



1200 Fuhrmann Blvd
Buffalo, NY 14203
www.tifft.org

valuing nature's wisdom

Visitor/Market Study and Rebrand

Niagara River Greenway Commission
Project Review

To Whom it May Concern:

I respectfully submit this application on behalf of the Buffalo Society of Natural Sciences to request a project review from the Niagara River Greenway Commission for the Tifft Nature preserve Visitor/Market Study and Rebrand.

We are eager to begin this project as part of our 2018 - 2020 Strategic Plan that was recently adopted by the Buffalo Society of Natural Sciences Board of Managers.

Your consideration and continued support of Tifft Nature Preserve is greatly appreciated. I would be happy to provide any additional information or documentation you believe would be helpful in your assessment.

Sincerely,

A handwritten signature in blue ink that reads "Marisa Wigglesworth".

Marisa Wigglesworth
President & CEO

Project Registration Number (*office use only*) _____

**Niagara River Greenway Commission
Consultation and Review Form**

Type of Review Required: Mandatory Consultation

Voluntary Review and/or Endorsement

PROJECT SPONSOR INFORMATION

Name: Buffalo Society of Natural Sciences

Mailing Address: 1020 Humboldt Pkwy, Buffalo

State: New York Zip Code: 14211-1208

Federal ID# 16-6000178 Charities Registration # 03-51-04

PROJECT TYPE

Check all that apply: Environmental Cultural/Heritage Land or Water Public Access

Cultural Trail Educational/Interpretive

Waterfront or Land Based Development Signage

Recreational Other

Funding Committee Request: Host Community Standing Committee

Buffalo and Erie County Standing Committee

Ecological Standing Committee

State Parks Standing Committee

Unsure at this time

PROJECT INFORMATION

Project Name: Tifft Nature Preserve Visitor/Market Study and Rebrand

Location: Tifft Nature Preserve

Site Address: 1200 Fuhrmann Blvd, Buffalo

State: New York Zip Code: 14203

Minor Civil Division(s): City of Buffalo

County: Erie

Project Proponent Property Interest (own, lease, easement or other): Lease agreement with the City of Buffalo that gives full management authority and responsibility to the Buffalo Society of Natural Sciences

AUTHORIZED OFFICIAL

Name: Marisa Wigglesworth Title: President & CEO

Business Address: 1020 Humboldt Pkwy, Buffalo

State: New York Zip Code: 14211-1208

Telephone Number: 716-896-5200 x332 Cell Number: _____

Fax Number: 716-897-6723

E-Mail Address: mwigglesworth@sciencebuff.org

PROJECT POINT OF CONTACT

Name: Peter Gabak Title: Director of Development

Organization/Firm: Buffalo Society of Natural Sciences

Business Address: 1020 Humboldt Pkwy, Buffalo

State: New York Zip Code: 14211-1208

Telephone Number: 716-896-5200 x314 Cell Number: _____

Fax Number: 716-897-6723

E-Mail Address: pgabak@sciencebuff.org

PROJECT NARRATIVE

Please attach material which responds to the following six items in the order that they are presented.

1. In a brief paragraph, describe the project and its purpose, how and when it will be accomplished, and why it is important.

Following eight years of capital improvements completed to create the Herb and Jane Darling Environmental Education Center and higher quality amenities for visitors, and with innovative direction from the Buffalo Society of Natural Sciences' (BSNS) President and CEO Marisa Wigglesworth, Tifft Nature Preserve embarked on the process to develop a new strategic plan to identify strategic priorities for operations over the next three years. Through this process of engaging the BSNS Board of Managers, the Tifft Standing Committee, BSNS leadership staff, Tifft staff and volunteers, and external stakeholders, it became increasingly apparent that in order to fulfill the strategic ambition of positioning Tifft as a quality of life asset for the community and region, there was a need to better understand who visits Tifft and what motivates them to do so. There is also great opportunity to reach the individuals in the Buffalo and WNY community that are unaware that such a rare gem exists just minutes from downtown Buffalo.

