing of the comments received; grouped and summarized into categories. Under each category is the Agency's response to the comments. The order of the categories is random, and does not reflect their importance.

The Niagara River Greenway Commission and OPRPH appreciates the time and effort that persons interested in the Niagara River Greenway have invested in their review and comments on the Draft Plan and Draft GEIS and their participation in the public hearings.

A. Summary of Changes to the Plan and GEIS

The Niagara River Greenway Commission has revised the draft Niagara River Greenway Plan and Generic Environmental Impact Statement in response to the many constructive comments that it has received from the public and municipal stakeholders. While none of the changes are significant or change the intent of the plan, these changes clarify various provisions and concepts. The following list summarizes the changes that were incorporated into the document between the Draft Plan for Public Review and the Final Plan.

- Minor editorial changes throughout, to catch typographic errors, improper references grammatical errors.
- Page i: Revised Vision Statement (see page 19, below)
- Page iv: additional language clarifying relationship with relicensing settlement efforts
- Page iv: add "parks" (see page 29-30, below)
- Page iv-v: Geographic Priority reworded to Focus Area (see page 32, below)
- Page v: clarification regarding evidence of public support (see page 33, below)

- Page v: remove last sentences under "Economic Viability" and "Matching Funds/ Leveraging" to be consistent with revisions in body of report (see page 33, 34)
- Page v: reword to "consideration of" other planning efforts (see page 35, below)
- Page viii: add "acquisition" as potential ecological project type
- Page 8: Revisions to discussion of boundary:
    - Rephrase "Priority" area to "Focus" area – this revision is carried out throughout the report
    - Additional language regarding connecting systems
- Page 11: additional text describing connections to Greenway
- Page 13: additional text (from GEIS chapter) about ecological resources
- Page 13: added sentence stating there are efforts underway to capitalize on architectural, industrial and historical resources
- Page 14: added text supporting open space preservation, noting that school district and county are potential stewards of open space
- Page 16: clarification regarding LWRP status, added text about benefits of LWRP
- Page 17: additional Municipal Planning Documents listed
- Page 18: addition to list of Additional Planning Documents
- Page 19: revision to Vision Statement. Vision Statement now states:
    - *"The Niagara River Greenway is a world-class corridor of places, parks and landscapes that celebrates and interprets our unique natural, cultural, recreational, scenic and heritage resources and provides access to and connections between these important resources while giving rise to economic opportunities for the region"*
- Page 20: sentence added noting economic and tourism opportunities from ecological, heritage, recreational and cultural resources
- Page 22: additional description of intent of principles
- Page 23: add sentence re. quality of life
- Page 27: in text box: change "geographic priority" to "focus area"; change "economic feasibility" to "economic viability"; change "consistency with other planning efforts" to "consideration of other planning efforts"
- Page 28: clarification of relationship between Greenway Commission and Relicensing Settlement funds.
- Page 29-30: reworded to state "Development of an integrated trail and park system"
- Page 32: Item 3: Geographic Priority: reworded to "focus"
- Page 32: Item 4: Environmental Soundness: reworded for clarification. Removal of examples. Substantively no change.
- Page 33: Item 5: Implementable: word "reasonable" deleted
- Page 33: Item 5: Implementable: clarification that evidence of public support includes municipal resolution, public records or correspondence.
- Page 33: Item 6: Economic Viability: reworded for clarification of intent- evidence of support for on-going O&M costs; not economic impact or economic feasibility analysis.
- Page 34: Item 8: Matching Funds: removes last sentence
- Page 35: Item 9: Retitled from Consistency to Consideration of Other Planning Efforts; insertion regarding LWRPs.
- Page 35: Item 10: Clear Benefits: insertion to clarify intent, which is to maximize beneficial impacts to environment, economy and the region.
- Page 35-36: Funding Sources: additional language clarifying relationship between Greenway Commission and Relicensing Settlement Funds; adding language regarding DOS grants

