

Niagara River Greenway Ecological Fund Application Checklist

Project Name: Niagara River Birding Trail Site Evaluations and Niagara River Greenway Bird Habitat Restoration and Protection Projects at Buckhorn Island State Park and North Tonawanda Audubon Preserve

Prepared By: Loren H. Smith, Buffalo Audubon Society

Date: February 3, 2014

Project Information

Organization name and mailing address

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Federal ID number and/or Charities Registration number: 16-6088768

Point of contact

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Evidence of Consultation (including consulting parties' comments and project proponent's responses to those comments)

Niagara River Greenway Commission – see attached letter (Belue 1/22/14)

Municipality, County, and/or Indian Nation – see attached letters (Cooke 1/13/14); The Town of North Tonawanda was also consulted.

State Agency – see attached letters (Alworth 12/3/13; DEC 1/21/14)

Federal Agency – n/a

We appreciate all of the comments and support from individuals and organizations during the design of this project. With specific reference to the comments from the DEC, we are well aware of the design standards for signage and way-finding as outlined in the Niagara Greenway manual. This project is focused on the identification of locations where signs may be installed should future funding become available. We will follow the guidelines from the manual and incorporate the Greenway logo. We are also aware of the necessary permitting and licensing requirements and will adhere to them throughout the project.

Operation and Maintenance Plan

Buckhorn Island State Park is owned by the State of New York and operated and maintained by the Office of Parks, Recreation and Historic Preservation (OPRHP). Continued operation and maintenance are undertaken under the auspices of OPRHP based on established operating principles. The park does not have a current master plan but it is guided by the Bird Conservation Area principles and by planning efforts undertaken as part of other habitat improvement projects underway at the park (see additional and related discussion below under Priority and Project Criteria).

The North Tonawanda Audubon Preserve is owned by the Buffalo Audubon Society (BAS). The Society is currently working to finalize conservation easements on several parcels. There is not a current habitat management plan for the preserve – this is one of the main objectives of the work proposed for this project. The overall management and use of the preserve is guided by our

mission – to promote the appreciation and enjoyment of the natural world through education and conservation.

Description of Project Consistency with Niagara River Greenway Plan

See the attached Niagara River Greenway Commission consistency determination application pages 14-18.

Description of Consistency with State and Federal Laws & Regulations

Mapping and planning activities are not contingent upon local, state or federal regulations. Invasive species removal will be undertaken under appropriate permits and permissions from NYS OPRHP, Department of Environmental Conservation (DEC) and Department of State (DOS), and US Army Corps of Engineers (USACE).

Description of Efforts/Opportunities for Matching Funds

Staff from NYS DEC and OPRHP have indicated that they may be able to provide in-kind services to assist in habitat mapping, wetland delineation and other components of this project. We plan to ask the Niagara Frontier Botanical Society if their members would assist with plant surveys. We have discussed the North Tonawanda Audubon Preserve with Dr. Chris Lowry, a hydrologist at the University at Buffalo, and students may be able to perform an initial analysis that would add an additional dimension to our understanding of the dynamics of this ecosystem. A local foundation has expressed interest in funding complementary work to improve trails and access at the North Tonawanda Audubon Preserve.

As with the Joseph Davis State Park habitat restoration projects initially supported by the Greenway Ecological Standing Committee, significant federal funds are available for habitat restoration through several sources, including the Great Lakes Restoration Initiative (including the Joint Venture program) and National Fish & Wildlife Foundation Sustain our Great Lakes fund. We anticipate leveraging the planning documents generated through this project to support future applications from these and other sources. Both funders of and contractors for our invasive species and habitat reconstruction work at Joseph Davis State Park have acknowledged the value of the planning work supported by previous Greenway Ecological Standing Committee grants, and the utility of the planning work for subsequent monitoring and project evaluation.

Description of Current and Proposed Project Area Land Ownership

Buckhorn Island State Park is owned by the State of New York. The North Tonawanda Audubon Preserve is owned fee simple by the Buffalo Audubon Society. No ownership changes are anticipated though should additional parcels and sufficient funds become available the Buffalo Audubon Society would consider adding to the North Tonawanda Audubon Preserve. The map below shows the parcels that make up the preserve.

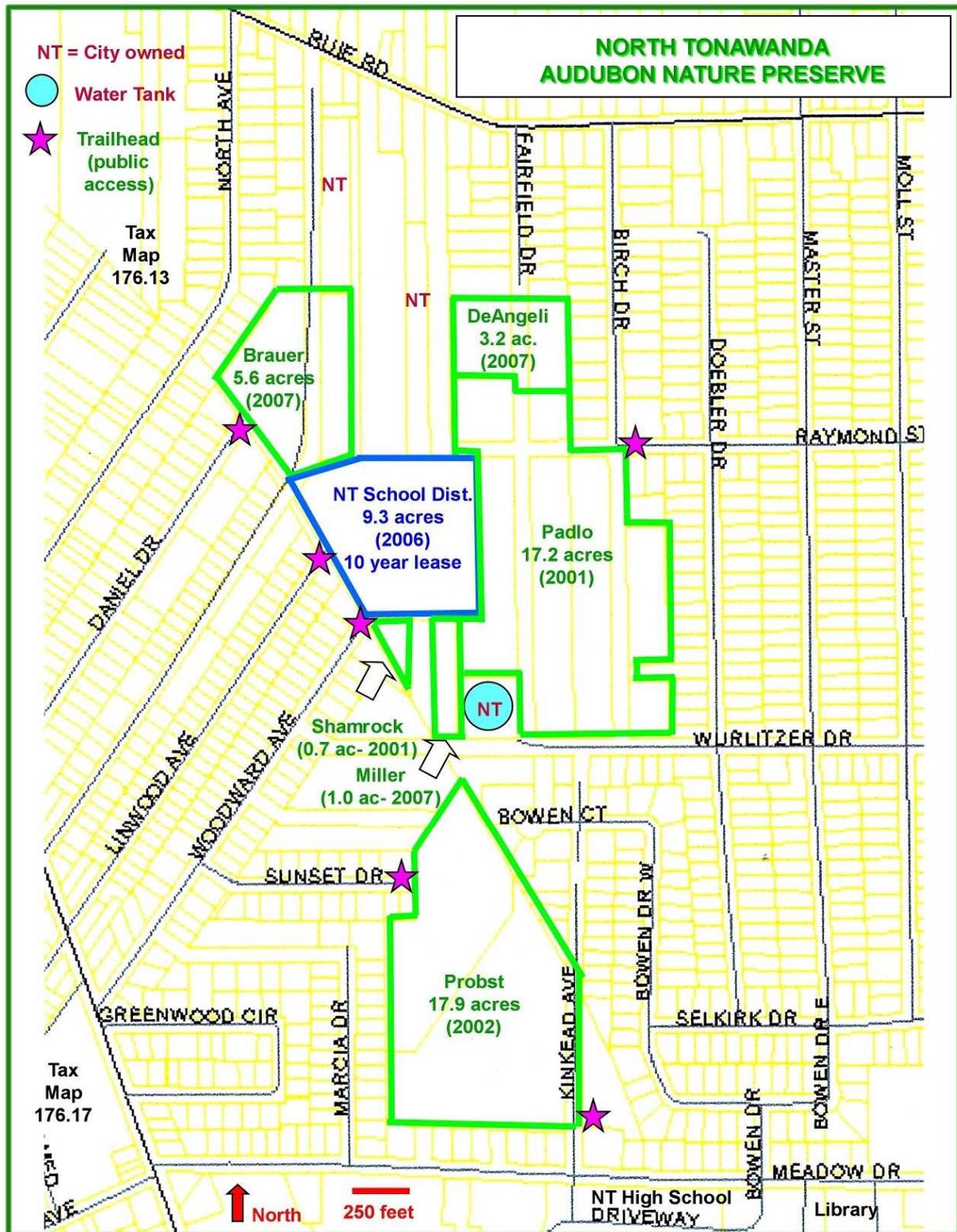


Figure 1 – Map of properties comprising the North Tonawanda Audubon Preserve.

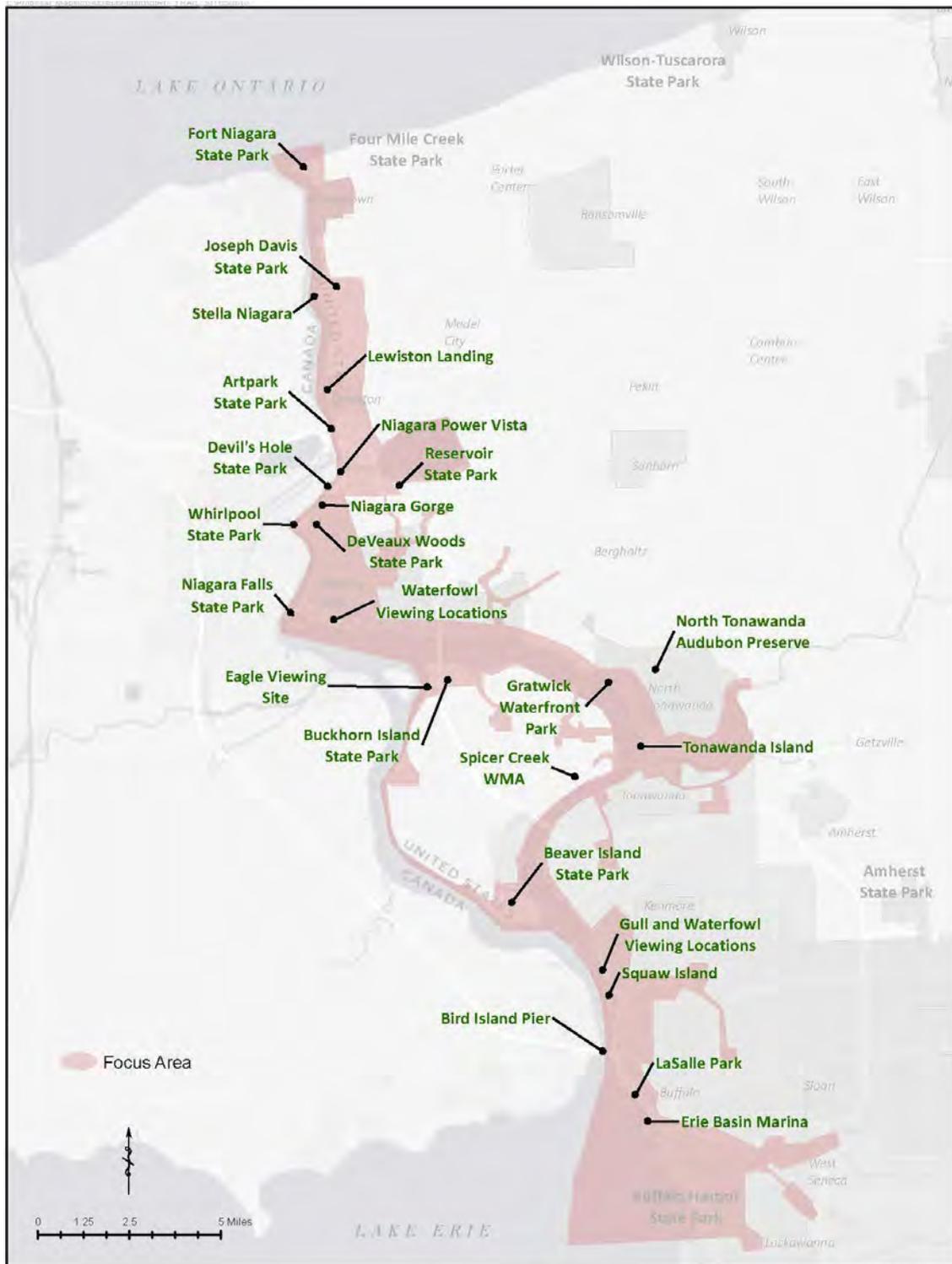


Figure 2 – potential locations to be assessed for inclusion in the Niagara River Birding Trail. Note – this map is not meant to be comprehensive – it is only meant to be illustrative of the richness of birding locations within the Niagara River Corridor.