In 2019, Tifft Nature Preserve plans to launch a comprehensive market and visitor research study with the intent to use these findings to improve marketing strategy and brand awareness. Leveraging the study findings, Tifft will look to refresh its branding (external messaging, tagline, and visual identity) and develop a targeted-yet-comprehensive marketing plan to reach its newly-determined audience. This process will be led by the talented BSNS Marketing and Public Relations team and a third party marketing firm identified through an RFP process. Using the process that BSNS followed for a recent market study and rebrand of the Buffalo Museum of Science as a benchmark, **the Buffalo Society of Natural Sciences requests \$86,400 from the Buffalo and Erie County Greenway Fund Standing Committee to complete all desired steps of this process for Tifft.** This funding will allow for Tifft to complete the following tactics from the 2018-2020 Strategic Plan:

1. Invest in a study to understand current visitors, reasons for use and potential audience
2. Launch promotion plan in support of restated mission and brand
3. Promote the value that Tifft establishes for future generations, highlighting its unique history
4. Launch comprehensive marketing campaign to reach broader, untapped potential audience

Greater clarity around Tifft's purpose, mission, and brand will help to improve the environmental education programs and opportunities for the community to engage with and support Tifft Nature Preserve. As the southern gateway to the Niagara River Greenway, Tifft's findings from this study can also assist similar destinations along the Greenway and Outer Harbor to understand the motivations of current visitors to the Greenway and how to connect people in meaningful ways with the waterways that comprise the Niagara River Greenway.

2. Referring to the Niagara River Greenway Plan, clearly document and describe how the proposed project will advance the Niagara River Greenway vision including the goals, principles, and criteria that define that vision.

Goals – Improve Access, Make Connections, Protect and Restore Environmental Systems, Spark Revitalization and Renewal, Promote Long Term Sustainability, Extend the Legacy of Frederick Law Olmsted, Celebrate History and Heritage

Improve Access – The Visitor Center is open to the public, at no cost, Wednesday to Sunday. The Herb and Jane Darling Environmental Education Center provides amenities for visitors to the Preserve and is extensively used for school, public, and scout programs. The Preserve grounds are open to the public, at no cost, seven days a week during daylight hours. This project would allow Tifft to more broadly educate the community about Tifft’s offerings and amenities.

Make Connections – Tifft Nature Preserve provides a valuable site to connect students and the public with the environment and natural resources of the Niagara River Greenway. This project will allow Tifft to further expand and develop these connections.

Protect and Restore Environmental Systems – Tifft Nature Preserve is a reclaimed brownfield and its restoration and transformation into a nature preserve are highlighted in the Visitor Center and through programming. This project will add to the ability for Tifft to inform and educate students and the public about the value and importance of the Niagara River Greenway’s natural habitats and resources.

Spark Revitalization and Renewal – Tifft Nature Preserve provides valuable natural and recreational amenities including captivating environmental education programs that improve the quality of life of area residents, as well as attract tourists and new investment to the Greenway and Outer Harbor. This project would allow Tifft to more broadly educate the community about Tifft’s offerings and amenities, and the value it provides to the community at large.

Promote Long Term Sustainability – Although Tifft Nature Preserve does not have an admission or parking fee, increased awareness and attendance to the Preserve is an opportunity for additional philanthropic support and greater participation in fee based environmental education programs. Garnering a wider base of supporters for Tifft will ensure long-term financial sustainability.

Extend the Legacy of Frederick Law Olmsted- Although not an Olmsted park, Tifft Nature Preserve has been designated as the southern gateway to the Niagara River Greenway, helping to provide a path of greenspace and parks along the Niagara River corridor.

Celebrate History and Heritage – Tifft Nature Preserve has a rich and unique history as a commercial and industrial site. How this history and past land use affect the current environment and management of the site will be communicated to students and the public through interpretive materials and programs.

Principles – Excellence, Sustainability, Accessibility, Ecological Integrity, Public Well-Being, Connectivity, Restoration, Authenticity, Celebration, Partnerships, Community Based

Excellence/Sustainability – The proposed project will allow for the continuation of more than 30 years of quality environmental education provided by Tifft Nature Preserve and build upon the more than 150 year history of research and science education that the Buffalo Society of Natural Sciences provides to the community through the Buffalo Museum of Science.

Accessibility – Tifft Nature Preserve trails are accessible daily during daylight hours for public use at no cost. The Visitor Center is open to the public, also at no cost, Wednesday through Sunday. Programming is offered seven days a week to a wide variety of audiences such as schools, scouts, and families year round. The Preserve is easily accessed from Route 5 and visitors to the Outer Harbor have easy walking and biking access to the Preserve.