- Page 37: Operations and Maintenance: added language clarifying that estimates of costs are informational only, and each project sponsor must make their own best estimate of on-going O&M costs.
- Page 42: additional language clarifying relationship of Greenway Commission and Standing Committees.
- Page 43: Additional language regarding Greenway Commission and other funding sources; additional language about eminent domain; additional language about procedures for amending the plan
- Page 45: Additional language noting transportation processes incorporate intermunicipal notification and cooperation; additional language noting that the NRGC does not have legal authority to dictate how governmental agencies undertake transportation projects.
- Page 45: Additional language per LWRPs and consistency review
- Page 45: clarification of reference to I-190 – a replacement route would not be an interstate
- Page 49: additional language noting implementation concepts are conceptual, and do not preclude other concepts and solutions
- Page 53: additional language noting potential trail alignments are concepts and other solutions would be possible
- Page 59: clarification due to removal of I-190 SB tolls.
- Page 86: additional language recognizing there are many ways to devise ecological projects that benefit the Niagara River ecosystem
- Page 97: Niagara Wine Trail added as connecting feature
- Page 97-98: language to clarify that Shoreline Trail is separate from Niagara River Greenway
- Page 99: language regarding industrial heritage added
- Page 101: Vision statement addition, per page 19, above
- Page 104: Indian Nations added as Section C
- Page 106: additional language clarifying impacts will be regional in nature.
- Page 109: clarifying language about Coastal Zone Management Consistency
- Page 110 clarifying language about critical habitats and Scenic Areas of Statewide Significance
- Page 119 delete example
- Page 123delete phrase “shall reserve the right” and insert “may”

Appendix A: no changes
Appendix B: no changes
Appendix C: add text from relicensing settlement agreements per the four funds
Appendix D: additional language regarding available grant programs (EPF, US Army Corps of Engineers, Scenic Byway)
Appendix E: additional input per public comments, Indian Nations as separate list.
Appendix F: no changes
Appendix G: revisions clarifying references to Relicensing agreements

FIGURE CHANGES:
(only figures with revisions listed: all other figures are unchanged)

Figure 1:	Niagara River Greenway Boundary	Add connecting systems, clearer boundary
Figure 2:	State, County and Local Parks	Add some local parks
Figure 3:	Trailways and Byways	Changes to legend (corrections)
Figure 7:	Heritage	Add some locally significant sites
Figure 8:	Geographic Priority Area	Re-titled; minor revisions to boundary

Figure 9:	Organizational Framework	Corrections
Figure 10:	Transportation Opportunities	Re-titled
Figure 12:	Destination Gateways	Add Buffalo River
Figure 15:	Gateways Network	Add Buffalo River
Figure 16:	Multi-Use Trails	Add E. Ferry Bike trail; NWCSD nature trail
Figure 21:	Implementation Concept – Lower River Area	Label Forebay
Figure 22:	Telling the Story	Additions
Figure 27:	Heritage and Cultural Centers	Add industrial heritage sites
Figure 29:	Interpretive Center Network	Add industrial heritage sites
Figure 37:	Municipal Projects Town of Grand Island	Revisions per Town request
Figure 41:	Municipal Projects Niagara Falls and Town of Niagara	Corrections
Figure 44:	Stakeholder Projects Overall Maps	Create Separate Indian Nations' project map
Figure 45:	Stakeholder Projects City of Buffalo	Corrections
Figure 46:	Stakeholder Projects Grand Island – Niagara River	Revisions per WRHOA
Figure 48:	Stakeholder Projects North Tonawanda, Tonawanda and Ellicott Cr.	Corrections
Figure 49:	Stakeholder Projects Niagara Falls - Niagara River	Corrections
Figure 50:	Stakeholder Projects Town and Village of Lewiston	Corrections
Figure 51:	Stakeholder Projects Porter, Youngstown, and Wilson	Add Lew-Port Schools
Figure 52:	Indian Nations Projects	Added as separate map

All remaining figures: renumbered; no substantive changes

B. Comments and Responses

This section summarizes the substantive comments received by category and provides the Agency's responses to those comments.

Comment: Boundary
Several comments related to the question of the proposed boundary for the Niagara River Greenway.

Response:
The issue of the boundary for the Greenway received extensive discussion and study during the preparation of the draft plan. The Niagara River Greenway Commission, after careful consideration, established the boundary of the Greenway along municipal lines, as shown in Figure 1 of the draft plan. The Commission recognizes that the Niagara River forms the core of the Greenway, and a focus area, referred to as a 'priority area' in the Draft report, has been established that encourages efforts to be focused along the River and its adjacent resources, as shown in Figure 3. The focus area is not to be interpreted as the boundary of the Greenway, which follows municipal lines.