Detailed Project Budget

Budget Item	BAS	E&E	Habitat Restoration (contractor)	TOTALS
Habitat Restoration and Protection Design, Management Plans				\$175,710
Buckhorn Island State Park	\$11,980	\$69,900		\$81,880
North Tonawanda Audubon Preserve	\$5,915	\$34,500		\$40,415
Niagara River Birding Trail	\$7,815	\$45,600		\$53,415
Construction (All at Buckhorn Island SP)	\$4,290	\$25,000	\$75,000	\$104,290
TOTAL PROJECT COST	\$30,000	\$175,000	\$75,000	\$280,000

Budget Justification:

Task 1: Habitat Restoration and Protection Design, Management Plans, and Implementation
Buckhorn Island State Park

Assessment and Planning: Habitat assessments will be undertaken at both locations and these will be used to develop management plans for both Buckhorn Island State Park and the North Tonawanda Audubon Preserve. The outline provided below is a framework for work at both of these locations.

This task will provide the background information necessary for subsequent planning and implementation. This is intended to complement the planning work already reported in the Buckhorn Marsh Invasive Species Action Plan (New York Power Authority [NYPA] 2009). We will collect existing habitat mapping, topographic mapping, wetland delineations, bird surveys, and other wildlife data. Additional field surveys will be conducted to make note of the specific habitat types that are utilized by birds. During these habitat surveys, bird observations will be made but it is not the intent of this task to replicate previous or ongoing bird survey work. Plant surveys will be conducted to identify the types and extent of invasive plants, as well as preferred food and habitat plants. Pre-treatment surveys will be important to locate and identify rare, threatened, or endangered plants. Information from these surveys will support restoration planning and facilitate monitoring over the course of, and after, the completion of this project. It is anticipated that the mapping of invasive species and inventorying of rare, threatened, endangered, and native plants will occur over the span of 14 days at Buckhorn Island State Park, and another 5 days at the North Tonawanda Audubon Preserve. Review of existing records and coordination with OPRHP and the Natural Heritage Program indicate that there should be multiple surveys dates to capture various portions of the growing season. These visits will be spaced through the spring and summer to ensure that we can identify the full range of taxa that can be found at each location. These visits will be complemented by multiple bird surveys to supplement current knowledge of migratory and breeding birds found at these locations.

A summary report will be produced to detail the work completed and the plans for both of the sites, and will include the following components:

- Habitat Maps;
- Bird and Wildlife Habitat Utilizations;
- Bird Inventories;
- Invasive Species Map;
- Invasive Species Control and Habitat Improvement Plan; and
- Rare Plant Survey.

We will utilize the results of the site report to support the development of the site plan for planned and future landscape restoration and habitat improvements at Buckhorn Island State Park. Planning activities will include recommendations for modifying habitats, short-term and long-term control of invasive plants, and a Management Plan for the park habitat in our area of focus (excluding areas where Phragmites removal has occurred). OPRHP will be an active participant in this project and intends to provide support during the planning and implementation.

The cost for Buckhorn Island State Park is \$81,880; the cost for North Tonawanda Audubon Preserve is \$40,415. These costs include Buffalo Audubon oversight and management of project activities.

Implementation: Although ideal circumstances would allow soliciting bids for invasive species removal based upon complete analysis and development of management plans, we recognize the urgent need to address invasive species encroachment upon the habitats of both Buckhorn Island State Park and the North Tonawanda Preserve. We believe that invasive species at the North Tonawanda Audubon Preserve can be initially addressed through strategic removal with the assistance of current Buffalo Audubon volunteers and members of local community groups. However, these activities will need to be carefully monitored to ensure appropriate removal of invasive species by pulling and pruning and protection of native taxa. No chemical treatments are planned for the North Tonawanda Audubon Preserve as part of this project.

The rapid spread of European Black Alder in areas that are difficult to access and in habitats that are challenging to work in requires a different approach. We have had preliminary discussions with contractors (specifically those working on the Joseph Davis State Park project) to develop cost estimates for removal of European Black Alder. This estimate came in at approximately \$130,000 – a cost that we believe may represent a combination of the difficulty of the work conflated by some of the unknowns of the project. The estimate was based on specifications that included: chainsaw cutting of all Alder stems, herbicide treatment of cut stumps, dragging of cut material to a chipper stationed on the access lane at the North end of the site, chipping of cut material and disposing of chips off-site and one follow-up visit for foliar or basal bark application of any remaining stems during the growing season following removal.

We believe that our assessment and planning will provide a better framework for developing cost estimates and the implementation of invasive species management activities. In addition, we are working with colleagues from OPRHP Environmental Management Bureau to identify best practices or alternate treatment protocols. In the absence of these detailed reports we are requesting \$104,290 for removal of European Black Alder to stop its spread and to remove as much as possible at this early stage of its expansion. As with any project on parks property this

cost includes payment of local prevailing wage rates. The project cost includes oversight and management by Buffalo Audubon and staff from Ecology and Environment, Inc. Our hope is that initial mapping efforts in conjunction with discussions with staff from OPRHP Environmental Management Bureau Staff and others will allow us to maximize the amount of invasive species removal work that we are able to do at Buckhorn Island State Park.

Task 2: Niagara River Birding Trail Site Evaluation

It is clear that there are numerous locations within the Niagara River Corridor that provide amazing bird watching experiences. However, these locations vary greatly in their accessibility and in the amenities that are available to support further development as components of a birding trail. Parking, restroom facilities, proximity of utilities and other attributes need to be assessed rank these sites as locations for future infrastructure improvements (viewing platforms or blinds, informational signage, and the like).

We will assess multiple sites within the focus area of the Niagara River Greenway based on the following criteria:

- Habitat type(s) and quality
 - Water resources and unique habitat features
 - Forest interior areas and other special habitats
 - Known occurrence of rare, threatened or endangered species
- Scenic features
- Ownership (state, county, municipal, not-for-profit, private)
- Access (roadways, parking and trails, for individuals of all ages and abilities)
- Amenities
- Existing interpretive displays

Other criteria will be developed as necessary during the evaluation process. We will also engage appropriate individuals and groups to refine our criteria and rankings.

We will then make specific recommendations about next steps for improvements in infrastructure, signage, way-finding, and other amenities that will elevate specific locations as components of the Niagara River Birding Trail.

This component is budgeted at \$53,415.

Administration: Buffalo Audubon will administer the grant, oversee all work, coordinate community outreach and engagement activities, and provide all appropriate reports and work products to the Greenway Ecological Standing Committee and the general public. These costs are allocated across the various components of the project.

Additional Information on Priority and Project Criteria

The attached proposal submitted to the Greenway Commission by BAS, contains information relevant to many of the Priority and Project Criteria that are included in the *Greenway Ecological Fund Standing Committee Award Guidelines & Application Requirements*. Additional information is provided below that speaks to many of those criteria.

Projects that preserve rare, threatened, and endangered (“RTE”) plant aquatic, or terrestrial species and/or their habitat in the Niagara Basin and Projects that contribute to long-term protection and enhancement of RTE plant, aquatic, or terrestrial species and/or their habitat in the Niagara Basin.

The proposed project will involve short- and long-term activities to both preserve and protect RTE species, including plant and avian species. As documented in the Bird Conservation Area (BCA) Management Guidance Summary and Buckhorn Marsh Invasive Species Action Plan, habitat exists within Buckhorn State Park for a number of RTE bird species, including the Northern harrier, common tern, sedge wren, and least bittern. Additional birds of interest include a variety of species of ducks, herons, coots, moorhens, and rails. Although intensive plant surveys have not been conducted to date specifically within the sedge meadow area and the other forested areas being targeted for invasive species management activities, blue flag iris, shellbark hickory, and Shumard oak have all been reported as occurring within the Park and potentially within portions of the proposed project area.

The North Tonawanda Audubon Preserve (NTAP, occasionally referred to as the Klydel woods or wetlands) also has taxa of botanical significance that has been identified by independent botanists, including Patricia Eckel and Shawn McCourt. Six species of oak occur on the site (Pin, swamp white, white, red, bur and Shumard’s). NTAP is part of a vanishing unique ecosystem that once covered much of the shallow Huron Plain and contains some old growth trees and six rare plant species. RTE species and “rare plants to NY” are listed in the McCourt report for this site. (McCourt, Shawn C. 2001b. The flora and ecology of Klydel woods, a wetland forest in North Tonawanda, NY. Part II. *Clintonia* Vol. 16 (4): 7-10.)

Eckel documents botanical diversity and unique species at NTAP, and identified a potentially “new” ecological community based on soils, hydrology and species composition. The two stations recorded so far for Shumard oak both occur in the Niagara River woodlands, and across the river in Ontario. Other “conspicuous tree species”, according to Eckel, associated with these species include a variety of hickory species, including bitternut, pignut, big shellbark, and shagbark (<http://www.mobot.org/plantscience/ResBot/Niag/Proposal/Proposal.htm>).

The investigation and confirmation of the occurrence of RTE species and habitat for such species within the NTAP site and Buckhorn State Park are warranted based on unique soils, hydrology, and existing species complexity/assemblages. Through this project, survey efforts will be conducted prior to, and after, invasive species treatment activities to log existing plant and bird species and to ensure that no collateral damage occurs as a result of treatments. These surveys will support monitoring and long-term management from which site and RTE species-specific management guidelines could be developed. A review of this proposed project by a botanist with the New York State Natural Heritage Program suggests surveys being accomplished before,

during, and after treatment activities, and that monitoring should be conducted throughout the project.

Projects with a strong scientific foundation.

The project team acknowledges that projects involving invasive species represent a number of challenges however the approach for this proposed project has been developed with a number of initiatives – on national, state, and regional levels – in mind. The proposed project supports the concept of adaptive management and is consistent with the primary elements of the National Invasive Species Council and New York State Invasive Species Control protocol for invasive species management, including:

- Prevention,
- Inventory/Mapping,
- Early Detection Rapid Response,
- Eradication/Containment/Suppression or Exclusion,
- Monitoring, and
- Restoration.

The project is also consistent with tenets provided in the *New York State Invasive Species Management Strategy*. Restoration in invasive species-dominated landscapes requires baseline investigations, planning and design, iterative treatment implementation, monitoring, and adaptive strategies. The reports and plans generated by this project will be valuable syntheses of fundamental data from these locations and will form a rigorous framework for implementation and monitoring at these locations.

Projects that achieve multiple ecological goals.

A number of ecological goals are the focus of this proposed project, including preserving and protecting ecological integrity, implementing restoration, and supporting connectivity between important regional habitats. The proposal, through active invasive species management activities, followed by restoration planting will protect and enhance existing resident, migratory, and breeding bird habitat.

The implementation of this project will help to support the ecological and management goals of the following:

- Buckhorn Island BCA Management Guidance Summary.
- Vision of the Niagara River Greenway Plan,
- Goals of the Niagara River Corridor Important Bird Area Conservation Plan
- Niagara River Regional Conservation Strategy
- New York State Wildlife Action Plan
- Bird Conservation Plan for the Lower Great Lakes/St. Lawrence Plain Bird Conservation Region (BCR 13)
- North American Waterfowl Conservation Act
- North American Waterfowl Management Plan

The project will:

- Assess biological stressors to facilitate long-term plans for protecting and restoring regionally important environmental systems,
- Actively restore and protect regional avian habitat resources for birds and humans,
- Improve opportunities for conservation and restoration education, and

- Promote long-term sustainability.

Projects that involve multi-stakeholder collaboration.