Ecological Integrity – Tifft Nature Preserve takes pride in operating as environmentally consciously as possible. Recent upgrades to the Darling Environmental Education Center are used as a teaching tool and model for environmental sustainability.

Public Well-Being – Tifft Nature Preserve provides a location for citizen of and visitors to Western New York to expand their knowledge and understanding of their environment, as well as a place to relax and unwind on a peaceful walk in a natural setting- all just a five-minute drive from Downtown Buffalo.

Connectivity - This project will help to maintain Tifft Nature Preserve’s position as the southern gateway to the Niagara River Greenway, providing public greenspace on Buffalo’s Outer Harbor and connecting South Buffalo to the rest of the Niagara River Greenway.

Restoration – Tifft Nature Preserve is a model for nature’s ability to reclaim itself and the potential for turning former brownfields into recreational green space and beneficial habitat for local wildlife. Educational displays and interpretation of the onsite restoration of an industrial brownfield are integrated into Visitor Center displays, signage and programs.

Authenticity/Celebration –Tifft Nature Preserve promotes stewardship and preservation of the natural resources of the Niagara River Greenway through place-based environmental education and interpretation of the rich industrial history of the area and helping to make connections between environments of the past and present.

Community Based – Tifft Nature Preserve serves the entire community of the Niagara River Greenway including: school children, youth groups, community organizations, colleges and universities, families, bird watchers, seniors, and nature lovers of all types. This proposal seeks to expand Tifft’s reach to more residents of and visitors to the Niagara River Greenway and surrounding communities.

Criteria – Consistency with the NRG Principles, Priority Status, Focus Area, Environmental Soundness, Implementable, Economic Viability, Availability of Local Sponsors or Partners, Ability to Match or Leverage Funds, Consideration of Other Planning Efforts, Clear Benefits

Consistency with the Principles – A Tifft Nature Preserve Visitor/Market Study and Rebrand is consistent with all of the principles of the Niagara River Greenway makes significant contributions to *Excellence, Accessibility, Public Well-Being, Connectivity, and Community Based.*

Priority Status – This project incorporates several priorities identified in the Niagara River Greenway Plan including: providing access to water front resources, interpretation and education about the region’s cultural, natural and historic resources, and revitalization of urban centers. Tifft Nature Preserve is used as an example of an ‘Ecological Center’ in the NRG plan. With its location only three miles from downtown Buffalo and also functioning as the southern gateway to the Niagara River Greenway, Tifft Nature Preserve is a strategic location in an ‘Interpretive Center Network.’

Focus Area – Tifft Nature Preserve is within the focus area delineated in the plan and is termed the “southern gateway to the Niagara River Greenway” in the NRG plan.

Environmental Soundness – Although maintaining a property as a nature preserve and unlimited increases in visitation can be seen as a paradox, Tifft Nature Preserve has the opportunity to expose individuals to a natural setting and foster a support and understanding for our natural world. The greater the number of people that can be reached, the greater opportunity to create new environmental stewards.

Implementable – The Tifft Nature Preserve Visitor/Market Study and Rebrand is fully implementable and feasible as outlined in this proposal. The project will be led by the BSNS Marketing and Public Relations Director that recently completed a similar process for the Buffalo Museum of Science with great success.

Economic Viability – Every step forward that Tifft Nature Preserve makes to being more recognizable and front of mind for residents and visitors in the region is a step towards greater financial support for maintaining Tifft as a community asset.

Availability of Local Sponsor or Partners – The Buffalo Society of Natural Sciences has managed and operated the City of Buffalo-owned Tifft Nature Preserve since 1982 under a lease agreement as a high- quality educational and environmental resource for the region. The Herb and Jane Darling Environmental Education Center serves as a hub for numerous partners in the community that enhance the programming Tifft offers through collaborative initiatives, including Buffalo Audubon Society, Buffalo Niagara Waterkeeper, Ecology & Environment, Messinger Woods Wildlife Care and Education Center, NYS Department of Environmental Conservation, NYS Office of Parks, Recreation and Historical Preservation, NYS Outdoor Education Association, NY Sea Grant, Reinstein Woods Nature Preserve, SPCA Serving Erie County, and Wild Birds Unlimited.