There was confusion with the use of the term 'priority' in the Draft report, which implied a time limit to the core area along the river. In the Final Plan, therefore, the 'priority' area is now called the 'focus' area. Revisions to the boundaries of the focus area represent local adjustments.

The Greenway Commission also acknowledges that there are important connections to the Greenway boundary, including several State-designated trails: the Seaway Trail, the Niagara

Wine Trail and the Erie Canalway. Projects that enhance these and similar connections are consistent with the Greenway. The Plan narrative has been revised to provide greater detail about the designated connections to the Niagara River Greenway.

Comment: NYPA Relicensing Settlement Greenway funds
Several comments raised concerns about how NYPA Relicensing Settlement Greenway funds are structured or where they would be spent.

Response:
The New York Power Authority (NYPA) Relicensing Settlement Greenway funds were established as part of the federal relicensing of the Power Project. The Niagara River Greenway Commission was not involved in those negotiations, and has no legal standing to suggest revisions to these agreements. The allocation of the NYPA Relicensing Settlement Greenway funds will be determined by the Standing Committees established under those agreements. The relicensing agreements indicate that any individual or organization may propose a project, but the Standing Committees have the sole responsibility for selecting projects, *provided* that the proposed project is consistent with the Niagara River Greenway Plan. The criteria included in the plan are designed to guide evaluation of consistency and promote the selection of projects that will enhance the Greenway.

Comment: Consultation Process
A number of comments addressed the Niagara River Greenway Commission's role in regard to the 'Greenway' Relicensing Settlements and the Standing Committees and the process for applying for funds.

Response:
The Niagara River Greenway Commission is not a party to the relicensing agreements, and does not have any direct role over the project funding process. All Project Sponsors, however, have the obligation to consult with the Niagara River Greenway Commission and the Standing Committees are obligated to ensure that the proposed project is consistent with the Niagara River Greenway Plan. The Plan sets forth the principles that projects should promote, and these criteria will guide the consistency review. No specific projects are endorsed by the plan.

The specifics of the consultation process that will be used is an administrative matter that is outside the scope of this document. The Niagara River Greenway Commission is in the process of developing a model for this consultation process, which will be circulated for review and comment prior to implementation.

Comment: Non-Greenway funds
The Plan should spell out the Commission's role vis-à-vis greenway projects funded by sources other than NYPA.

Response:
While the Niagara River Greenway Commission has no official stature with regard to funding sources other than the Greenway funds established as part of the NYPA Relicensing Agreements,

it will encourage and support worthwhile projects seeking other sources of funding. Appendix D of the plan includes a list of potential funding sources for Greenway-related projects.

Comment: Project Listings
Listing certain projects in the plan could give them an advantage in applying for money.

Response:
As stated in Section 5, the presentation of projects submitted by municipalities, stakeholders or the Indian Nations does *not* in any way imply endorsement by the Niagara River Greenway Commission. The Niagara River Greenway Commission recognizes that the list is not comprehensive, and that additional worthy projects may be formulated over the next years and decades. Each project must be evaluated individually on its own merits.

Comment: Legislation
Some comments suggested changes to the enabling legislation for the Niagara River Greenway.

Response:
Legislative changes are outside the scope of this document, and can only be addressed by the proper legislative bodies.

Comment: Amendment
No part of the plan outlines how it may be amended over the next 50 years.

Response:
A section addressing amendments to the plan has been added.

Comment: Economic Development
Nowhere in the document does it state that economic development projects would be eligible for funding.

Response:
The Niagara River Greenway Commission does not have control over which projects will be funded, which is under the jurisdiction of the Standing Committees created as part of the contractual agreements with the New York Power Authority. Economic revitalization, particularly of urban centers, is a goal of the Greenway. The phrase "while giving rise to economic opportunities for the region" has been added to the Vision Statement for the Niagara River Greenway. Appropriate economic development projects would be considered consistent with the Niagara River Greenway Plan as long as they are compatible with the principles of the Plan.

Comment: Brownfield Revitalization
DGEIS page 111 talks about cleanup and redevelopment of brownfields requiring that they be subject to review by NYSDEC. For projects that are not on hazardous waste sites or which do

not want or require tax credits, requiring this review by DEC could severely delay projects and provides jurisdiction to DEC where it has none.