Through conducting background research and site visits, and developing a strategic approach for this project, a number of stakeholders have already been contacted and begun the process of collaboration. In addition numerous organizations and entities were involved in the initial activities leading to our acquisition of this preserve. The following provides a list of those stakeholders involved to date:

- OPRHP,
- NYSDEC,
- Buffalo Audubon Society,
- Citizens for a Greener North Tonawanda,
- Town of Grand Island Conservation Commission,
- Town of Grand Island,
- Town of North Tonawanda,
- US Fish & Wildlife Service, and
- NYS Natural Heritage Program.

It is anticipated that the Project Team will also coordinate project findings and assessment with the Western New York Partnership for Regional Invasive Species Management (PRISM).

Projects consistent with applicable local, State, and Federal resource management plans.

As noted above, the implementation of this project is consistent with the following:

- Buckhorn Island BCA Plan,
- Vision of the Niagara River Greenway Plan,
- Goals of the Niagara River Corridor IBA Conservation Plan, New York State Wildlife Action Plan
- Bird Conservation Plan for the Lower Great Lakes/St. Lawrence Plain Bird Conservation Region (BCR 13)
- North American Waterfowl Conservation Act, and
- North American Waterfowl Management Plan.

Additionally, this proposed project is consistent with the primary elements of the National Invasive Species Council, New York State Invasive Species Control protocol for invasive species management, and the *New York State Invasive Species Management Strategy*.

Projects that feature matching resources

See [Description of Efforts/Opportunities for Matching Funds](#) above.

Projects that are time-sensitive.

This project is time sensitive due to the relative uniqueness of the habitats found within the target areas in Buckhorn State Park and in the North Tonawanda Audubon Preserve, and the real threats that are undermining these habitats and their qualities. As noted in the proposal to the Greenway Commission, the Park is being colonized by European Black Alder at an alarming rate, to the extent that has rapidly modified native vegetation communities and structure, and is disrupting ecological functions. Visual estimation using aerial imagery and GIS technology indicates that during the three-year period from 2008 to 2011, the European black alder community expanded from approximately 0.7 acres to 2.1 acres representing a 300 percent

increase in cover in the sedge meadow area (see Figure 3 in the proposal). Incidental observations in late 2013 suggest that the area now infested is larger than the estimated 2.1 acres. Phragmites (common reed grass) has been addressed by complementary invasive species removal efforts, but other invasive species are found throughout Buckhorn State Park and need to be systematically assessed, prioritized and addressed. Likewise the presence and expansion of common buckthorn and other invasive species within the North Tonawanda Audubon Preserve represent a real and imminent threat to that unique forested wetland community, especially considering the canopy gaps that are occurring or are likely to occur as larger mature specimen trees die or are blown down, and as ash trees may be impacted by Emerald Ash Borer.

If habitat restoration and protection efforts and adaptive management of targeted invasive species are not implemented their inexorable spread will significantly degrade existing native vegetation communities and associated avian and wildlife habitat at these sites and will, in the case of the Park, threaten the wetland habitats that have been the focus of previous restoration.

Given the rapidity of unchecked expansion of European Black Alder and other taxa, the cost for implementing an invasive species management plans and resource management plans at these sites will become much greater with time as invasive species densities and abundance advance.

Projects that have documented municipal, county, or Indian Nation support.

The Town of Grand Island and the Town of North Tonawanda have been notified about these projects and have indicated their support of these efforts (see Cooke 1/13/14).

Projects that are feasible from a cost/probability of success perspective.

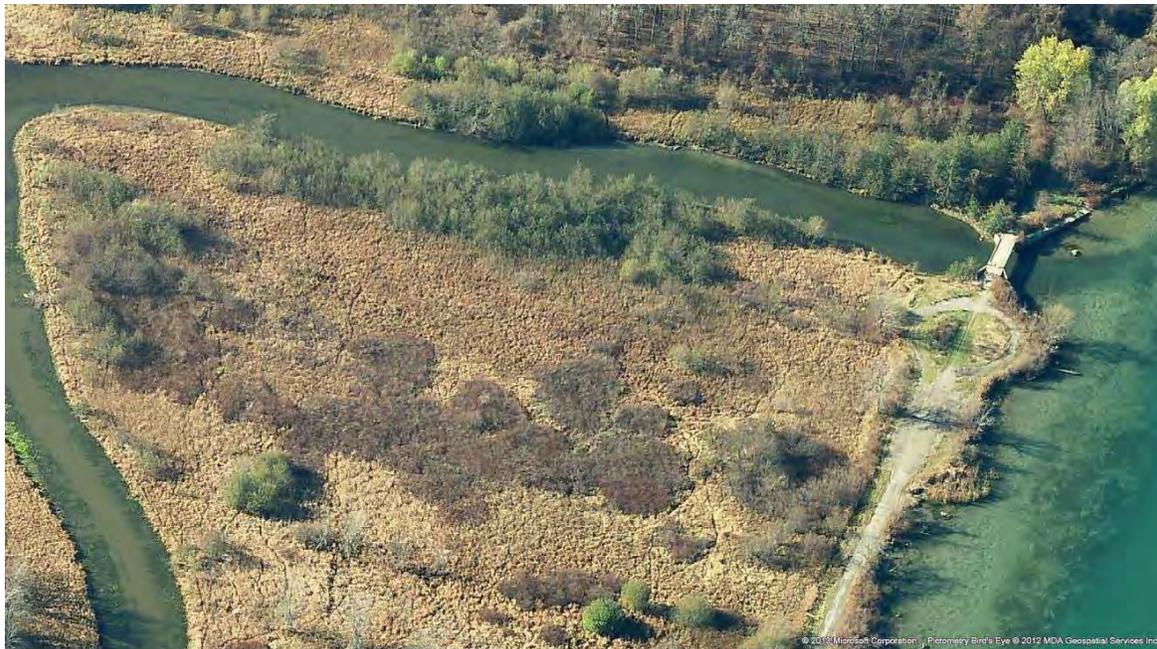
As noted previously, the Project Team is fully aware of the challenges the proposed project faces given the nature of invasive species' reproductive and competitive tenacity. It is because of that knowledge that we pursue the implementation of this project, which will lead to further pursuit of funds to support follow-on invasive species management and monitoring efforts. This project is feasible through integration of treatment actions with aggressive restoration plantings and monitoring, with adaptive management maintained throughout. Close and attentive management will be required. The already established strong collaboration that has been developed in support of this project should increase probability of success.

Niagara River Birding Trail Site Evaluations and Niagara River Greenway Bird Habitat Restoration and Protection Projects at Buckhorn Island State Park and North Tonawanda Audubon Preserve

Prepared for:



NIAGARA RIVER GREENWAY COMMISSION



Prepared by:

**Buffalo Audubon Society &
Ecology and Environment, Inc.**

PROJECT NARRATIVE

NIAGARA RIVER BIRDING TRAIL SITE EVALUATIONS AND NIAGARA RIVER GREENWAY BIRD HABITAT RESTORATION AND PROTECTION PROJECTS AT BUCKHORN ISLAND STATE PARK AND NORTH TONAWANDA AUDUBON PRESERVE

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

GUIDING VISION

The Buffalo Audubon Society and Ecology and Environment, Inc. (E & E) envision a formal “Niagara River Birding Trail” as the manifestation of the best aspects of the Niagara River Greenway—ecologically stunning sites connected by an over-arching series of interpretive, educational, and recreational experiences that connect individuals and communities to the Niagara River and the birds that nest, rest, or migrate through this remarkable landscape. Building on our successful work at Joseph Davis State Park in Lewiston, NY, the Buffalo Audubon Society/E & E team proposes to evaluate and develop habitat restoration plans for two locations: Buckhorn Island State Park and the North Tonawanda Audubon Preserve (see Figure 1 on page 3). Work at Buckhorn Island State Park will focus on upland habitats to complement wetland restoration that has already occurred; both upland and wetland habitats are threatened by rapidly spreading European black alder (among other invasive species). Work at the North Tonawanda Audubon Preserve will focus on containing and removing invasive species before they become unmanageable, while promoting understory and sapling growth to ensure the long-term health of this unique forested wetland. Finally, we will evaluate and rank additional birding sites that have the potential to become pearls along a necklace of sites connecting lakes Erie and Ontario. This work will set the stage for landscape-scale habitat improvement projects and for significantly greater public involvement in the Greenway through visits to world-caliber locations to observe birds and other wildlife.

PROJECT AND PURPOSE

The Buffalo-Niagara region has a timely and critical opportunity to further the vision of the Niagara River Greenway by creating and promoting a Niagara River Birding Trail, a global birding destination. The Niagara River Corridor is already recognized as a Global Important Bird Area (IBA) for its richness of gulls, waterfowl, and neotropical migratory birds. Wetland and upland habitat restoration projects are already in progress or completed at Joseph Davis State Park, at Times Beach Nature Preserve in Buffalo, NY, and at numerous additional localities along the Niagara River. A Niagara River Birding Trail will not only implement the goals of the Niagara River Greenway in accessibility, ecological integrity, restoration, and connectivity, but also benefit the local economy, tourism, and quality of life for the region. High quality birding sites stretch along the entire span of the river through a series of parks and trails. Improving habitat at these locations through the removal of invasive species and the restoration of native habitats will increase the abundance and diversity of the birds that use these habitats. Improvements to access and habitat coupled with branding and promotion of a birding trail will provide a world class birding experience for residents and spur increased eco-tourism. The feasibility and design plan we propose will not only create “shovel ready” sites up and down the river, but also show how existing trail systems from the Seaway Trail to biking to Blue Water can be integrated into this experience. We will also take the opportunity to immediately address imminent threats to important habitats from invasive species. The Niagara River Birding Trail represents a string of pearls along its shorelines—much like Olmsted’s vision of interconnected parks in his designs from the past—and mirrors the spirit and intent of the Niagara River Greenway vision and goals.



A WORLD-CLASS NIAGARA RIVER BIRDING TRAIL

A world class birding trail includes the following components:

1. Prime habitat for birds and other wildlife;
2. Clear way-finding and access for avid and recreational birdwatchers alike;
3. Infrastructure that supports birding and nature experiences (trails, boardwalks, overlooks and viewing platforms);
4. Coordinated educational and interpretive materials (brochures, kiosks, web connections, social media, etc.); and
5. A vibrant community of individuals and organizations invested in the continued stewardship and development of the trail.

While each of these components may already exist to some degree along the Niagara River, we need to take the following actions to develop a world-class birding trail:

- Identify locations that are world-class or have the potential to be world-class;
- Identify habitats that are threatened by invasive species or other factors or that can be improved to increase the benefit to birds and to bird-watchers;
- Restore and protect habitats to ensure that they provide high-quality nesting, resting and migratory stop-over locations for birds;
- Develop infrastructure at each location to ensure accessibility, safety and comfort for visitors from neighboring communities and around the globe; and
- Incorporate way-finding and directional signage to promote travel along the birding trail.

The following steps are identified in this proposal from the Buffalo Audubon Society for a project for funding under the Niagara River Greenway Fund. Task 1 builds upon our successful efforts in restoring and protecting bird habitat, trails, and educational opportunities at Joseph Davis State Park by developing similar site design and management plans for landscape restoration and habitat improvements at two sites: Buckhorn Island State Park and the North Tonawanda Audubon Preserve (also known as Klydel Wetlands Preserve), and by implementing invasive species management. This task will provide the background information necessary for implementation. Task 2 will be an analysis of additional existing and potential sites to evaluate opportunities for viewing, education, trails, connectivity, and interaction as part of the Niagara River Birding Trail. This will identify potential future efforts and serve as a planning tool for proceeding with site enhancements and establishing and promoting an integrated Niagara River Birding Trail.

PROJECT TASKS AND SCHEDULE

Task 1: Habitat Restoration and Protection Design, Management Plans, and Implementation

Of the many birding destination sites within the Niagara River Corridor, two locations—Buckhorn Island State Park and the North Tonawanda Audubon Preserve—clearly need in-depth planning and immediate project implementation to address acute and imminent opportunities to improve habitat quality.

