Prospect Heights Natural Resources Commission
Project Accounting July 2016

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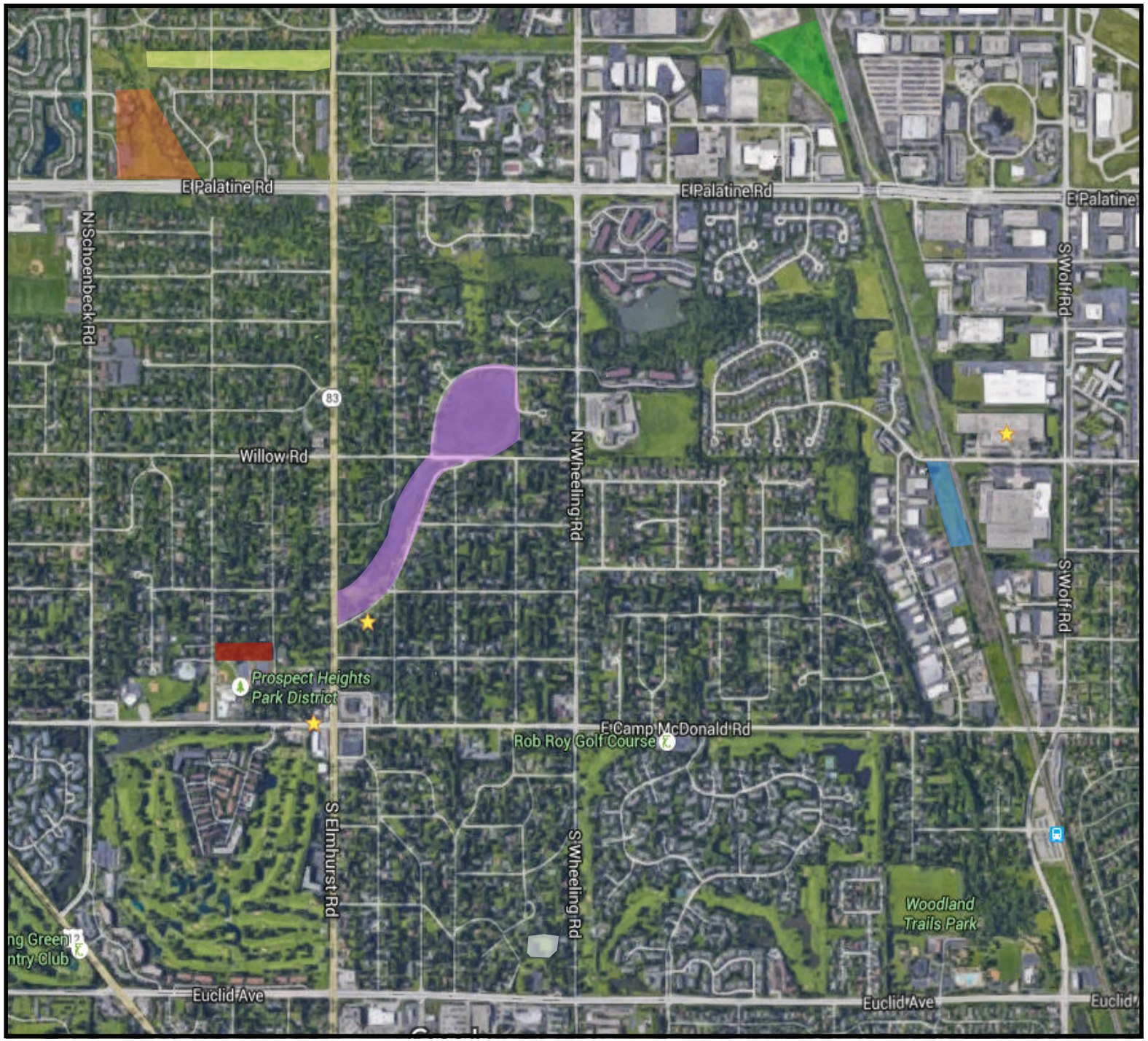
Introduction

This is an accounting of the state of the current projects under the management of the Prospect Heights Natural Resources Commission. There are many important things to note that apply to all of the projects.