Ability to Match or Leverage Funds – Tifft Nature Preserve has a proven history of leveraging funds from multiple sources with the assistance of the BSNS Development and External Relations department. The 2018-2020 Tifft Strategic Plan also calls for a comprehensive, strategic effort to general increasing amounts of philanthropic and grant funding from an ever widening base of supporters.

Considerations of Other Planning Efforts – Establishment of Tifft as a community asset offering environmental education and recreation opportunities is consistent with, and would help achieve, the vision and goals of many other planning efforts including: City of Buffalo Comprehensive Plan, New York State Significant Coastal Fish & Wildlife Habitat, and the South Buffalo Brownfield Opportunity Area (BOA) Plan.

Clear Benefits – Clear benefits of this project include: improved ability to provide environmental education and programming for a wider base of citizens of and visitors to the Buffalo Niagara Region, further community support for the sustainability of Tifft Nature Preserve as an integral part of the Outer Harbor and Niagara River Greenway.

3. Define the budget for the total proposed project and include costs for the following:

Planning	\$ <u>14,000</u>
Construction	\$ _____
Acquisition	\$ _____
Administration	\$ <u>6,400</u>
Operation and Maintenance / Year	\$ <u>66,000</u>
TOTAL PROJECT COST	\$ <u>86,400</u>

Identify all sources of funding and the amount of funding expected from each source. Identify and quantify funds that are already on hand or have been allocated for the proposed project. Explain how the project will be operated and maintained.

The Buffalo Society of Natural Sciences has a reputation of excellence in the community and will continue to effectively manage projects and maintain the City of Buffalo owned Tiff Nature Preserve as it has for the last 36 years. The Tiff Nature Preserve Visitor/Market Study and Rebrand is only a portion of the 2018-2020 Tiff Nature Preserve Strategic Plan. Funding to execute additional objectives of the Strategic Plan are currently being secured from a variety of sources, including the Buffalo Society of Natural Science's operating budget.

The requested funds will not be used to defray: (1) any obligation existing as of August 31, 2007 or (2) operation and maintenance costs associated with any project existing as of August 31, 2007 or (3) any prohibited uses per the Standing Committee application instructions.

4. Describe the measures taken at the local level to gain community and government support for this project (hearings, petitions, public surveys, resolutions of support or other methods). If this project has been cited or described in a local planning document or some equivalent thereof, attach copies of that documentation highlighting the sections that are relevant to the proposed project. Describe the role of municipal agencies, stakeholder groups, consultants, volunteers or others who will be involved in the proposed project.

The current 2018-2020 Tiff Nature Preserve Strategic Plan was developed through a comprehensive process led collaboratively by the BSNS/Tiff leadership staff and Tiff Standing Committee. Multiple focus group meetings were held as part of this process that invited staff, volunteers, frequent visitors, partner organizations, City of Buffalo, Erie County and elected officials to weigh in on strategic priorities for Tiff. A formal RFP process will be used to identify a third party marketing firm to assist in the execution of the market study and rebranding.

Tiff Nature Preserve is noted in the Niagara River Greenway Plan and this project incorporates several priorities identified in the plan (pg. 29-31) including: providing access to water front resources, interpretation and education about the region's cultural, natural and historic resources, and revitalization of urban centers. Tiff Nature Preserve is specifically used an example of an 'Ecological Center' (pg. 100) in the NRG Plan. With its

location only three miles from downtown Buffalo and also functioning as the southern gateway to the Niagara River Greenway (pg. 102), Tifft Nature Preserve is a strategic location in an 'Interpretive Center Network' (pg. 100).

Tifft Nature Preserve is also mentioned and highlighted in the following local and statewide documents:
City of Buffalo Comprehensive Plan – Tifft Nature Preserve is cited as part of the City's "Green Infrastructure" (Fig. 32) and as a "Destination Park" (Fig. 35), a distinction given to only 16 of Buffalo's 120 parks. (See Appendix A)

New York State Significant Coastal Fish & Wildlife Habitat – Tifft Nature Preserve is designated by the Department of State as a Significant Coastal Fish & Wildlife Habitat with an extremely high significance score of 84 points (the highest in Western New York). The rating form also states that the Preserve "...is the most heavily used environmental education center in the region." (See Appendix A)

South Buffalo Brownfield Opportunity Area (BOA) Plan – The South Buffalo BOA plan is the most recent local planning effort. This plan highlights the importance of Tifft Nature Preserve as an asset to the region and integral piece of the revitalization of South Buffalo. The SBBOA includes the vision for an enhanced interpretive center at Tifft Nature Preserve. This document is available upon request.