Response:
Regulatory reviews of brownfields will be conducted as required by New York State. No additional jurisdiction is granted or implied by this Plan. The phrase that references DEC has been deleted to avoid confusion over this fact.

Comment: Conflict of Interest
The Greenway Commission, if it is to review specific projects, should adopt conflict of interest guidelines for its members.

Response:
The Niagara River Greenway Commission has an adopted Conflict of Interest Policy which is available from the Commission for review. The proposed consultation procedure, when it is developed, will be consistent with ethical standards. The Niagara River Greenway Plan does not advocate specific projects. In the future, as individual project are evaluated for consistency, individual Commissioners may need to recuse themselves if there is a potential for a conflict of interest. This situation is addressed in the Conflict of Interest Policy.

Comment: Property Rights
Projects should take the input of private property owners into consideration.

Response:
The plan is conceptual in nature and does not advocate any specific projects. All future project implementation would be subject to all applicable regulations and procedures, as required under local, state and federal laws. It is the obligation of the responsible governmental entity to inform private property owners of any actions that may affect them.

Comment: Eminent Domain
The Niagara River Greenway Commission should not seek nor support legislation granting to it the power of eminent domain, nor seek nor support the exercise of such power by any New York Department or Agency without a specific agreement of the affected municipalities.

Response:
The Niagara River Greenway Commission is prohibited from taking property by eminent domain, and this prohibition is clearly stated in the enabling legislation at § 39.09 Powers and duties of the commission. The Niagara Greenway Commission will not seek to obtain the power of eminent domain. State Agencies are required to comply with New York State Eminent Domain Procedure Law, which establishes the exclusive procedure by which property shall be acquired by the power of eminent domain in New York State. That legislation includes requirements for public participation in the planning of public projects necessitating the exercise of eminent domain. Language was added to Chapter 4 of the Plan to clarify the Commission's position regarding eminent domain.

Comment: Transportation Concerns
The Plan should include a declaration that the Commission would not support or seek any changes in Federal, State or County roads serving two or more municipalities without specific agreement to such change among the municipalities so affected. Several commenters argued that the Plan should advocate the removal of the Robert Moses Parkway.

Response:
This issue is beyond the jurisdiction of the Niagara River Greenway Commission, which does not have the legal authority to dictate how governmental agencies undertake transportation projects. As noted in Chapter 4 (subsection F) in the discussion on Transportation Issues, before entering the design and construction phases, a specific transportation project is required to undergo a specific public scoping process to study alternatives, assess potential impacts and select a preferred solution. New York State underwent such a scoping process for a portion of the southern section of the Robert Moses Parkway in Niagara County, west of the Daly Boulevard interchange (which is currently entering the preliminary and final design phases), and is initiating such a process for the north sections of the Parkway. Any other recommended transportation projects would be required to undergo similar procedures. While the Niagara River Greenway Plan has established general principles that the State must take into consideration in their assessment of alternatives, the Commission has no direct influence on that independent process.

Comment: Homeland Security
It is a glaring deficiency of the Draft plan that the security issue is not addressed and there is no mention of possible terrorist threats at the Niagara Power Project.

Response:
Security issues at the Niagara Power Project are the responsibility of the New York Power Authority and outside the jurisdiction of the Niagara River Greenway Commission. Security in general is the responsibility of Federal, State and local law enforcement agencies, not the Niagara River Greenway Commission.

Comment: Future Study
Respondent was concerned that the plan does not mention the need for a master plan for the Niagara Gorge.
Response:
The Niagara River Greenway Plan is conceptual in nature. There are several important assets, including the Niagara Gorge, where further study will be necessary. The fact that they are not specifically addressed within the plan does not imply that they are not important. Due to the special significance of the Niagara Gorge, the Niagara River Greenway Commission acknowledges that an area-specific Master Plan should be developed for the Niagara Gorge.

Comment: Inventory
Certain local parks and greenspaces are not included. Several places and projects key to the Greenway vision are omitted.

Response:
All State, County and local parks are depicted on Figure 2. Where specific omissions have been noted, editorial changes have been made to the inventory. The table of State Parks and Public Lands included in the document only lists State-owned facilities, but local and county parks are also important resources along the Greenway. Key features, such as the Outer Harbor, Goat Island and the Niagara Gorge all fall within the designated focus area and the Commission affirms their importance to the Greenway.