- The PHNRC is a completely volunteer organization that conducts work days every other Sunday year round in addition to seed collection Wednesdays and extra work days when necessary. Volunteers log in thousands of hours every year.
- Our volunteer base consists of a core group of approximately 13-15 and expands to meet work demands with occasional volunteers and groups like the boy scouts when really needed.
- Until this year, PHNRC activities have been completely self funded by Commissioners. Contributions are still made by Commissioners to supplement the budget.
- This year PHNRC had its first summer intern, funded through the generosity of one of our dedicated core volunteers.
- With the exception of Hillcrest Lake and a portion of the Slough, all of the PHNRC projects are on land holdings owned by or governed by the Prospect Heights Park District.
- PHNRC has received two ComEd Green Regions grants.



PHNRC Project Sites July 2016

- ComEd Prairie Restoration
- Somerset Park
- Remnant Prairie
- Remnant Sedge Meadow
- Slough & Hillcrest Lake
- Morava Nature Preserve
- Tully Park

Overview

All of the PHNRC projects are located within a 5 mile radius. With the exception of the remnant prairie and sedge meadow which are located in Wheeling, all of the projects are located in Prospect Heights. Only Hillcrest Lake and a portion of the Slough are City property. All the rest of the land based projects are on Park District property or under the governance of the Park District through a lease agreement with Commonwealth Edison.

The Greenhouse activities occur on private property. The overview map shows the location of the land based projects.

In general, all of the projects are in the very early phases of restoration as the commission is only in its second year of existence. Restoring natural areas takes time and has many different requirements not only from site to site, but often within the individual sites. The ComEd prairie restoration and the Slough are case in point.

As we are a small organization, we have to work smarter, not harder. This does not always seem to make sense to the general public who may not understand the principals of restoration. It means that we consciously choose to let things go until the timing of a certain plant or the application of a specific management tool would be the most effective. Pulling dandelions in the prairie is not and never will be a priority. Restoration is not gardening. Cutting buckthorn re-sprouts and herbiciding mid summer makes absolutely no sense when a fall burn will effectively take care of the entire area in a matter of minutes. Leaving things looking a little “weedier” makes perfect sense in the majority of cases because they are place holding ground, preventing invasives that would have to be managed if they were removed. As the native plants mature, they will succeed the weed species and the only cost was a temporary eyesore.

As a result, management must done with a global view. Invasives like Canadian thistle and reed canary for instance, spread through rhizomes, creating massive colonies if left unchecked and must be treated with herbicide before they go to seed. A single seed head from the highly invasive teasel plant can create 50,000 new plants. With 10 to 20 seed heads per plant, it creates an urgent time line to prevent the prolific spread. Seed collecting, managing other invasives, planting, seeding, community outreach, education and defending ourselves to community and council all are unique events, all driven by their own agenda. It is all about the timing of things and applying the workforce to the tasks in the most efficient and meaning way.

PHNRC Project Sites
Slough & Hillcrest Lake - 2016
Joint Park District Project & City Project
Work area City
Work Area Park District

The Slough and Hillcrest Lake

Site Description

The Slough and Hillcrest Lake are a wetland located in the City of Prospect Heights that is partially owned by the Park District and partially the City of Prospect Heights. The wetland was formed by glacial retreat thousands of years ago and is on the original land surveys maps prior to heavy human settlement as one wetland. Sometime after 1938, Willow Rd was constructed through the wetland, now delineating it into the Northern “Hillcrest Lake” and the Southern “Slough”. Decades of neglect and lack of natural areas management have allowed invasive plants to choke out the native plant community that was here prior to settlement. The PHNRC has been managing the area known as the “Slough” since 2014. Restoration efforts have already resulted in many species of conservative plants to reappear, such as the Michigan Lily. These plants were dormant for decades and are coming back with restoration activity.

Despite the history of neglect, the Slough and Hillcrest Lake wetland supports a diverse assemblage of native species that are being conserved through ecological restoration work. These efforts are focused on the removal of invasive species and on conducting regular prescribed burns to restore ecosystem processes and conditions under which the wetland evolved.

The restoration plan for the Slough was presented at the PHNRC regular June 2016 board meeting and is attached as Appendix A. The Hillcrest Lake area would be scheduled to have the same type of restoration as the Slough but **no work will be scheduled there until the MWRD road project is completed.**

Status: In the second year of restoration

Work performed to date:

Spent 1 1/2 years removing invasive buckthorn.
Planted 7,206 native plant plugs representing 70 + species. See addendum B
Seeded 25 pounds of native grasses
Managed invasive plants
Burned the west Marion / Maple corridor.

Work scheduled for 2016-17

Removal of 8 acres of turf grass and non native species replace with Riparian buffers.

Create Mow paths and hiking trails.