- 5. Describe and document the environmental setting and existing conditions at the proposed project site. If you are not the owner of the property include a letter(s) or resolution(s) evidencing support for the project by the owner. Provide photographs, conceptual plans and drawings that show the site as it presently exists and how the site will change with the addition of the proposed project. Describe how your project will comply with the State Environmental Quality Review Act (SEQRA). The existence of wetlands, significant upland and aquatic habitats, and plant or animal species that are classified as rare, threatened, or endangered should be noted. Explain how such natural resources will be protected and/or enhanced. Cite any relevant project-related studies.**

This question is not applicable due to the nature of this proposal not being a capital request or changes to infrastructure of habitat. It is important to note that BSNS understands there needs to be a balance between attracting more visitors and, first and foremost, maintaining the property as a preserve. There is great opportunity in migrating Tifft Nature Preserve's general visitors, those that come to take a walk and immerse themselves in nature, to a program participant where Tifft's knowledgeable and passionate facilitators and volunteers have an opportunity to educate about the importance of conservation and preservation. Anecdotally, a large portion of Tifft's visitors consider Tifft their local park and greenspace and do not understand the difference between a park and a nature preserve. Through facilitated experiences, staff and volunteers can help visitors understand why Tifft exists, the importance in preserving it, and the role it plays in the larger Niagara River Greenway while creating added affinity for Tifft and cultivating the community's future environmental stewards.

6. Please attach the proposed project timeline, identify any relevant milestones, and provide an estimated date for project completion/opening. If funded, it is expected that the project sponsor or point of contact will notify the Commission of the project opening date as it nears completion. *(Note: This addition to the application was made September 2018. All projects submitted for review after the November 20th meeting are to include a project timeline.)*

Assuming the proposal is funded in full in March 2019, the proposed timeline for the project would be-

April 8	RFP issued to identify firm for survey and branding project
April 19	Responses due from potential partners
April 24	BSNS to select and notify finalists
May 13 - 15	Presentations from finalists
May 20	Award project
June 20	Field survey
August 5	Discuss survey findings; move forward with branding refresh and marketing campaign development



TIFT

NATURE PRESERVE

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APPENDIX A:

- City of Buffalo
Comprehensive
Plan
- New York State
Significant Coastal
Fish and Wildlife
Habitat