Comment: Canada
It is important that we reach out to the Canadian government and provinces. The Plan does not address this.

Response:
The Plan considers connections to Canada in the form of Gateways, interpretive linkages and programming. The Niagara Greenway Commission intends to continue to work toward greater cooperation across the region and with Canada.

Comment: Connections
The proposed draft greenway boundary map fails to label the three designated trail corridors (Seaway, Wine and Erie Canal) in Niagara County.

Response:
The issue of the boundary for the Greenway received extensive discussion and study during the preparation of the draft plan. The Niagara River Greenway Commission, after careful consideration, established the boundary of the Greenway along municipal lines, as shown in Figure 1. It is recognized that the Niagara River forms the core of the Greenway, and a focus area, which was called a 'priority area' in the Draft report, has been established that encourages efforts to be focused along the River and its adjacent resources, as shown in Figure 3. The focus area is not to be interpreted as the boundary of the Greenway, which follows municipal lines.

There was confusion with the use of the term 'priority' in the Draft report, which implied a time limit to the core area along the river. In the Final Plan, therefore, the 'priority' area is now called the 'focus' area. Minor adjustments to the focus area were made in response to comments by localities requesting that specific assets, such as a creek corridor or proposed trail system, fall within the focus area.

The Greenway Commission also acknowledges that there are important connections to the Greenway boundary, including several State-designated trails: the Seaway Trail, the Niagara Wine Trail and the Erie Canalway. Projects that enhance these and similar connections are consistent with the Greenway. The Plan narrative has been revised to provide greater detail about the designated connections to the Niagara River Greenway.

Comment: Vision Statement
The report's vision and vision statement fail to offer language that supports linking both municipal and state designated trails and conservation areas that may be developed.

Furthermore, the report fails to take into account the use of municipal comprehensive plans and countywide planning related documents, which will play an important role in supporting the report's vision. The report's vision statement fails to recognize "economic development," "tourism," or "education."

Response:
The Vision Statement supports linking trails and conservation areas together, with the phrase "*connections between these important resources."* It does not distinguish between existing resources and those which may be developed, or explicitly reference local planning efforts because the Vision Statement is intended to be a succinct statement that will remain relevant for years into the future. The fact that reference to local planning efforts is not contained within the Vision Statement does not mean it is not important. The text of the Plan clearly acknowledges the importance of local planning efforts.

In response to various comments, the phrase "while giving rise to economic opportunities for the region" has been added to the Vision Statement for the Niagara River Greenway. To further support the importance of tourism and economic development as an element of the Niagara River Greenway, the following sentence has been added to the end of the section *The Niagara River Greenway is a place to celebrate and interpret shared resources:* "The Greenway presents an opportunity to contribute to the economy of the region by promoting economic and tourism opportunities that capitalize on the region's rich inventory of ecological, heritage, recreational and cultural resources."

Comment: Open Space
While the report recognizes the state's importance to preserve open space, there is no mention of municipal or county efforts to preserve open space, even though preservation of open space is identified in existing municipal plans. The school districts may also undertake projects that require acquisition or dedication to further enhance the greenway.

Response:
Although the New York State Open Space Plan was used to establish priorities for open space acquisition and/or preservation, the Plan clearly notes that stewardship of open space will be accomplished by a range of entities. Editorial changes have been made to note that acquisition is an acceptable method of open space preservation and to note that the list of potential stewards of open space includes counties and school districts. The Niagara River Greenway Plan supports open space preservation, prioritizing significant ecological areas, areas that provide recreational opportunities, and/or promote water resource protection. It supports existing local efforts, and encourages future activities toward this goal. The Plan does not explicitly list all specific tools that can be used to encourage open space preservation in order to avoid limiting options, and to enable maximum flexibility to the local project sponsors in developing appropriate methods for achieving their open space goals. While Chapter 4 identifies potential project types, it does not preclude other options.

Comment: Local Waterfront Revitalization Programs (LWRPs)
Requests clarification on LWRP status of various municipalities.