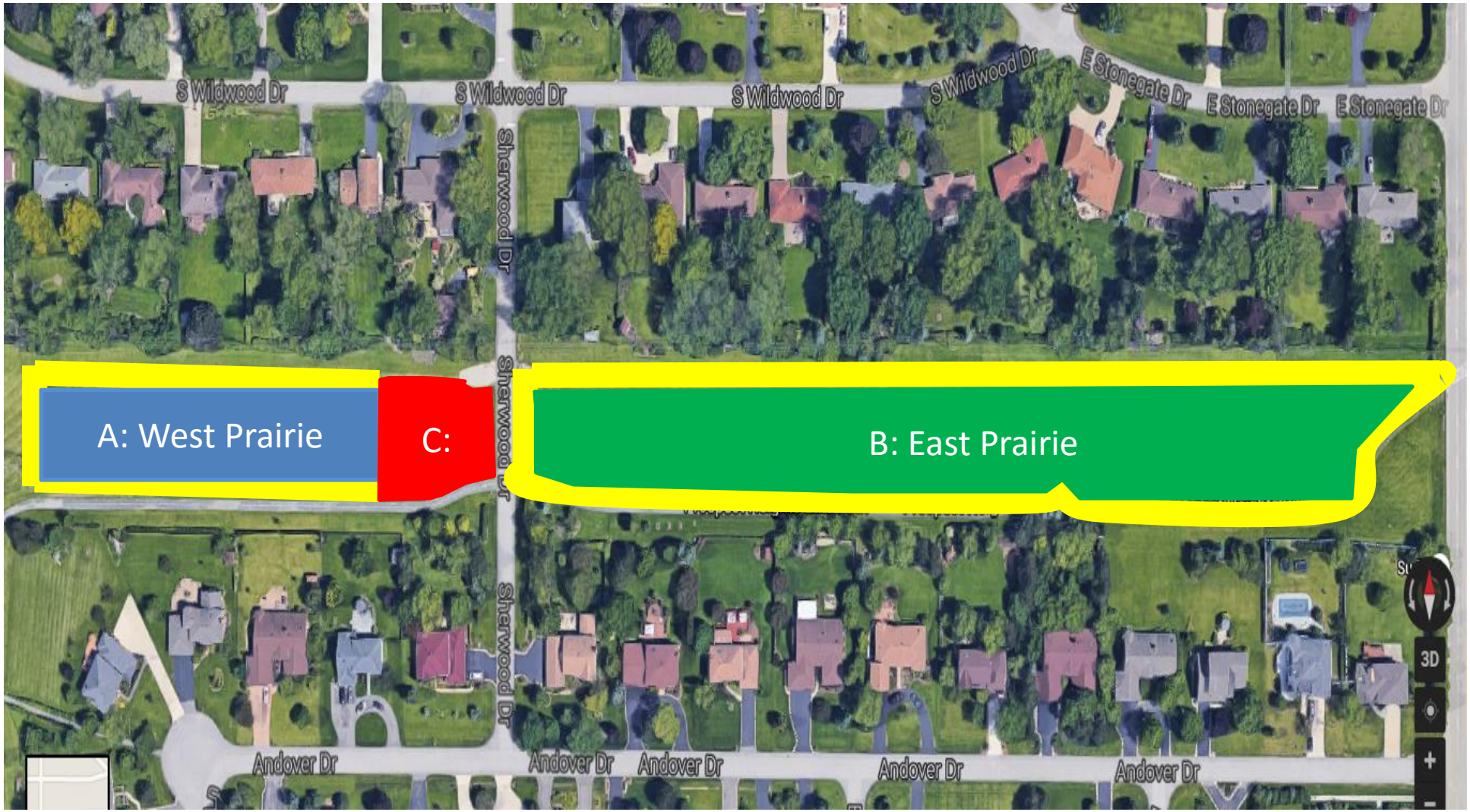
Continued planting and seeding of native plugs and seed.

Continued maintenance

- Prescribed burns in the fall 2016 and spring 2017.
- Manage invasive plants.
- Manage aesthetics.