Parks

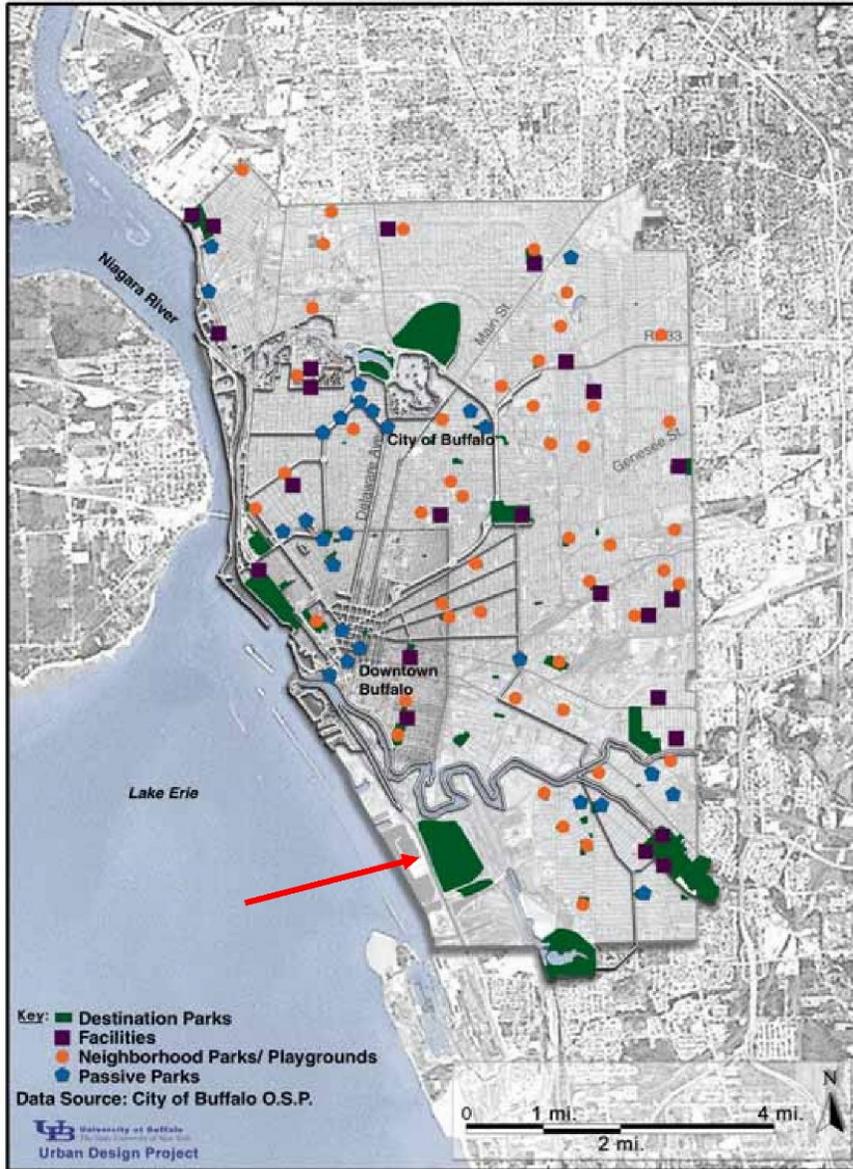


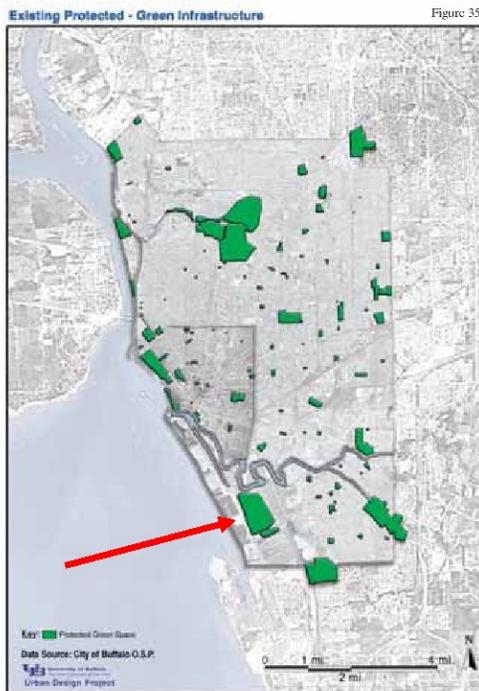
Figure 32. Key destination parks, facilities, neighborhood parks and playgrounds.

Tift Nature Preserve Noted in Buffalo's Comprehensive Plan

Green infrastructure

Public parks are only one part of what might be called the "green infrastructure" of a city. This "green infrastructure" includes not only public parks, parkways and playgrounds, but also institutional and private open spaces, rail and utility rights of way, highway margins, stream corridors, trailways, disused industrial land, vacant residential property and more. Because this infrastructure performs a range of ecological functions – providing wildlife corridors, urban habitat, support for biodiversity and more – it is important to the health of the ecosystem.

We can imagine a system of green infrastructure composed of several types of open spaces. The formally protected green spaces of the city such as parks, playgrounds, and recreational facilities in public ownership, as well as dedicated green spaces such as cemeteries, constitute one layer of the green infrastructure (See Figure 35).