Response:
Editorial changes have been made to reflect the fact that seven of the eleven communities fronting the Niagara River have prepared Local Waterfront Revitalization Programs (LWRPs) pursuant to Article 42 of the NYS Executive Laws. This list includes the Town of Grand Island, whose LWRP was approved by New York State in December 2006. While the City of Niagara Falls does not have an LWRP, it has completed a waterfront plan. The Town of Niagara and the Village of Kenmore do not have waterfront lands.

Comment: Industrial Heritage Initiatives
The report fails to mention the industrial heritage initiatives being undertaken in the area as well as those initiatives that could be implemented in the future.

Response:
It is agreed that the region's rich industrial heritage is integral to the development of heritage tourism within the region. It is recognized that there are industrial heritage initiatives being undertaken, particularly in the Cities of Niagara Falls and Buffalo. It is recommended that a Heritage Plan be undertaken for the Niagara River Greenway that will inventory existing historic resources and seek to develop themes and methods for interpreting these resources. Additional language has been added to the Plan to underscore the importance of industrial heritage.

Comment: Upland and Interior Communities
The report fails to provide solid language that links the draft greenway boundary to upland and interior communities. While references are made sporadically in the report, only one small section titled "Linkages" highlights the trails. There is no discussion or recommendation given "how" the greenway could be linked to upland and interior communities to provide linkages to the river.

Response:
The issue of connections between the Greenway and upland and interior communities is addressed in the response on "Connections" above. The Plan contains no discussion on "how" to link the Greenway because it is the plan's intent to provide the flexibility to allow the project sponsors to describe their projects and how they contribute to linkages. In addition, several of these trails have their own plans which projects would need to adhere to. It is emphasized that the Greenway Plan does not endorse any specific projects; conversely, omission from the Plan does not disqualify future project concepts.

Comment: Regional Approach
The concept of a greenway as described in the legislation impacts the region as a whole. The report's discussion of economic development focuses on the urban centers and fails to address activities region wide. While development in urban areas is important, there needs to be elements added that relate to economic development at all municipal levels. Ensuring that the diverse types of communities in the region are represented will further strengthen the support of a greenway plan.

Response:
Economic revitalization is a goal of the Greenway. The phrase "while giving rise to economic opportunities for the region" has been added to the Vision Statement for the Niagara River Greenway to underscore this fact. While the Plan includes a focus on the redevelopment of urban areas, this does not mean that other economic development activities are excluded. Appropriate economic development projects will be considered consistent with the Niagara River Greenway Plan as long as they are consistent with the principles of the Plan.

Comment: Consistency with Principles
Several of these principles do not mirror the 15 elements the legislation states the Greenway Plan must address. The principles in most respects are mutually exclusive to the Niagara River and not to municipalities as the draft boundary suggests.

Response:
The principles are intended as a guide to actions and development over the long-term, so that the cumulative effect of projects is to move toward achieving the shared vision for the Niagara River Greenway. The principles are applicable to municipalities without waterfront lands as well as those fronting the River. They promote access and connections, including trail linkages. They support high quality, ecologically-sound projects throughout the region.

The enabling legislation presents a list of fifteen elements that the Niagara River Greenway Plan must address, and the Plan does address each of these points. These fifteen elements, however, are not the same as the criteria that have been developed to help the Niagara River Greenway Commission evaluate projects. The criteria, which were built from previous planning efforts and extensive public input, are intended to provide stronger guidance for project sponsors as to the types of projects that would help promote the Greenway.

Comment: Priority Status
There was concern that the priority status criterion was too restrictive, particularly for communities with no waterfront lands.

Response:
It is not the intent of this criterion, which is one of 10, to exclude projects submitted by communities with no waterfront lands. Editorial changes have been made to clarify that the development of an integrated trail and park system would be consistent, and that connecting trail systems are also consistent. All proposed projects will be evaluated based on the totality of the project.

Comment: Geographic Priority
There was confusion over the geographic priority criterion.

Response:
The terminology "Geographic Priority" has been changed to "Focus Area," and references to 'priority' have been adjusted to reflect this change. Editorial changes note that projects close to the River, within the municipal boundaries of the Greenway, along state-designated trails and

related assets should be elevated. Projects outside the focus area should help establish strong linkages between the Greenway core area and the surrounding area.

As noted in the response on "Boundary" above, the focus area encourages activities along the River. However, it does not preclude projects outside of the focus area. Municipalities without waterfront lands, or whose waterfront lands are already developed, will develop their own priorities. The Plan provides flexibility to allow for projects away from the water, as long as they benefit or enhance the Niagara River Greenway.