Buckhorn Island State Park

Buckhorn Island State Park is located within the core area of the Niagara River Greenway Plan, is part of the Audubon Niagara River Important Bird Area (IBA), and is a designated Bird Conservation Area (BCA) by the New York State Department of Conservation (NYSDEC) (see Figure 1 below). Furthermore, the park's wetlands

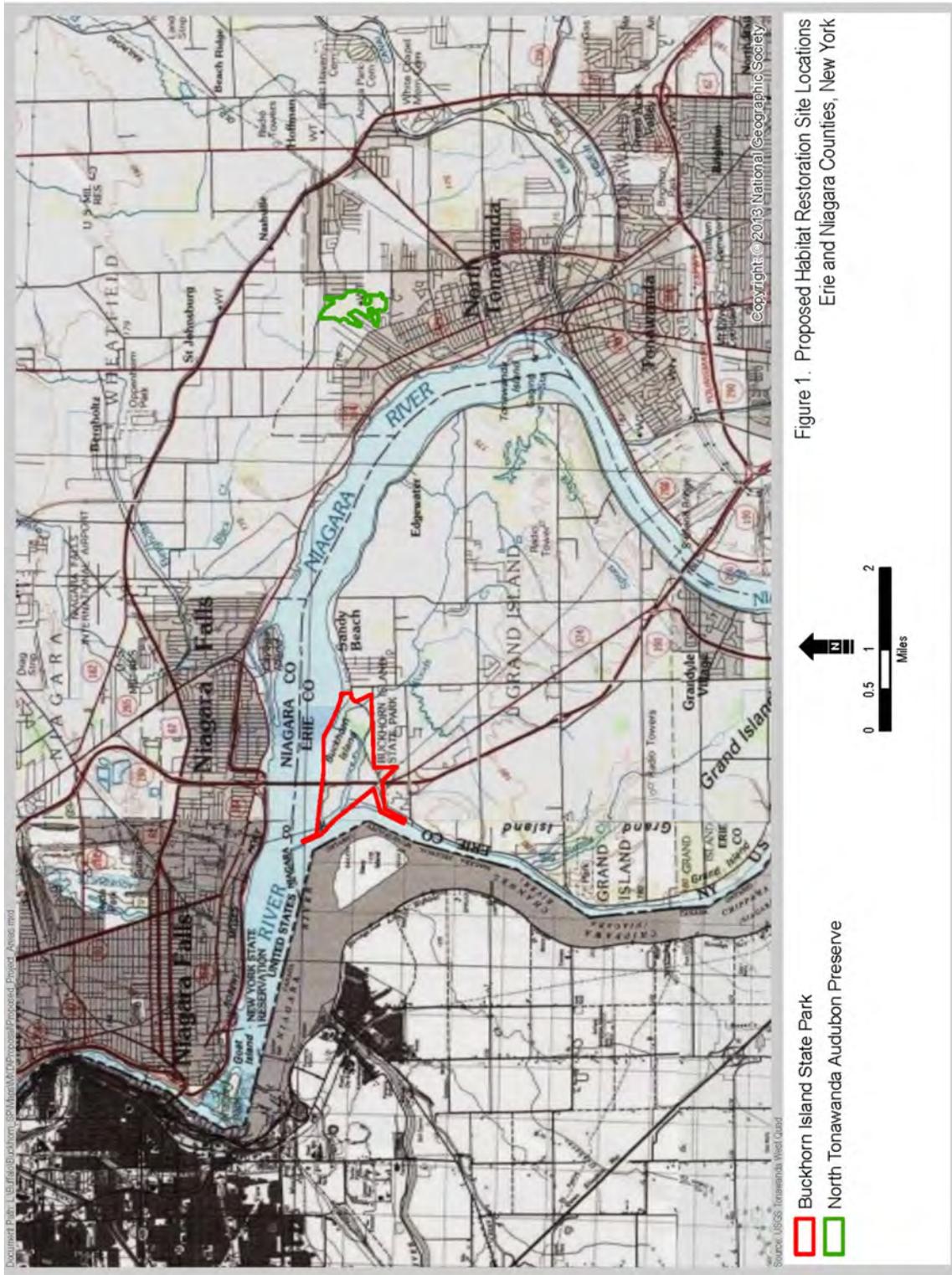


Figure 1. Proposed Habitat Restoration Site Locations
Erie and Niagara Counties, New York



are designated as a Department of State Significant Coastal Habitat and as an Area of Concern (AOC) Priority Habitat in the Niagara River Remedial Action Plan's Beneficial Use Impairment Delisting process.

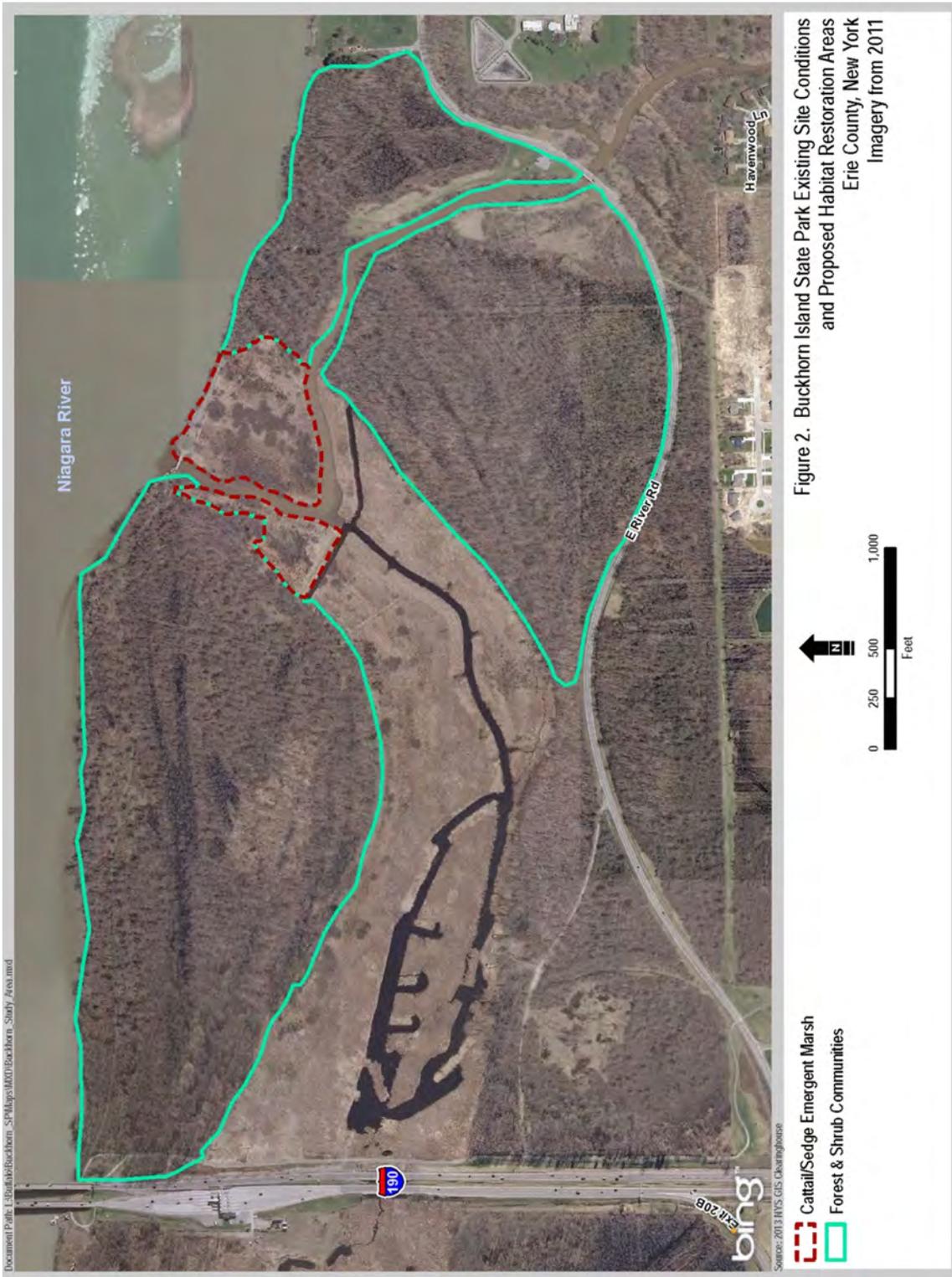
The park encompasses a diversity of vegetation communities and habitats that include herbaceous, shrub, forest, scrub-shrub wetland, and one, if not the last, large intact example of cattail and tussock sedge emergent marsh remaining within the entire Niagara River Greenway corridor (see Figure 2 on the following page). This diversity of these native vegetation communities and habitat types in such close proximity to the Niagara River is critical to the maintenance and sustainability of resident, migratory, and breeding birds within the region. The wetland and marsh communities were the subject of a significant habitat restoration project funded through the New York Power Authority (NYPA) relicensing agreement in 2007.

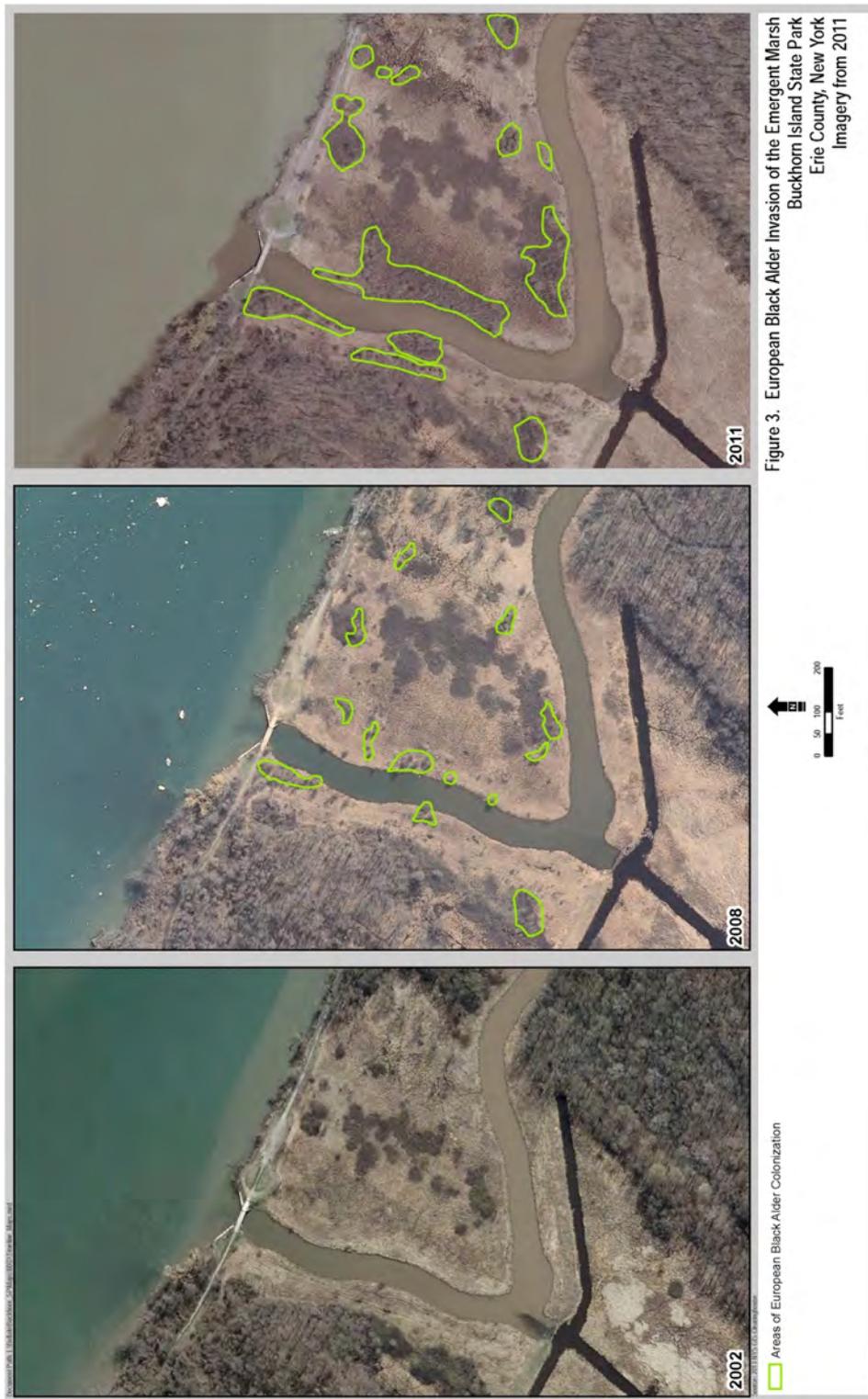
Unfortunately, the park is being colonized by European Black Alder and other invasive species that have demonstrated their ability to rapidly modify native vegetation community composition and structure and to disrupt both site specific and landscape scale ecological functions. In the three year period from 2008 to 2011, the black alder community expanded from approximately 0.7 acres to 2.1 acres representing a 300 percent increase in cover within the emergent marsh (see Figure 3 on page 6). If habitat restoration and protection efforts and adaptive management of targeted invasive species are not implemented their inexorable spread will significantly degrade the existing native vegetation communities and associated avian and wildlife habitat in the park, and will threaten the wetland habitats that have been the focus of previous restoration.