- Public Piers, Wharves & Docks
- Public Golf Courses
- Public Marinas
- Public Parks
- Public Playgrounds
- Public Athletic Fields
- Public Picnic Grounds
- Public Recreational Facilities
- Cemeteries
- Water
- City / Town / Village Parks



- Private Piers, Wharves & Docks
- Private Marinas
- Private Parks
- Private Playgrounds
- Private Athletic Fields
- Private Picnic Grounds
- Private Recreational Facilities
- Outdoor Riding Stables
- Libraries
- Schools
- Colleges & Universities
- Religious
- Welfare
- Hospitals & Other Health Facilities
- Cultural & Recreational Facilities
- Roads, Streets & Highways
- Transmission & Distribution Land
- Utility Corridors
- Water for Transportation
- Railroads
- Solid Waste Facilities
- Landfills & Dumps
- Sewage Treatment
- Water Pollution Control

Tift Nature Preserve Noted in New York State Significant Coastal Fish & Wildlife Habitat

COASTAL FISH & WILDLIFE HABITAT RATING FORM

Name of Area: **Tift Farm Nature Preserve**

Designated: **October 15, 1987**

County: **Erie**

Town(s): **Buffalo**

7½' Quadrangle(s): **Buffalo SE, NY**

<u>Score</u>	<u>Criterion</u>
16	Ecosystem Rarity (ER) This is the largest open space/wildlife habitat in the City of Buffalo; included is one of the largest remaining wetlands in the lake Erie coastal region.
24	Species Vulnerability (SV) Least Bittern (SC) nesting; Jefferson salamander (SC) found here. Additive division: 16 + 16/2
14	Human Use (HU) This is the most heavily used environmental education center in the region, attracting visitors for recreational and educational uses. Additive division: 9 + 9/2
16	Population Level (PL) One of only 3 known localities in New York State where burrowing crayfish exist; populations of many other wetland wildlife species are unusual in the region.
1.2	Replaceability (R) Irreplaceable

SIGNIFICANCE VALUE = [(ER + SV + HU + PL) X R]

= 84

Tift Nature Preserve Noted in New York State Significant Coastal Fish & Wildlife Habitat

DESIGNATED HABITAT: TIFT FARM NATURE PRESERVE

LOCATION AND DESCRIPTION OF HABITAT:

Tift Farm Nature Preserve is located approximately three miles south of downtown Buffalo, within the city limits, in Erie County (7.5' Quadrangle: Buffalo SE, N.Y.). The preserve is located adjacent to the Small Boat Harbor, bounded roughly by Fuhrmann Boulevard (N.Y.S. Route 5) to the west, and railroad right-of-ways to the north, east, and south. Tift Farm is a 264 acre nature preserve and environmental education center, owned by the City of Buffalo, and operated jointly by the City and the Buffalo Museum of Science. This area contains a diversity of fish and wildlife habitats, including an approximate 75 acre cattail marsh, small freshwater ponds and old canal remnants, old fields (partly covering a former solid waste transfer site), forested wetland, and shrub-sapling stages of succession. The land area surrounding Tift Farm is dominated by active and vacant industrial facilities and railroad properties.

FISH AND WILDLIFE VALUES:

Tift Farm Nature Preserve is the largest contiguous fish and wildlife habitat area within the City of Buffalo. Of special importance is the relatively undisturbed wetland area, which is the largest of its kind along the Lake Erie coastline. The site is inhabited by a diversity of fish and wildlife species that is unusual in this coastal region, especially within the urban area. A full complement of wetland wildlife species occurs in and around the marshes at Tift Farm: pied-billed grebe, green-backed heron, least bittern (SC), American bittern, mallard, blue-winged teal, Canada goose, Virginia rail, sora, common moorhen, American coot, American woodcock, spotted sandpiper, marsh wren, willow flycatcher, common yellowthroat, red-winged blackbird, and swamp sparrow nest here; black-crowned night herons roost and feed in the area during the nesting season; many species of waterfowl, shorebirds, herons, osprey (T), and passerine birds use the area as a stopover during spring and fall migrations; muskrat, mink, northern water snake, snapping and painted turtles, bullfrog, green frog, northern leopard frog, and Jefferson salamander (SC) are year-round residents; and at least two species of fish, the central mudminnow and brook stickleback, are present. Up until the late 1970's, black terns (SC) also nested in the marshes at Tift Farm; the reasons for their disappearance are unknown. Tift Farm also contains a population of burrowing crayfish, one of only 3 known localities for this species in New York State.