See Appendix B for the complete Slough and Hillcrest Lake Ecological Management Schedule

PHNRC Project Sites - ComEd Prairie Restoration - 2016
Park District Project - ComEd Lease Agreement
Work area



A: West Prairie
Dec 2014 seeded
Fall 2015 Transline
Dec 2015 seeded

C: Frequently mowed, low inv seedbank prairie
Dec 2014 seeded
Fall 2015 Transline
Dec 2015 seeded

B: East Prairie
Dec 2014 seeded
Fall 2015 Transline

6-15 ft wide planned mowing margin

Com Ed Prairie Restoration

Site Description

Com Ed Prairie Restoration is located in the Com Ed right of way, nestled between Route 83 and Somerset Park, along the Prospect Heights Park District Bike path. The 4.5 acre site was likely prairie until the late 1800's, when it was converted into agricultural use. Sometime after 1938 high voltage power lines were installed and the area has been maintained by Com Ed as a right of way since then. The area is under a lease agreement from Com Ed to the Prospect Heights Park District, originally for the Park District to maintain the area next to the Bike Path. In 2015, the lease agreement was amended and updated to include all restoration activities of the PHNRC.

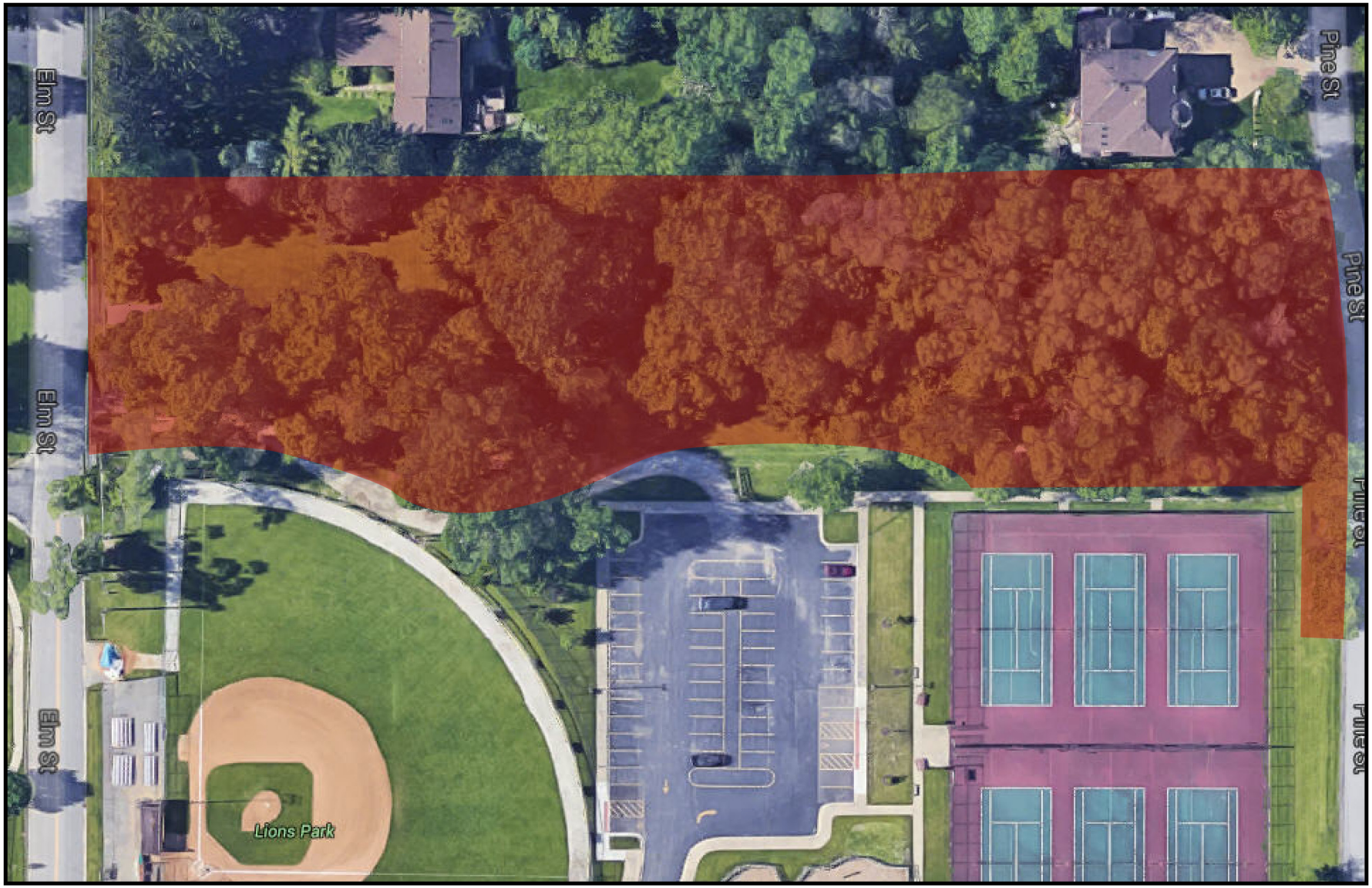
In 2014, a Com Ed Green Regions grant was awarded to restore the area back to prairie. The starting conditions were a nonnative turf grass and a seedbed of nonnative weedy species that had accumulated due to Com Ed mowing practices, except for one section labeled C that was mowed weekly for the last 30 years. In December 2014, 80 lbs of prairie seed mix were seeded after removing the turf vegetation with herbicide.