In addition to the European black alder, other invasive species are established along most of the trails, in the forest, and in the shrub communities within Buckhorn Island State Park. Based upon initial field observations the list of invasive species includes common buckthorn (*Rhamnus cathartica*), autumn olive (*Elaeagnus umbellata*), European privet (*Ligustrum vulgare*), Morrow's honeysuckle (*Lonicera morrowii*), tartarian honeysuckle (*Lonicera tatarica*), multiflora rose (*Rosa multiflora*), and garlic mustard (*Alliaria petiolata*). The replacement of natives by invasive species is effectively initiating a fundamental change in the species composition and structure of the park's forest and shrub communities. Left uncontrolled and unmanaged the further expansion of these invasive species will inevitably result in the degradation of the forest and shrub communities and their associated resident, migratory, and breeding bird habitat within the park. Habitat enhancement and invasive species control measures are necessary to protect the long-term maintenance of foraging potential bird habitat and must be addressed in order to preserve the park's native shrub and forest vegetation communities.

Waiting to implement control measures will result in a much larger requirement of money and resources to mitigate the problem in the future. Without the implementation of a habitat enhancement plan and adaptive management, this New York State designated Bird Conservation Area (BCA) will continue to degrade ecologically and soon it will no longer be economically, nor ecologically feasible, to control the invasive species colonization of the park.

We propose to further protect and enhance existing resident, migratory, and breeding bird habitat in a manner that is consistent with, and furthers the advancement of, the vision of the Niagara River Greenway Plan while simultaneously satisfying the aforementioned Priority Habitat AOC delisting criteria by creating a comprehensive habitat enhancement plan; immediately stopping the spread of invasive species that are currently well established and rapidly expanding within Buckhorn Island State Park, with an initial focus on European black alder; and providing field data and mapping of invasive species targeted for future removal.







The New York State Office of Parks, Recreation and Historic Preservation (OPRHP) is both aware of, and concerned by, the invasive species problem in Buckhorn Island State Park. The project team has consulted with OPRHP regarding the proposed project and to date has received positive feedback and support from the agency. The team will partner with OPRHP and will collaborate closely throughout the planning and implementation phases of the project. This active partnership will facilitate the long-term success of the project through the control and adaptive management of invasive species within the park subsequent to the initial implementation of the habitat restoration and protection plan.

North Tonawanda Audubon Preserve

The North Tonawanda Audubon Preserve, also known as the Klydel Wetlands, is a relatively large patch of forested wetland in a heavily urbanized area of the Niagara River Greenway Corridor. The preserve is located approximately one mile from the Niagara River, is within the Niagara River Corridor IBA, and is utilized by resident, migratory, and breeding birds within the Niagara River region.

A broad diversity of partners (federal agencies, state agencies [NYSDEC Region 9 Open Space Committee classified the Klydel Wetland as “A” priority for acquisition in 2000], local governments, non-governmental conservation organizations, profit-making corporations, and private individuals) worked together to protect this property, and significant local and national funding was used for acquisition.

Without the implementation of a habitat restoration and protection plan and the adaptive management of invasive species the ability of this urban forested wetland to function as habitat for resident, migratory, and breeding birds will be significantly impaired. Similar to the Buckhorn Island State Park invasive species problem, waiting to implement a habitat enhancement plan and invasive species control measures at North Tonawanda Audubon Preserve would result in a much larger future allocation of money and resources to address the problem.

We propose to protect and enhance existing resident, migratory, and breeding bird habitat at the North Tonawanda Audubon Preserve in a manner that is consistent with, and furthers the advancement of, the vision of the Niagara River Greenway Plan, and the goals of the Niagara River Corridor IBA conservation Plan (2002), the North American Waterfowl Conservation Act, and the North American Waterfowl Management Plan. The physical qualities (i.e., location, size, unique and mature wet Oak-Hickory Forest, and vernal pools) combined with the Class-1 wetland regulatory designation demonstrate the proposed project’s relevance and further highlights the urgency to implement a habitat restoration and protection and adaptive management plan at the preserve. The consequence of no action will be significant and chronic impacts to the resident, migratory, and breeding bird habitat in the preserve due to the current degraded state of the native shrub community, as well as the additional impacts from new invasive shrubs colonizing the site subsequent to the emerald ash borer’s (*Agrilus planipennis*; EAB) impending invasion.

Similar to the proposed plan for Buckhorn Island State Park, the Buffalo Audubon Society/E & E team will create a habitat restoration and protection plan; target the removal of invasive species that are currently well established and poised to expand within the preserve; and provide field data and mapping of invasive species targeted for complete removal and management. All of this work will be done in the context of increased outreach and community involvement as described in the recently adopted Buffalo Audubon Society strategic plan. As this preserve is embedded within the suburban community of North Tonawanda we have a significant opportunity to re-engage students, families, citizens and neighborhoods in on-the-ground conservation actions that connect them with the Niagara River Greenway.



The habitats at the North Tonawanda Audubon Preserve are poised for an ecological shift in the composition and structure of the native shrub species that compose the understory. Due to the conspicuous component of ash trees that currently comprise the canopy the forest is extremely vulnerable to the emerald ash borer that is currently invading the Northeastern U.S. The inevitable loss of the ash species from the forest canopy will result in numerous large gaps that will provide light, a resource that is in short supply in the preserve understory, for the invasive shrub species to capitalize upon and further colonize the preserve at the expense of the existing native species. The invasive shrub colonization into the canopy gaps will be exacerbated by the relative lack of competition from the currently browsed and depauperate native shrub community. It is very likely that these processes will reinforce one another and result in a rapid degradation of the native shrub layer as the emerald ash borer invasion advances through the region. Our analysis of the forest community structure will inform landowners and policy makers as we face the challenges of EAB throughout the Greenway and across our region.

Project Relevance

Implementation of a habitat restoration and protection plan and adaptive management of the invasive species on the North Tonawanda site is necessary in order to maintain and protect the ecological integrity of this unique wet oak-hickory forest and its associated bird and wildlife habitat. The Preserve is located in a heavily urbanized area of the Niagara River Greenway Corridor and within the Niagara River Corridor IBA. It is the largest contiguous forested wetland in the city limits and one of the largest areas of natural green space in the city. The Niagara River Greenway Plan lists categories of properties that should receive priority consideration for preservation for conservation purposes and recognizes that urban wetlands provide resident and migratory habitat for wildlife and public access to ecological resources lacking in most urban landscapes. The Niagara River Greenway Plan specifically cites the North Tonawanda Audubon Preserve/Klydel wetlands as a priority property for conservation consideration. The Niagara River Corridor IBA Conservation Plan recognizes that “an exceptional diversity of songbirds use the habitat along the river corridor during migration” and the plan’s first conservation goal is to “ensure the sustainability of key resources and habitats for IBA bird species” (Niagara River Corridor IBA Conservation Plan, 2002).

The proposed project will provide the necessary foundation to restore and protect bird habitat in palustrine forested wetlands, a declining wetland type in the Lower Great Lakes Plain. This habitat is used by the American black, mallard, and wood ducks, as well as a variety of forested wetland wildlife and vernal pool dependent species. The proposed habitat restoration and protection plan will benefit three North American Wetlands Conservation Act priority species and satisfy objectives of the North American Waterfowl Management Plan. It will also address habitat priorities identified by the Partners in Flight and North American Bird Conservation Initiative programs. Both programs recognize the significance of forest blocks in the Lower Great Lakes Plain as stopover habitat for migrant passerines. The mature wetland and upland forest habitats of the preserve provide excellent habitat for stopover migrants. A diversity and abundance of migrant passerines have been documented feeding and resting within preserve on a number of occasions.

Task 1 Deliverables:

A site habitat restoration and protection design and management plan will be produced for each project location (Buckhorn Island State Park and North Tonawanda Audubon Preserve) that will include the following components:

- Invasive species field data and mapping (of areas anticipated to be restored);
- Description of bird use and wildlife habitat;
- Site specific plan for habitat enhancement;
- Cost estimate for habitat enhancement plan at each project location; and



- Contractor Scope of Work for implementation of the habitat enhancement plans for each location (Buckhorn Island State Park and the North Tonawanda Audubon Preserve).

Immediate work to halt the spread of invasive species:

- Implementation of European Black Alder removal measures in the emergent marsh of Buckhorn Island State Park, stopping the aggressive spread of this invasive species; and
- Initial removal of spreading invasive species from the North Tonawanda Audubon Preserve during initial mapping exercises.

Schedule

- Site Assessment Field Surveys: Spring–Summer 2014
- Community-led invasive species removal at North Tonawanda Audubon Preserve: Spring 2014
- Site Habitat Enhancement Plans: Summer/Fall 2014
- Contractor Scope of Work: Fall 2014
- Requests for Bids from Contractors: Fall 2014
- Additional Funding Sources and Grant Applications: Fall 2014–Spring 2015
- Bid Review, Contractor Selection, and Contracting: Fall 2014–Spring 2015
- European Black Alder Removal: Winter 2015
- Implementation of Invasive Species Removal Measures: Spring/Summer 2015
- Site monitoring: Spring/Summer 2015

Task 2: Niagara River Birding Trail Site Evaluation

As mentioned above, there are a number of clear candidates for sites that can be incorporated into a Niagara River Birding Trail. However, we need a landscape-scale inventory of both public and private land holdings that may be appropriate for future restoration work or inclusion as part of the birding trail.

The Buffalo Audubon Society/E & E team will analyze existing and potential birding sites to identify where improvements can be made for habitat protection and restoration, viewing, access, education, and connectivity as part of an integrated Niagara River Birding Trail. We will compile a list of sites based on known birding hot-spots, bird sightings data, and input from birders and birding organizations. Buffalo Audubon Society and E & E naturalists will then visit sites to perform an initial evaluation based on the following criteria: birding appeal, bird habitat, access, need for restoration/protection, and existing signage. This task will culminate in an evaluation memorandum providing recommendations for: establishing and branding the Niagara River Birding Trail; increasing public awareness, interest, and use; and bird habitat protection and restoration measures for habitat resilience and sustainability. Any recommendations for signage improvements will be consistent with the Niagara Greenway recommendations.

Key elements to establishing a Niagara River Birding Trail will be the analysis for implementing habitat protection and restoration as well as conceptual trail design at up to a dozen destination birding sites along the U.S. stretch of the Niagara River, and developing communication and branding strategies to be showcased through various social media and other outlets.