In addition to the wetlands, Tift Farm provides a diversity of other fish and wildlife habitats. Upland habitats at Tift Farm support most of the typical species in the region, such as raccoon, eastern cottontail, red fox, gray fox, meadow vole, ring-necked pheasant, various passerine birds, and common garter snake. The largest of the freshwater ponds is directly connected to Lake Erie via a culvert under Fuhrmann Boulevard to the Small Boat Harbor. Consequently, many warmwater fish species occur in the area, including black crappie, yellow perch, rock bass, pumpkinseed sunfish, bluegill, bullhead, carp, largemouth bass, gizzard shad, freshwater drum, northern pike, and longnose gar. The extent to which these fish occur in other aquatic habitats in the preserve is not well known. As an environmental education center, Tift Farm Nature Preserve is an outstanding facility in western New York, attracting some 18,000 visitors to the area in 1984. Public use of the area centers on bird observation and study (especially during spring and fall), fishing during the summer months, environmental education during the school year, and general nature study and outdoor recreation throughout the year. A visitors center and system of trails have been developed in the area. Most of the people using Tift Farm reside within the multi-county Buffalo metropolitan area.

IMPACT ASSESSMENT:

A **habitat impairment test** must be met for any activity that is subject to consistency review under federal and State laws, or under applicable local laws contained in an approved local waterfront revitalization program. If the proposed action is subject to consistency review, then the habitat protection policy applies, whether the proposed action is to occur within or outside the designated area.

Tifft Nature Preserve Noted in New York State Significant Coastal Fish & Wildlife Habitat

The specific **habitat impairment test** that must be met is as follows.

In order to protect and preserve a significant habitat, land and water uses or development shall not be undertaken if such actions would:

- destroy the habitat; or,
- significantly impair the viability of a habitat.

Habitat destruction is defined as the loss of fish or wildlife use through direct physical alteration, disturbance, or pollution of a designated area or through the indirect effects of these actions on a designated area. Habitat destruction may be indicated by changes in vegetation, substrate, or hydrology, or increases in runoff, erosion, sedimentation, or pollutants.

Significant impairment is defined as reduction in vital resources (e.g., food, shelter, living space) or change in environmental conditions (e.g., temperature, substrate, salinity) beyond the tolerance range of an organism. Indicators of a significantly impaired habitat focus on ecological alterations and may include but are not limited to reduced carrying capacity, changes in community structure (food chain relationships, species diversity), reduced productivity and/or increased incidence of disease and mortality.

The *tolerance range* of an organism is not defined as the physiological range of conditions beyond which a species will not survive at all, but as the ecological range of conditions that supports the species population or has the potential to support a restored population, where practical. Either the loss of individuals through an increase in emigration or an increase in death rate indicates that the tolerance range of an organism has been exceeded. An abrupt increase in death rate may occur as an environmental factor falls beyond a tolerance limit (a range has both upper and lower limits). Many environmental factors, however, do not have a sharply defined tolerance limit, but produce increasing emigration or death rates with increasing departure from conditions that are optimal for the species.

The range of parameters which should be considered in applying the habitat impairment test include but are not limited to the following:

1. physical parameters such as living space, circulation, flushing rates, tidal amplitude, turbidity, water temperature, depth (including loss of littoral zone), morphology, substrate type, vegetation, structure, erosion and sedimentation rates;
2. biological parameters such as community structure, food chain relationships, species diversity, predator/prey relationships, population size, mortality rates, reproductive rates, meristic features, behavioral patterns and migratory patterns; and,
3. chemical parameters such as dissolved oxygen, carbon dioxide, acidity, dissolved solids, nutrients, organics, salinity, and pollutants (heavy metals, toxics and hazardous materials).

Although not comprehensive, examples of generic activities and impacts which could destroy or significantly impair the habitat are listed below to assist in applying the habitat impairment test to a proposed activity.

Despite its current status as a nature preserve and environmental education center, Tifft Farm's fish and wildlife habitats remain vulnerable to a number of potential impacts. Surrounding land uses may be the most important factor affecting the wildlife resources of this area. Encroachment of human disturbance, including industrial, commercial, or residential development could have significant impacts on species using the area. Discharges of polluted runoff (or migration of contaminated groundwater) from adjacent areas could seriously degrade the wetland and aquatic habitats in Tifft Farm Nature Preserve. Maintenance of the high quality urban fishery in this area is dependent upon keeping the connection to Lake Erie open and accessible for fish passage. Opportunities for compatible public use of the area should be maintained or enhanced to utilize this valuable fish and wildlife resource.