In December 2015, a very thick mat of clover came in from the seed bed in addition to the prairie seedlings. Area A was herbicided with a selective herbicide and reseeded. Area C was herbicided and not reseeded.

Unfortunately, approximately 20% of the entire site was erroneously mowed down low, effectively killing most of the prairie seedlings coming up in those areas.

The current efforts are and will be focused on the removal of invasive species, encouraging the young prairie seedlings by selectively cutting, plugging and seeding plants, and on conducting regular prescribed burns to restore ecosystem processes and conditions.

See Appendix C for the ComEd Prairie Restoration Ecological Management Schedule



PHNRC Project Sites - Morava Center Nature Preserve - 2016
Park District Project
Work area

Morava Nature Preserve

Site Description

Gary Morava Nature Preserve is 1.6 acre property that is owned by the Park District. Historically, the area was in agricultural use for decades until it was purchased by the Park District. Many invasive species of plants have been allowed to grow there, choking out desirable species. There is a meandering creek that is tributary to McDonald Creek, eventually emptying into the Slough and Hillcrest Lake wetland.

This is a Park District project. The project was just recently awarded a ComEd Green Regions grant administered through Openlands. The idea for the project was to create an interpretive nature park, providing ecological benefits and wildlife habitat while nurturing children's connection to nature through education. The parcel of land is adjacent to The Gary Morava Recreational Facility, which offers a variety of classes and programs, including preschool, after school care and summer day camp for elementary age school children. The area is easily accessible, across the street from the Prospect Heights Library and within walking distance of Eisenhower Elementary School.

Status: In the first year of restoration.

Work performed to date:

- Spent last winter removing invasive buckthorn.
- Planted 500 native plugs
- Seeded 5 pounds of native seed
- Managed invasive plants

Work scheduled for 2016-18

- Stabilize the shore line with native plugs.
- Create hiking trails.

- Continued planting and seeding of native plugs and seed.
- Install interpretative signage
- Install interpretative bridge
- Create interactive nature areas
- Create prairie area
- Plant native shrubs and trees
- Continued maintenance
    - Manage invasive plants.
    - Manage aesthetics.

See Appendix D for the Morava Nature Preserve Ecological Management Schedule

PHNRC Project Sites
Remnant Prairie - 2016
Park District Project
ComEd Lease Agreement
Work area

Remnant Prairie

Site Description

The Remnant Prairie is a 7 acre parcel of land in Wheeling that is owned by Com Ed, with a lease agreement with the Prospect Heights Park District. The lease agreement was amended in 2015 to allow for ecological restoration of the site. Historically, the land was prairie and wet prairie based on the original pre-settlement land survey maps. It was converted to agricultural use in the late 1800's and later became ComEd right of way sometime between 1938 to 1960 when the high tension power lines were installed. For some reason, a community of native prairie plants survived, likely due to the railroad and right of way that was installed prior to agricultural conversion. This site is severely degraded and contains a very thick invasion of invasive plants, notably teasel and crown vetch. This site has however become a very important area for the PHNRC to collect locally genetic seed from an assemblage of over 50 native prairie plants. The PHNRC has spent very little time managing the site, mostly by removing teasel. Even with limited management, the plant community has responded very positively and several new species have been found since management started. PHNRC will continue to manage the site on a limited basis and collect seed.

See Appendix E for the Remnant Prairie Ecological Management Schedule

Status:

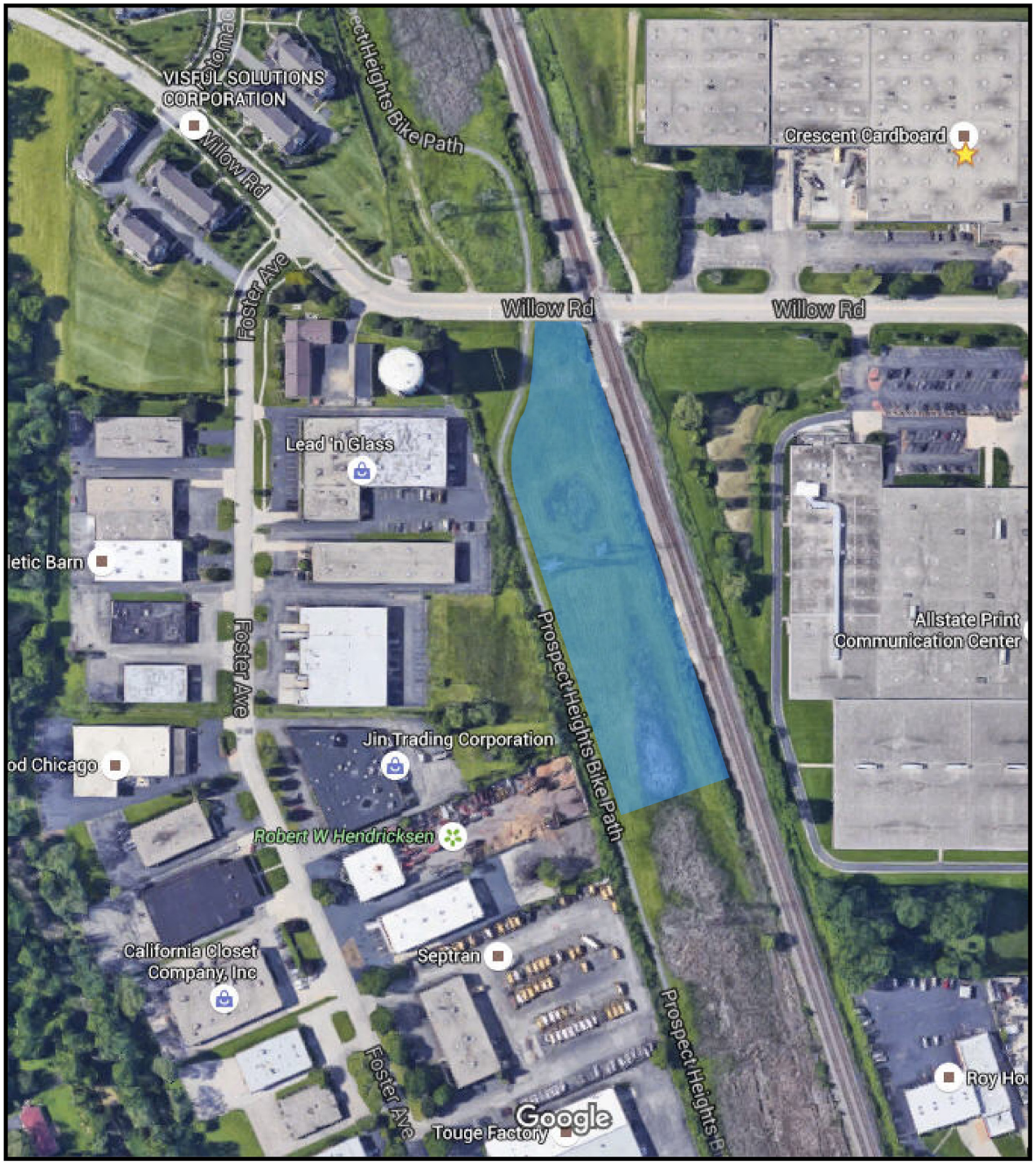
In the second year of limited management by PHNRC.
Area has never been mowed and contains many different species of prairie plants and is an important seed source.
Heavily infested with invasive species.
Limited management has improved quality and number of species of plants
Grade C prairie by INHS standards.

Work Done:

Limited invasive plant removal, mainly teasel and crown vetch
Almost a hundred pounds of seed has been collected by volunteers.

Future Work:

Increase invasive management to bring the area up to a grade B prairie, at which point it will be burned by Com Ed.
Continue seed collection
FQI analysis (monitoring). To date, several new species have been identified even with limited management.



PHNRC Project Sites
Remnant Sedge Meadow- 2016
Park District Project - ComEd Lease Agreement
Work area

Remnant Sedge Meadow

Site Description

The Remnant Sedge Meadow is a 5 acre parcel of land in Wheeling that is owned by Com Ed, with a lease agreement with the Prospect Heights Park District. The lease agreement was amended in 2015 to allow for ecological restoration of the site. Historically, the land was wet prairie based on the original pre-settlement land survey maps. It was converted to agricultural use in the late 1800's and later became ComEd right of way sometime between 1938 to 1960 when the high tension power lines were installed. For some reason, a community of native wet prairie plants survived, likely due to the railroad and right of way that was installed prior to agricultural conversion.