Comment: Environmental Soundness
There were questions regarding the environmental soundness criterion.

Response:
The intent of this criterion is to encourage activities to consider environmental soundness in their design and implementation. Editorial changes have been made to clarify this intent.

Comment: "Implementable"
There was a question as to how evidence of public support would be documented.

Response:
Editorial changes make it clear that evidence of public support include municipal resolution, public records or correspondence.

Comment: Economic Feasibility
There was a question regarding economic "viability" vs. "feasibility."

Response:
Use of the word "feasibility" was an editing oversight which has been changed to "viability." The intent of this criterion is to ensure that project sponsors have considered projects' on-going operation and maintenance costs, as is required under the legislation, and editorial changes clarify this intent. This criterion does not imply that all projects must demonstrate economic impacts, and the Niagara River Greenway Commission will not require economic feasibility analyses from project sponsors.

Comment: Matching Funds/Leveraging
There was concern that the Plan misrepresented the dedicated funding through NYPA Relicensing Agreements.

Response:
Editorial changes to the Plan have been made to state that the Niagara River Greenway Commission recognizes the efforts of the New York Power Authority to settle with various municipalities and interests in relation to a new 50-year Niagara Power Project License. The Niagara River Greenway Commission is not a party to these agreements and will not provide an interpretation of their intent, which can be derived from the documents themselves. Appendix C of the Niagara River Greenway Plan now provides the relevant sections of the Agreements for the

Niagara River Greenway Ecological Fund, the State Parks Greenway Fund, the Greenway Recreation/Tourism Fund and the Erie County Greenway Fund as reference.

Comment: Clear Benefits
Commenter noted a lack of clarity regarding intent of this criterion.

Response:
The intent of this criterion is to ensure project sponsors think about how to structure their proposals to maximize the beneficial impacts to the environment, to the economy and to the region. Terms have not been defined to allow flexibility to project sponsors to make their own case.

Comment: Operations & Maintenance (O&M) Costs:
There was concern over the figures provided as illustrative O&M costs.

Response:
The cost estimates are provided for informative purposes only. It is the responsibility of each project sponsor to make their best estimate of the on-going costs of their projects.

Comment: Transportation Projects:
There was concern about the issue of maximizing access.

Response:
The Plan presents recommendations, but not requirements. Emphasizing access to the River and its resources is encouraged, but not mandated. Each project, including projects sponsored by the NYS Department of Transportation, must undergo their own evaluation of consistency with the Plan.

Comment: Implementation Concepts
There were several questions regarding the nature of the Implementation Concepts, and concern that specific concepts were not included.

Response:
The Implementation Concepts are conceptual in nature, and they do not preclude additional concepts and solutions.

Comment: DGEIS
A question was raised as to why county level figures were used in the DGEIS.

Response:
County-level and regional figures were utilized due to the generic nature of the Environmental Impact Statement. The GEIS was designed to assess the impacts of the Plan itself, as a document,

and not any future projects that may result. Future projects may be required to undergo their own environmental reviews, based on the specifics of the project.

In general, the Niagara River Greenway Plan, when implemented, will provide benefits on a regional basis. Improved environmental quality, improved tourism development, improved connections to the Niagara River, direct/indirect economic activity and improved quality of life will provide real and substantial beneficial impacts that extend beyond the Greenway boundaries.

Comment: APPENDIX E
Omissions in Appendix E were noted.

Response:
These omissions were an editing oversight and have been corrected.

Comment: Editorial Changes
Several comments requested specific editorial revisions to language within the Draft Niagara River Greenway Plan.

Response:
Please see the summary of Plan Changes in Section A of this chapter for a listing of the editorial changes that were made to the document.

Comment: Support
Several comments expressed overall support for the plan or support for elements of the plan.

Response:
These comments are noted and appreciated.

The following table provides a list of the persons that provided comments on the Draft Niagara River Greenway Plan and Draft Environmental Impact Statement.