In addition, there are numerous locations where upland habitat improvement projects are not necessary or feasible, but where there are prime opportunities for birding—especially birding with a focus on waterfowl and gulls that congregate on and around the Niagara River. We will identify prime viewing areas and suggest



structures, facilities and other improvements that will facilitate birding. Simple viewing platforms and shelters elevated only a few feet above ground level can significantly improve the ability to locate and identify birds, while providing shelter, informational displays, maps and other signage. Buffalo Audubon Society will evaluate educational and trail/access best practices at recognized birding trails and incorporate opportunities for citizen science collection and bird censuses by volunteers and local groups. This work will leverage the strength of the Audubon network, comprised of the National Audubon Society, its 24 state programs and close to 500 chapters. These data will provide a valuable baseline to help measure results of restoration activities and benefits of enhanced habitats. Involving citizens will also function to foster interest and resource stewardship. We will also host community meetings to solicit input from the general public, local municipalities, conservation organizations, and other constituencies.

We also aspire to use the Niagara River Birding Trail as an opportunity to engage diverse audiences, including visitors from all around the world, in meaningful experiences to learn about and take action to conserve native birds. As individuals experience the wonders of our natural world, we hope to impart simple lessons about how they can help birds in their own back yards – wherever their yard may be.

Locations may include some or all of the following:

- State parks along the entire length of the Niagara River, from our newest State Park at Buffalo Harbor to Fort Niagara State Park at the Northern terminus;
- The Stella Niagara property that the WNY Land Conservancy has recently agreed to purchase from the Sisters of Saint Francis;
- Lewiston Landing;
- The Niagara Power Vista;
- The Niagara Gorge;
- New York Power Authority property along the Niagara Parkway;
- Waterfowl viewing locations;
- Gratwick/Waterfront Park;
- Tonawanda Island;
- North Tonawanda Audubon Preserve;
- Squaw Island and nearby riverside marinas;
- Bird Island Pier; and
- Buffalo Harbor/Erie Basin Marina.

This is not meant to be an exhaustive list but rather a statement of the diversity of locations that have the potential to become elements of the Niagara River Birding Trail.

Task 2 Deliverables:

A site evaluation report will be produced under Task 2 and include the following components:

- Conceptual Plan and Vision for an integrated Niagara River Birding Trail, including highlighting and branding strategies;
- Birding sites that could be included as part of Niagara River Birding Trail; and
- Evaluation for each site regarding potential improvements in:
 - Bird habitat
 - Wildlife viewing opportunities
 - Site access



- Education opportunities
- Connectivity opportunities
- Description of next steps toward establishment of integrated Niagara River Birding Trail.

Schedule

- Brief site visits within first three months of award.
- Final evaluation report within six months of award.

Why this Project is Important

The Niagara River corridor was designated as a globally significant Important Bird Area (IBA) by Audubon New York, Canadian Nature Federation, and Bird Studies Canada in 1996. The Niagara River hosts a remarkable diversity and abundance of wintering waterfowl with several locations regularly holding thousands to tens of thousands of ducks. It is one of the best known places in the world to view spectacular concentrations of gulls, with 19 species recorded to date and one-day counts of over 100,000 individuals. The river is attractive to migrating songbirds for food and shelter and large breeding colonies of herons, egrets, gulls, terns, and cormorants also occur on the river. A binational conservation plan guides conservation and research initiatives and Audubon leads an IBA working group with support from numerous local organizations.

Invasive species removal, wetlands restoration, bank stabilization, need for native plantings as well as properly placed trails, educational material and access points have the opportunity to provide significant improvements to the Greenway. These birding sites are also not integrated into other trail systems along the river and as a result the potential for use and visitation is greatly reduced. A world-class birding trail with quality destinations from Fort Niagara to the Buffalo waterfront would clearly be a major draw to birders and ecological enthusiasts not only from Western New York but also from around the world. A fully established design plan to enhance and connect these sites will provide an ecological spine for avian species and people alike. Habitat improvements at Buckhorn Island State Park and North Tonawanda Audubon Preserve will help satisfy many of the goals identified in the Niagara River IBA Plan, the Buckhorn Island Bird Conservation Area (BCA) Plan, the Buckhorn Island SP Master Plan, and the Niagara River Greenway Plan, and will improve these sites as destinations for birders and bird-loving tourists.

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.

PROJECT'S ADVANCEMENT OF NIAGARA RIVER GREENWAY VISION

Located in the Niagara River Greenway Corridor, the proposed projects are consistent with the Niagara River Greenway Plan's vision, goals, principles, and criteria for the evaluation of proposed resource restoration projects within the defined area. Specifically, the proposed project will further the vision of the Niagara River Greenway Plan by developing accessible links in a sustainable world-class ecological corridor through the re-establishment of ecological functions, increasing ecological integrity, providing connections to other parks and conservation areas, advancing the goal of public interaction with ecological and biological systems, increasing awareness of the interrelationships between landscape elements and environmental and social well-being, and restoring degraded habitats to a higher level of functionality.



PROJECT'S ADVANCEMENT OF NIAGARA RIVER GREENWAY GOALS AND PRINCIPLES

The foundation for developing this project lies in Buffalo Audubon's vision of environmental stewardship, public recreation, and education opportunities. This project is also strongly aligned with the principles and goals outlined in the Niagara River Greenway Plan. Specifically, and as described throughout this application, the project adheres to the following Greenway Plan principles:

- Excellence;
- Sustainability;
- Ecological integrity;
- Public well-being;
- Connectivity;
- Restoration; and
- Authenticity (see text below for more detail).

The proposed project will support the Niagara River Greenway vision by meeting the following goals:

- Assessing biological stressors to facilitate long-term plans for protecting and restoring environmental systems;
- Actively restoring and protecting regional avian habitat resources for birds and humans;
- Improving opportunities for conservation and restoration education, passive recreation, hiking, and birding;
- Promoting long-term sustainability; and
- Creating partnerships between conservation groups, the NYSOPHRP, and NYSDEC to identify opportunities for shared environmental stewardship.

The ecological importance of the Niagara River Greenway was described in Niagara River Corridor Important Bird Area Conservation Plan that was produced in 2002 by a bi-national group of non-governmental agencies and government agencies from Ontario and New York.

With its extensive, natural shoreline along the river and diverse terrestrial habitats, the proposed project work areas represent an integral part of the bi-national IBA. Buckhorn Island State Park and the North Tonawanda Audubon Preserve provide a mixture of habitats for a wide diversity of bird species, and their location between Lake Ontario and Lake Erie offers an inviting rest stop for birds that move between the Great Lakes and their adjacent shoreline areas. Bonter, et al. (2009) recently addressed the importance of such locations, as they represent important areas of natural habitat surrounded largely by urban and agricultural landscapes offering few opportunities for birds.

The preservation of this IBA and restoration of degraded habitats within its boundaries is consistent with the principles of the Niagara River Greenway Plan. In addition, enhancement of bird habitat on these sites represents a significant increase in acreage used by neotropical migratory species for food and shelter that involve the Niagara River IBA in spring and fall of each year.

CRITERIA THAT DEFINE THE VISION

Consistency with Principles

The proposed project goals, products, and activities are consistent with the guiding principles of the Niagara River Greenway Plan and specifically address the following principles:



- **Ecological Integrity.** The project is consistent with this principle because it will focus on the maintenance and improvement of the health, vitality, and integrity of natural and wildlife habitats.
- **Restoration.** The project will address impacts of invasive species at each site and enhance or restore an ecological significant habitat in accordance with the Niagara River Greenway principles.
- **Connectivity.** The project will provide ecological connections in several important ways. It will enhance aquatic and terrestrial breeding habitat for birds. It will also enhance the resting habitat for migrants and a habitat for other types of plants and animals that can live in the Greenway. It will further complement an existing network of parks and refuges that constitute the Greenway.
- **Partnerships, Sustainability, and Community Involvement.** The project team will consist of the Buffalo Audubon Society, New York State Office of Parks and Recreation and Historic Preservation (NYSOPRHP), and E & E. These team members will work closely with government agencies including: NYSDEC, U.S. Army Corps of Engineers (USACE), U.S. Fish and Wildlife Service (USFWS), non-governmental organizations, academic institutions and regional experts in wildlife biology and habitat restoration. Opportunities to partner with the following will be offered: Western NY Partnership for Regional Invasive Species Management (PRISM), SUNY Buffalo, Buffalo State College, and the Buffalo Ornithological Society.

The project team brings with it the experiences from active restoration and invasive species management projects, including the Joseph Davis State Park Avian Habitat Restoration and Enhancement Project and the Times Beach Aquatic Invasive Species Demonstration Project. Buffalo Audubon Society is currently managing, coordinating, and implementing the Joseph Davis State Park Project, which was partially funded by the Greenway Commission. The project is scheduled for completion at the end of this calendar year. Buffalo Audubon Society leveraged Greenway funds to secure over \$350,000 for implementation from outside agencies (National Fish and Wildlife Foundation and Great Lakes Restoration Initiative), and in-kind services from the Town of Lewiston. Buffalo Audubon Society also oversaw a number of work days with a variety of project stakeholders and volunteers and provided numerous walks and interpretive programs at the park.

Priority Status

The project will meet the following elements of the Niagara Greenway priority listing:

- **Improved access to waterfront resources.** The Niagara River Birding Trail conceptual plan will identify way-finding and signage needs that will direct visitors to waterfront and adjacent habitats and landscapes. The plan will also identify viewing platforms or other amenities that will benefit birdwatchers and other nature lovers as they visit the waterfront. The habitat management plan for North Tonawanda Audubon Preserve will seek to make explicit connections between this location and the waterfront through signage and interpretive displays and programming.
- **Development of an integrated trail and park system.** Both project sites are located in the Niagara River Greenway Corridor and will benefit from improved habitat. For the larger vision, these sites and the birding trail plan will help promote an integrated birding trail;



- **Restoration of Niagara River Ecosystem.** This priority is a prominent and integral goal of the proposed project.
- **Interpretation and education about the region’s cultural, natural and historic resources.** The proposed project will meet this priority area through taking steps in the development of an integrated birding trail along the Niagara River and signage to complement the existing educational kiosks. These signs will inform visitors about the natural history and the importance of the ecological associations, as well as provide more bird- and habitat-specific information.

Focus Area

The focus area of the Niagara River Greenway Plan is the corridor immediately along the Niagara River. This proposed project includes habitat enhancement along the Niagara River and in the natural areas immediately adjacent to the river frontage.

Environmental Soundness

Project planning and design will restore ecological functions and habitat connectivity through a design process that will promote naturally functioning ecosystems that support a diversity of species.

Implementability or Constructability

The NYSOPRHP and Buffalo Audubon Society controls all land use activities within the project areas and will develop the project in accordance with this proposal.

Economic Viability

The proposed project will not require long-term commitments of resources, and the short term requirements will be met by the request. Monitoring beyond the performance period of the proposed project is expected to be provided through bird counts that are conducted by volunteers from Buffalo Audubon Society. Limited habitat maintenance can also be conducted by volunteers.

Local Sponsor or Partners

The principal local sponsor is the Buffalo Audubon Society with partnership with E & E.

Consideration of Other Planning Efforts

The project is consistent with the Niagara River Greenway Plan, the Niagara River Corridor IBA Conservation Plan, and is complimentary to Niagara River Greenway Habitat Improvement projects. This project will specifically provide desirable habitat features as described within the Niagara River IBA habitat characterization.

Clear Benefits

The proposed project will significantly improve the biotic environment by enhancing and restoring critical ecological functions to a complex mixture of habitats. The project will control and manage invasive plant communities to allow the introduction of native plant communities to enhance aquatic, riparian and terrestrial habitat.