This site is in very good condition and hosts dozens of species of wet prairie sedges, rushes and grasses, as well as several very conservative plants, ie.,the narrow leaved loosestrife and native orchids. A very large section has been invaded by cattails, notably there before any restoration activity. The area is an important site for seed collection.

The PHNRC has spent very little time managing the site, mostly by removing teasel and purple loosestrife. Even with limited management, the plant community has responded very positively and several new species have been found since management started. The threatened narrow loosestrife has expanded its range from a single plant to almost a dozen. PHNRC will continue to manage the site on a limited basis and collect seed.

See Appendix F for the Remnant Sedge Meadow Ecological Management Schedule

Status:

In the second year of limited management by PHNRC.
Area has a STOP MOW order since 2015.
Contains many different species of wet prairie and sedge meadow plants and is an important seed source.
Scarcely infested with invasive species.
Limited management has improved quality and number of species of plants

Work Done:

Limited invasive plant removal, mainly teasel and purple loosestrife

Almost 20 pounds of seed has been collected by volunteers.

Future Work:

Increase invasive management of teasel.

Seed into drier areas with seed from adjacent areas (remnant prairie)

Continue seed collection

PHNRC Project Sites
Somerset Park - 2016
Park District Project
Work area

1 Somerset Park

Site Description

Somerset Park is a small swath of open space between two suburban neighborhoods in Prospect Heights, Illinois. The area is owned by the Prospect Heights Park District. The park sits at the intersection of three important pedestrian and wildlife corridors; Prospect Heights bike path, McDonald Creek, and the Com Ed right of way.

In 2014, the PHNRC and the Prospect Heights Park District applied to the University of Madison Wisconsin for the Capstone Project with a vision of creating a network of healthy native plant and wildlife communities in the area of Somerset Park. The Capstone project was awarded and as a result, a student spent his entire senior year working on the plan as his thesis project in the field of Landscape Architecture.

The completed product is a detailed design of the area as a native prairie garden. As it currently stands, the site is simply a large expanse of mowed, underutilized grass. This design repurposes it as a native prairie plant community, reestablishing natural, native plant and wildlife habitat throughout the area of Prospect Heights. The design brings the public directly into the natural landscape. By providing the residents of Prospect Heights a beautiful natural setting that they can truly interact with and make a part of their community, Somerset Park can help to foster the public appreciation for natural spaces needed to transform Prospect Heights into a thriving community for people and wildlife alike.

The design plan has been presented to the Park District Board with great positive response. The Park District, along with the help of PHNRC plans to apply for the Chi-Cal River Funds Grant later this month to fund the execution of the design plan.

Hardscape and labor will be sourced out. The project will likely need to be done in phases over the next several years. According to the vision of the project and the landscape architect, the plants that were chosen are also locally available to the PHNRC. With a very strong greenhouse program, this will enable the Park District to move forward with a much lower cost of implementation.

As this is a future project that requires thoughtful planning and funding, there is no ecological management schedule. This project will need to be managed with Park District time and labor. The PHNRC will help with the initial stages and installation If needed. The PHNRC will also advise the Park District on any ecological management issues as the project progresses.

PHNRC Project Sites
Tully Park - 2016
Park District & Tully Park Residents Project
☐ Work area

Tully Park

Site Description

Tully Park is a 2 acre piece of land that is owned by the Park District within the City of Prospect Heights. Historical land survey notes , 1957 aerial topography maps and 1938 and 1960 satellite imagery indicate that the area was prairie mixed with wet prairie. Following settlement, the area was in agricultural use prior to acquisition by the Park District. The area is surrounded by homes.

Local area residents reached out to the Prospect Heights Park District and PHNRC requesting that the area be converted into a natural area. After the Park District approval of such a conversion, PHNRC has been working strictly in an advisory position to help the residents with this conversion. PHNRC has offered knowledge, resources and limited time to help the residents of Tully Park.

This Management schedule will help them to define the activities necessary for restoration of the site.

See Appendix G for the Remnant Sedge Meadow Ecological Management Schedule

Greenhouse Program

The PHNRC has successfully propagated thousands of plant plugs of native prairie, wetland and woodland species for the second year in a row.

To compare the cost of the savings to restoration projects within the City by having a greenhouse program, 7206 plant plugs were purchased for the ComEd Green Regions Grant that was awarded in 2014 at a cost of $10,000.00

PHNRC propagated an additional 8,000 plugs in 2015 and more than 30,000 plugs of plants in 2016. This year, close to $50,000 of plants were grown.