Table 10: Persons / Organizations Providing Comment

Name	Representing
Harvey Albond	Town of Wheatfield
G.H. Bauer	
Bob Baxter	Niagara Heritage Partnership
Larry Beahan	Sierra Club Niagara Group
David Birt	Ferry Village Area Residents/ Disabled American Veterans
Joan Bozer	WNY Sustainable Energy Association
Larry Brooks	Campaign for Greater Buffalo
Clinton Brown	
David Colligan	Buffalo Olmsted Parks Conservancy
Roger Cook	Quality Quest Coalition of Grand Island
Mary Cooke	Town of Grand Island

Name	Representing
Garry Coons	WNY Chapter of Trout Unlimited
W. Maxwell Coykendall	Niagara Waterfront Revitalization Taskforce
Rob Daly	New York Power Authority
Tim Demler	Town of Wheatfield
Marian Deutschman	League of Women Voters of Buffalo/ Niagara
Joe Donofrio	
Kerin Dumphrey	Niagara Wheatfield CSD
Robert L. Emerson	Old Fort Niagara
Polly Ferguson	League of Women Voters
Mary Ann Ferguson	League of Women Voters of Buffalo/ Niagara
Sam Ferraro	Niagara Power Coalition, Niagara County Economic Development
Anna Kay France	VOICE Buffalo
Thomas W. Frank	
Bruce Franklin	
Doug Funke	
Dennis Galucki	Landmark Society Niagara Frontier
Peter Gessner	Polish Arts Club of Buffalo
Andrew Giarrizzo	
Ellen Gibson	
Gladys Gifford	Citizens Regional Transit; Presbytery of WNY
Reg Gilbert	Great Lakes United
David Gomlak	Adirondack Mountain Club (ADK)
Andrew R. Graham	VOICE Buffalo
Frank Greco	West River Home Owners Association (WRHOA)
Charles Griffasi	West Side Niagara River Boardwalk
Paul Gromosiak	NA
Jay Grossman	
Larry Helwig	Town of Wheatfield
Tim Horanburg	Town of Newfane
Sam Hoyt	Assemblyman Sam Hoyt
James Hufnagel	Niagara Heritage Partnership
John Jacoby	
Valerie Janik	
Joe Jastrzemski	Town of Wilson
John Jordan	
James Kane	Ambassador Niagara Signature Bridge Group
Art Klein	Adirondack Mountain Club (ADK)
Mark N. Lahey	
Sanford Levy	
Patricia L. Mackenna	LaSalle PRIDE
Janet Massaro	
Jay McCarthy	Waterfront Micro Park
Amy Mirand	
Teresa Mitchell	Seaway Trail Corporation
James Mroz	Waterfront Commission, City of North Tonawanda

Name	Representing
Charles Nilsson	Integrated Resource Information Systems (IRIS)
Nancy J. Orsi	Town of Porter
Barbara Palazzo	
Art Palmer	Town of Wheatfield
Renee Parsons	NYS Department of State
Neil Patterson, Jr.	Tuscarora Nation
Mark Pearce	
Monica Pellegrino	Assemblyman Sam Hoyt
Ronald J. Pilozzi	City of Tonawanda
Virginia Prunella	
Lynn Rehfeld-Kenney	
Steven C. Richards	Town of Niagara
Charlene Ritter-Lester	Advancing Arts and Culture Buffalo Niagara
Richard Roach	
William L. Ross	Niagara County Legislature, Niagara Power Coalition
Byron R. Rupp	US Army Corps of Engineers, Buffalo District
Thomas Schofield	One Region Two Niagaras
Janet Sciolino	
Patricia Scremin	
Dennis Seekins	
Ken Sherman	LaSalle Pride
Brian Smith	Citizens Campaign for the Environment
Richard Soluri	Village of Lewiston
Richard Speth	
Antoine Thompson	New York State Senate- 60th district
James Tomkins	Quality Quest Coalition of Grand Island
Jim Tomkins	Quality Quest Environmental Coalition, Grand Island
Megan Toohey	Buffalo Niagara Riverkeeper
Michelle Vanstrom	Niagara Frontier Wildlife Habitat Council
Lisa Vitello	
E. Gail Walder	Niagara County Environmental Management Council
Tim Wanamaker	City of Buffalo
Dorothy Westhafer	Grand Island Conservation Commission
Margaret Wooster	Buffalo Niagara Riverkeeper
Terry L. Yonker	
Bill Zimmerman	Buffalo Waterfront Alliance
Michael Ziolkowski	
Mark Zito	