ADDITIONAL PROJECT ELEMENTS SUPPORTING THE NIAGARA RIVER GREENWAY VISION, PRINCIPLES, GOALS, AND CRITERIA

This project is consistent with the goals and missions of the Niagara Greenway Commission and the NYSOPRHP. The long-term vision for the Niagara River Corridor IBA Working Group is as follows:

The Niagara River Corridor, being an Important Bird Area, will be conserved because of its importance to the international conservation of migratory and resident bird species that provide enjoyment to people worldwide, and economic, ecological and educational benefits to the people and governments of the United States and Canada.

The mission of NYSOPRHP integrates the following objectives: to provide safe and enjoyable recreational and interpretive opportunities for all New York State residents and visitors; and to be responsible stewards of our valuable natural, historic and cultural resources. Buffalo Audubon Society supports OPRHP and other state and federal agencies responsible for conserving, protecting and enhancing these resources for public enjoyment in the present and in the future. Additional project elements that support the Niagara River Greenway vision, principles, goals, and criteria are as follows:

Ecological and Biological Integrity

The goal of this project is to restore, enhance, and increase ecological and biological integrity within the Niagara River Corridor as well as functional uplift of existing biological systems. Diversification of the project sites will increase habitat structure and complexity, which will result in beneficial effects on regional ecological and biological integrity and will increase wildlife values for a greater variety of floral and faunal species. Site evaluations will be conducted to support the development of ecological and biological integrity; mapping of habitat features, including vegetation communities; selection of appropriate ecological community trajectories; mapping of targeted wildlife species habitat; invasive species control and management; and adaptive management and ecological monitoring to quantify biological uplift.

Resource and Habitat Connectivity

The planning, design, and implementation of this project will promote natural resource and habitat connectivity between the various elements located within the local and regional landscape. For the site investigations, the Buffalo Audubon Society/E & E team will assess the appropriate combination of site features in order to maximize resource and habitat connectivity while emphasizing sustainability. Relevant elements of interest include items such as habitat features for targeted floral and faunal species of concern, including rare and threatened and endangered (T&E) species; resident, migratory, and neo-tropical avian species; wildlife passage and travel corridors; and transition between habitat types. Removal of invasive species is a critical element of this project and essential to the implementation of habitat improvements.

Biotic System Sustainability

The Buffalo Audubon Society/E & E team anticipates returning the biotic system to a condition that provides increased habitat and wildlife values for various species assemblages, and to create connections between Buckhorn Island State Park, North Tonawanda Audubon Preserve and other habitat areas within the Niagara River Greenway Corridor. Key elements of the site investigation will involve the removal of invasive species and replanting with native species. Furthermore, the relatively uniform existing successional habitats will be



improved by creating mixed aged habitats that attract and support a diversity of bird species. This proposal will support connectivity by design between project site, watershed, and system-wide processes.

Natural Form and Functional Authenticity

The current relatively-degraded state of bird habitat at these sites indicates that there is potential to function at a higher level and to provide greater benefits to the environment and the region. The site investigation and design process will be based upon creating conditions to emphasize natural form and function. Functional authenticity is at the center of sustainable restoration design and will be adhered to throughout the project in order to design and construct habitat structure and complexity that is not over-engineered. The restoration design is likely to include creation of different age-stands within each vegetative layer. A detailed restoration planting plan includes the introduction of native species that provide food and shelter for wildlife.

Community Partnerships

Collaborative partnerships will be solicited throughout the planning, design, construction, and management phases of the site development, with the Niagara County Soil and Water Conservation District (NCSWCD), the NYSDEC, the US Army Corps of Engineers (USACE, Buffalo District), Niagara University, Buffalo Ornithological Society, and local K-12 schools that will use the Park during Audubon programs and other environmental education programs.

Environmental Education and Stewardship

Steps for an integrated birding trail will focus on education and connectivity opportunities to teach about each site and connection to provide a sound scientific curriculum in order to heighten awareness and provide an in-depth understanding of ecology, habitat diversity, invasive species management, native plant species introduction, and human connectivity with the natural world.

3. Budget

Planning: \$157,500

Construction: \$107,500

Acquisition: \$0

Administration: \$15,000

Operation and Maintenance/Year: \$0

TOTAL PROJECT COST: \$280,000

The budget provided above for the construction portion of the proposed project is an estimate. Since the project is at an early stage of development, it is difficult to project accurate costs from project inception through construction until we have more thorough information from the data derived from detailed site investigations, and cost estimates from contractors for the invasive species management element of the project. The estimate is based upon recent project costs for regional invasive species management and restoration projects and should represent a relatively accurate figure; however, every project site is unique and exhibits its own set of issues that affect cost.

There are significant challenges associated with addressing this spread of European Black Alder in the wetland habitats of Buckhorn Island State Park. The sites are difficult to access, the ecosystem is fragile, and mechanical treatment methods that have been successful elsewhere in Western New York may result in an unacceptable



degree of disturbance and necessitate working in winter months. Remaining treatment options are time- and labor-intensive, comparable locations are rare, and accurate cost estimates are difficult to calculate. We have included a budget line item for invasive species removal at Buckhorn Island State Park that will support work solely on European Black Alder. Our minimum goal is to slow the spread of this species by removing small individuals at the periphery of each thicket, to remove additional individuals as a barrier to continued spreading, and to remove as much of this species as possible. Our initial work will allow us to identify specific techniques and approaches that will improve our ability to solicit additional funds to finish this component of invasive species mitigation. We will work with OPRHP, potential contractors and other organizations to identify best practices and maximize the impact of this invasive species eradication.

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.

Federal and state agencies as well as non-government institutions and organizations have vested interests in these proposed project sites. Buckhorn Island State Park is one of eight Habitat Improvement Projects that have been implemented by NYPA through the NYSDEC within the Niagara River Greenway. Aquatic invasive species control and management activities began in 2007 as part of 3-year program followed by plot monitoring for a five-year period. This site is a regional destination for birders during spring and fall migrations and accessible to paddlers and anglers from the NYSDEC canoe launch site at Woods Creek. In addition, shore fisherman access the water from the trail system that follows the shoreline of the Niagara River and parts of Woods Creek. This site is popular with hikers during all seasons.

The North Tonawanda Audubon Nature Preserve (also known as the Klydel Wetlands) is a landlocked site opposite North Tonawanda High School and surrounded by residential neighborhoods. It was formally established in 2001 with the closing of the sale of the first 17 acres of wetland to be in the preserve. In order to protect and conserve unique aquatic habitat on this site, Buffalo Audubon Society joined forces with the Western New York Land Conservancy, The Citizens for a Green North Tonawanda, the U.S. Army Corps of Engineers, neighborhood residents, The Niagara County Environmental Fund, the Great Lakes Aquatic Habitat Network and Fund, DuPont, the Barbara T. and Robert Meech Fund at the Community Foundation for Greater Buffalo, scouts, and other groups committed to the to preserving these fragile wetlands.



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 the 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 animals 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.

The environmental setting and existing conditions at Buckhorn Island State Park are well documented by NYPA in the Buckhorn Marsh Invasive Species Action Plan (2009), the Niagara River Greenway Plan and Final Environmental Impact Statement (2007), the Niagara River Corridor Important Bird Area Conservation Plan (2002), and Eckel (2003). The cattail tussock sedge marsh at Buckhorn Island State Park is one of the last examples of a large intact emergent marsh wetland left on the Niagara River. Similar to the North Tonawanda Audubon Preserve's palustrine forested wetlands, the park's forests are prime examples of Eckel's unique "wet Oak-Hickory" vegetation community type. Both of these wetland habitats are NYSDEC Class 1 wetlands and support a variety of bird species like the Common Yellowthroat, Swamp Sparrow, Song Sparrow, Great Blue Heron, Green Heron, and on occasion the rare state-threatened Sedge Wren in the emergent marsh, while migratory songbirds like warblers, thrushes, sparrows, wrens are attracted to cover and foraging opportunities provided in the forest. Without habitat enhancement and invasive species control measures in the cattail and tussock sedge marsh, this last prime example of emergent habitat on the Niagara River will rapidly convert to a dense monotypic stand of European black alder with limited habitat functions for the aforementioned bird species. Habitat enhancement and invasive species control measures in the forest and shrub communities, while not quite as urgent as the situation in the emergent marsh, are also crucial to the long-term maintenance of foraging potential bird habitat and must be addressed in order to preserve the park's native shrub and forest vegetation communities.

The environmental setting and existing conditions at North Tonawanda Audubon Preserve/Klydel Wetlands are well documented by McCourt (2001a and 2001b), Eckel (2001), Sweeney (2001), and the Niagara River Greenway Plan and Final Environmental Impact Statement (2007). The wet oak-hickory palustrine forested wetlands and vernal pool complex support a diversity of bird species including the American Woodcock, Black-billed Cuckoo, Veery, Yellow-throated Vireo, Yellow Warbler, Common Yellowthroat, and Red-winged Blackbird. Examples of wetland-associated migrant species utilizing the preserve include the Wilson's Snipe, Northern Waterthrush, and Rusty Blackbird. Wetland-dependent birds like the Great Blue Heron and Green Heron occasionally feed within the vernal pools while a number of invertebrates like Fairy Shrimp, Fingernail Clams, and Burrowing Crayfish are closely associated with these unique wetlands. Without habitat enhancement and invasive species control measures in the North Tonawanda Audubon Preserve, the native shrub community will continue to be overtaken by the existing invasive shrub species on the site. This change in native shrub community composition will be accelerated once the invasion of the emerald ash borer impacts the forest canopy and produces gaps and light opportunities for the invasive species to capitalize upon and further out-compete the native species. While not widespread and established throughout the preserve at this time, the invasive shrubs are poised to expand rapidly once the emerald ash borer invasion occurs. Habitat enhancement and invasive species control must be addressed soon while the invasive shrubs are still at a manageable level and the effort is economically and ecologically feasible.



The proposed project will comply with the State Environmental Quality Review Act (SEQRA). The proposal to conduct work requires public notification and the submission of an Environmental Impact Assessment Form. The proposed project will not require a permit, but will require consultation with the U.S. Army Corps of Engineers prior to implementation of any habitat enhancement or invasive species control measures in order to ensure compliance with Sections 404 and 401 of the Clean Water Act.

As both sites are New York State Class 1 regulated wetlands, the proposed project will require a NYSDEC Aquatic Pesticide Permit for both the Buckhorn Island State Park and for the North Tonawanda Audubon Preserve for the chemical treatment of invasive species with an herbicide.

6. Literature Cited

Bonter, D.N., S.A. Gauthreaux Jr., and T.M. Donovan. 2009. Characteristics of Important Stopover Locations for Migrating Birds: Remote Sensing with Radar in the Great Lakes Basin. *Conservation Biology*, Volume 23, No. 2, 440–448.

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January 22, 2014

Loren Smith, Executive Director
Buffalo Audubon Society
1610 Welch Road
North Java, New York 14113

Dear Mr. Smith:

The Niagara River Greenway Commission is pleased to support the Buffalo Audubon Society's "Project Consultation and Review" package for the following project:

Niagara River Birding Trail Site Evaluation & Bird Habitat Enhancements

This project was deemed consistent to the Niagara River Greenway Plan as determined by the Niagara River Greenway Commission. The subjective evaluations were based on the principals, goals and criteria that define the Niagara River Greenway Plan. I have attached the Commission's comments and questions as well as public comments received on the projects submitted during the deliberation timeframe for your use. The Commission is pleased to support the Buffalo Audubon Society's project proposal and wish you great success.

Respectfully,

Rob Belue

R.A. Belue
Executive Director

Cc: Environmental Standing Committee



NEW YORK STATE
OFFICE OF PARKS, RECREATION AND HISTORIC PRESERVATION

ROSE HARVEY
Commissioner

ANDREW M. CUOMO
Governor

December 3, 2013

Mr. Robert Belue
Niagara River Greenway Commission
Beaver Island State Park
2136 West Oakfield Road
Grand Island, NY 14072

Dear Mr. Belue,

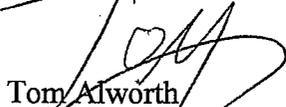
On behalf of the New York State Office of Parks, Recreation, and Historic Preservation (OPRHP) I am writing to express support for the removal of invasive species at Buckhorn Island State Park as proposed by the Buffalo Audubon Society in their application to the Greenway Commission.

Buckhorn Island State Park lies within the globally significant Niagara River Important Bird Area (IBA) that was designated by Audubon and the Canadian Nature Federation in the late 1990s. Subsequent to that designation, the park was identified by OPRHP and the NYS Department of Environmental Conservation as a Bird Conservation Area (BCA) under a state law that was modeled in part after Audubon's IBA program. The proposed project to address rapidly spreading European Black Alder and to prepare for more comprehensive invasive species removal, within the context of a Niagara River Bird Trail has our support.

By virtue of its position between two Great Lakes, Buckhorn Island State Park is heavily used by migrating birds during spring and fall migrations. It contains significant habitat used by significant numbers of gulls and waterfowl during the winter months. Much work has been done to restore marsh habitat at this park, work that will be complimented and protected by this upland project.

In addition to supporting this proposal, OPRHP, through its regional office and Environmental Management Bureau, will be happy to assist in this project as we are able. Given our current fiscal constraints and significant capital needs, we are pleased that Buffalo Audubon and its partners are seeking to leverage Greenway Funds to bring additional resources to improve the habitats and ecosystems of the Niagara Region.

Sincerely,


Tom Alworth
Deputy Commissioner for Natural Resources

Albany, New York 12238
518-474-0443 • Fax: 518-474-1365

 printed on recycled paper

Citizens for a Green North Tonawanda



December 27, 2013

The Niagara River Greenway Commission
2136 West Oakfield Road
Grand Island, New York 14072

Dear Commissioners,

Citizens for a Green North Tonawanda, an organization, that along with the Western New York Land Conservancy and Buffalo Audubon Society, worked together to preserve the treasured North Tonawanda Audubon Nature preserve, is in full support of the current Buffalo Audubon proposal to the Greenway Commission for the North Tonawanda Audubon Nature Preserve. Preservation of these wetlands benefits the families of nearly 200 residences surrounding it with habitat and flood protection.

As a long-time resident of North Tonawanda and the manager of the North Tonawanda Wetlands Audubon Preserve, I also personally agree with the proposed outline of steps that Audubon will take to remove invasive species in the preserve – an important goal as these plants will shade out native species including the seedlings that are necessary for the regeneration of this forested wetland. In addition, the proposal links the North Tonawanda Wetlands to a more comprehensive Niagara River Birding Trail that will outline signage, bird viewing platforms and other amenities that will help people bird the Niagara River and associated natural places, like the North Tonawanda Wetlands Audubon Preserve.

This preserve is a gem in our neighborhood and it improves our quality of life, lifts our property values, and provides a location where students from our school district can go to learn about Nature and to engage in conservation projects while fulfilling their community service requirements. The preserve is a haven for wildlife including owls, frogs, and other species that rely on the vernal pools that occur in the preserve.

We urge you to find this project consistent with the Greenway vision and to provide funding so that we can continue to provide quality habitat for birds and other wildlife.

Sincerely,

Elizabeth S. Kaszubski

Elizabeth Kaszubski, founder – Citizens for a Green North Tonawanda
North Tonawanda Audubon Nature Preserve Manager
1463 Fairfield Drive
North Tonawanda, NY 14120
716-695-3570

December 26, 2013

*The Niagara River Greenway Commission
2136 West Oakfield Road
Grand Island, New York 14072*

Dear Commissioners,

Please consider this letter in support of the Buffalo Audubon Greenway proposal for the North Tonawanda Audubon Nature Preserve. For years our family has walked the nature trails in the preserve as we live on Birch Drive which is in close proximity. Efforts to preserve and enhance these wetlands benefit this community.

Audubon has been a good steward of these wetlands. Many folks do not realize how these wetlands protect our street from even worse flooding than we already have. I have watched the city storm sewers back flowing into ditches into the wetland during flooding events. Dropping a leaf in the water clearly shows the direction water flows, first from the city sewers into the wetlands, and then later, back from the wetland ditches into the sewers (but normally only after the city places pumps at Nash and Walck Road to bypass the city sewage plant to relieve the overwhelmed city sewer system.) Such a flooding event occurred again just this month. I would hate to see what would happen had the wetlands been developed when the city has never had adequate storm sewer capacity during storm events.

Again, please approve Audubon's proposal for this nature preserve. The habitat improvements for the future need to be prepared now.

Respectfully yours,

*Susan Gregoire
Susan Gregoire
1451 Birch Drive
North Tonawanda, NY 14120*

The Niagara River Greenway Commission
2136 West Oakfield Road
Grand Island, New York 14072

Dear Commissioners,

I am writing in support of the Buffalo Audubon Greenway proposal for the North Tonawanda Audubon Nature Preserve. I have lived on Doebler Drive, across the street from the nature preserve (also known as the Klydel Wetlands), for over two decades. Our family sees wild turkey, many additional species of birds, mammals, and amphibians as we walk the nature trails in the preserve.

Audubon will create a plan to remove invasive species in the preserve – an important topic as I can see some of the places where these plants shade out native flowers and tree seedlings that are necessary for the regeneration of the forest ... especially with green ash trees being endangered in this preserve.

My children volunteered their time working on the nature preserve trails and cleaning up litter when they attended school. Although most folks are quite respectful of the preserve and do not litter, when it was first opened, my son's group of volunteers found 24 car tires on the Meadow Drive side of the preserve. After that initial clean up, none of that type of litter has re-occurred.

I urge you to find this project consistent with the Greenway criteria and to provide funding so we can continue to have this wonderful natural habitat that exists as an oasis in suburbia ... yet only about 1 mile from the Niagara River and certainly visited by many birds that frequent the Niagara River flyway.

Very truly yours, *Kathryn Garbus*

Kathryn Garbus
1261 Doebler Drive
North Tonawanda, NY 14120

December 28, 2013



OFFICE OF THE TOWN SUPERVISOR
MARY S. COOKE

January 13, 2014

Loren H. Smith, Ph.D., Executive Director
Buffalo Audubon Society
1610 Welch Road
North Java, NY 14113

Dear Mr. Smith,

Thank you for the opportunity to review the proposed Niagara River Birding Trail project. I understand that this project is now before the Niagara River Greenway Commission for a determination of consistency with the approved Niagara River Greenway Plan.

The proposed evaluation and development of habitat strategies to raise public awareness of the world class environmental attributes in the Niagara River corridor is wholly consistent with the goals and objectives of the Niagara River Greenway Plan. The component that focuses on Buckhorn Island State Park will add diversity to the existing recreational opportunities that exist on Grand Island.

The growing popularity of Grand Island as greenway destination is largely due the availability of parks, multi-use trails, waterfront access and a variety of related events and activities that underscore the Niagara River experience. Although these amenities are highly sought after by the general public, their value can be vastly improved through the establishment of a continuous network of recreational opportunities. To this end, the Town of Grand Island has already entered into a partnership with the New York State Office of Parks, Recreation and Historic Preservation to establish a multi-use trail along the west channel of the Niagara River that will close a critical gap in the Greenway Trail System. This new trail will link with three state parks, one of which is Buckhorn Island.

Since this project will directly impact Grand Island, I encourage you to contact and coordinate with our Conservation Advisory Board. The members have a wealth of experience and could be a valuable resource as the anticipated habitat strategies evolve. I encourage your team to utilize the most advanced methods of environmental interpretation that will get the message out to the broadest possible audience. Regarding control of invasive species, it could be useful to establish an education program that involves town residents including students. Although this project will develop strategies applicable to Buckhorn Island State Park, the scope of work could be broadened to include other significant publicly owned environmental resources including the East River Marsh in Beaver Island State Park and the wetlands around the mouth of Spicer Creek.

The proposed project fully embraces the goals and objectives of the Niagara River Greenway Plan and I encourage the Niagara River Greenway Commission to render a finding of consistency when it meets on January 21, 2014.

Sincerely,

Mary S. Cooke, Town Supervisor

New York State Department of Environmental Conservation

Niagara River Greenway Commission

Project Submissions: Round 37 –January 21, 2014

Colonial Village and Sanborn Park Restoration – Town of Lewiston

The Town of Lewiston proposes to make improvements at two town parks to increase recreational opportunities for town residents. The proposal submitted to the Niagara River Greenway Commission (NRGC) for a determination of consistency with the Greenway Plan (Plan) includes references to how certain aspects of the proposals meet the stated Plan goal of “Improved Access” and two Plan criteria, “Priority Status” and “Focus Area.” “Improved Access”, according to the Plan, is defined as improved access to Niagara Greenway resources. “Improved Access”, in the context of the proposal, refers to town residents having access to recreation opportunities. “Priority Status”, according to the plan, refers to a list of defined greenway priorities based on goals described in chapter three of the Plan. “Priority Status”, in the context of the proposal, refers to stated park improvements as a priority for the town government and residents. “Focus Area”, according to the plan, refers to specific geographic areas that have been identified as core greenway areas. “Focus area” in the proposal is described as being within a short drive of other parks and the Niagara River. The misalignment of stated project proposal goals with Plan criteria indicate that the proposals are **not consistent** with the Plan.

Pletcher Road Park Restoration – Town of Lewiston

Similar to the other proposals from the town of Lewiston, this project will improve park facilities, however, the location of the park in relation to the Greenway distinguishes this proposal from the others because of the tangible benefits that it provides to the greenway. This park will not only provide recreational facilities and concessions for local residents, but will also provide greenway visitors with a place to rest and access to other greenway features, such as the future Stella Niagara Preserve, which is located across the road from the park, and currently has limited access. The multiple greenway benefits afforded by the improvements to Pletcher Road Park will be advantageous to the development of a linear pedestrian trail along the entire Niagara Greenway Corridor. New York State Department of Environmental Conservation finds the proposal to be **consistent** with the Goals, Principles and Criteria of the Niagara River Greenway Plan.

Niagara River and Erie Canal Signage Expansion Project – Historical Society of the Tonawandas

The Historical Society of the Tonawandas proposes a project to install 22 new interpretive signs along the Niagara River and Erie Canal that will focus on historic, cultural, heritage, and ecological themes. The new signs will adhere to the Niagara Greenway *Wayfinding Standards and Signage Maintenance Manual* and will advance the immediate need for delineating a clear

pedestrian trail in the greenway corridor. It is recommended that the project sponsors consult with DEC Division of Fish and Wildlife staff regarding ecological themes for the interpretive signs. New York State Department of Environmental Conservation finds the proposal to be **consistent** with the Goals, Principles and Criteria of the Niagara River Greenway Plan.

Buffalo Audubon Society – Niagara River Birding Trail Site Evaluations and Niagara Greenway Bird Habitat Protection Projects

Buffalo Audubon Society proposes to study the feasibility of locating bird watching waypoints and improve bird habitat through invasive species removal in the Niagara Greenway. This project will enhance the experience for bird watchers and likely attract more bird watchers to the greenway, increasing tourism benefits of Niagara's avian resources. It is recommended that the project sponsor refer to the Niagara Greenway *Wayfinding Standards and Signage Maintenance Manual* for guidance on how to best design signs at the birding waypoints. DEC Natural Resource staff have offered their assistance in the identification of invasive plant species and their locations at the two wetland sites scheduled for treatment. The project sponsor should be advised that the application of herbicides in state designated wetland areas must be done by a NYS licensed applicator and will require the necessary Article 15 (Part 327 Aquatic Pesticides) and Article 24 (Freshwater Wetlands) permits. DEC permitting and natural resource staff are available to assist in the permitting process. New York State Department of Environmental Conservation finds the proposal to be **consistent** with the Goals, Principles and Criteria of the Niagara River Greenway Plan.