In addition to PHNRC greenhouses, Horcher Farms and Oakton Community Greenhouse have been growing plants and shrubs for PHNRC for free, as well as sharing invaluable information about proper propagation techniques.

Seed collection, processing and planting are all done with PHNRC volunteers.

Currently, there are over 80 species of plants that are represented. Roughly 70 % are from locally remnant sources of seed, 30% are from seed that were collected from the ComEd grant plantings. The species that were purchased with the grant were thoughtfully selected to increase the number of plant species available for restoration, thereby increasing biodiversity of all of the restoration sites.

The greenhouse program will continue with even greater success as seed scarification, stratification and germination methods are constantly improving with advice from professionals, dedication and experience.

Community Outreach Program

Realizing the need for community engagement and education about natural resources and restoration activities in the City of Prospect Heights, the PHNRC has created many venues that all community residents have access to. Below is a brief description of each.

PHNRC Website

The phnrc.com website is a clearing house of information about everything PHNRC. The site contains two years of the archived Resources Journal, a calendar of events, project descriptions, complete information about the Nature Speaks program and links to the Hey report, the PHNRC implementation plan, and other assorted Management and restoration plans

Journal

A monthly Journal is electronically delivered to any person that signs up for the listserve. The Journal contains articles about PHNRC activities, all of the happenings around the sites, as well interesting educational articles about plants, wildlife, ecology and nature. The Journal reaches almost 200 people each month. Workday notices are also sent out via email, as well as weather cancellations and special events.

Library Programs – Nature Speaks!

Nature Speaks is in collaboration with PHNRC partner, the Prospect Heights Public Library.
The series features four speakers annually, one each season and is designed to bring important national and regional speakers to Prospect Heights to discuss important, informative and entertaining topics affecting our city, our state and our planet. Prior speakers have been John McCabe, Director of the Department of Resource Management for the Forest Preserve District of Cook County, Doug Taron, Curator of Biology and Vice President of Research and Conservation at Chicago Academy of Sciences' Peggy Notebaert Nature Museum and Bruce Shackleford, President and principal project director of Environmental Consulting Operations, Inc. (ECO, Inc.) of Benton, Arkansas.
Our Future Speaker in September is Kurt Dreisilker, Head of Natural Resources at the Morton Arboretum.

Park District Programming

Partnering with the Park District, the PHNRC has organized numerous programs that residents can enjoy. Professionally led bird walk tours have been the most popular to date, with experts from the Bird Conservation Network volunteering their time and expertise to our community. Bird walks have been offered for free to local residents. Other classes that are offered are native plant ID and basic botany and walking tours of the prairie and wetland sites.

This year, the PHNRC has extended the educational opportunities to families and children, with classes such as" Hop, Skip and Jump!" inviting the entire family to learn about frogs and toads, their habitat, how they develop, what they eat and why they are so beneficial, and "Critters in the Creek", Where kids get to put on waders, grab a net and a bucket as we go creek wading in search of macroinvertebrates that live in the creek under rocks and logs and tell us an important story about how healthy our tributary creek is.

Facebook

Keeping in times with the era of social media, PHNRC maintains a Facebook page with 165 followers. Posts are made almost on a daily basis, with interesting environmental updates and photos of PHNRC activities.

Video Series

PHNRC has begun a new educational series of videos that will appear on our website. These videos are focused on management tools, best practices, plants and plant ID, prescribed burns and sight tours. Viewers will soon be able to watch future Nature Speaks speakers from our Nature Speaks series.

Tours, Walks and General Outreach

PHNRC routinely conducts a short walk with volunteers after the workdays to show them progress and interesting changes in the sites we are managing that day.

Special tours are provided on an individual or a group basis as the need arises or anytime we are asked to do so.

Commissioners always engage community members any time we are out, answering questions, addressing concerns and listening to feedback and suggestions.

Appendix A

Prospect Heights Natural Resources Commission

Naturalization Plan for the Prospect Heights Slough

June 16, 2016

It is the mission of the Natural Resources Commission to preserve, protect and restore natural areas and raise awareness of environmental issues affecting Prospect Heights Illinois.

The Prospect Heights Natural Resources commission will present the current state of the planning for the restoration of the Prospect Heights Slough. The plan draws heavily from the problems/issues as outlined in the Hey report dated 11.02.2016 and the solutions proposed by the PHNRC implementation plan dated 02.04.2016.

Both documents may be downloaded or viewed at our website phnrc.com

Summary of the Hey Report

Main Problems:

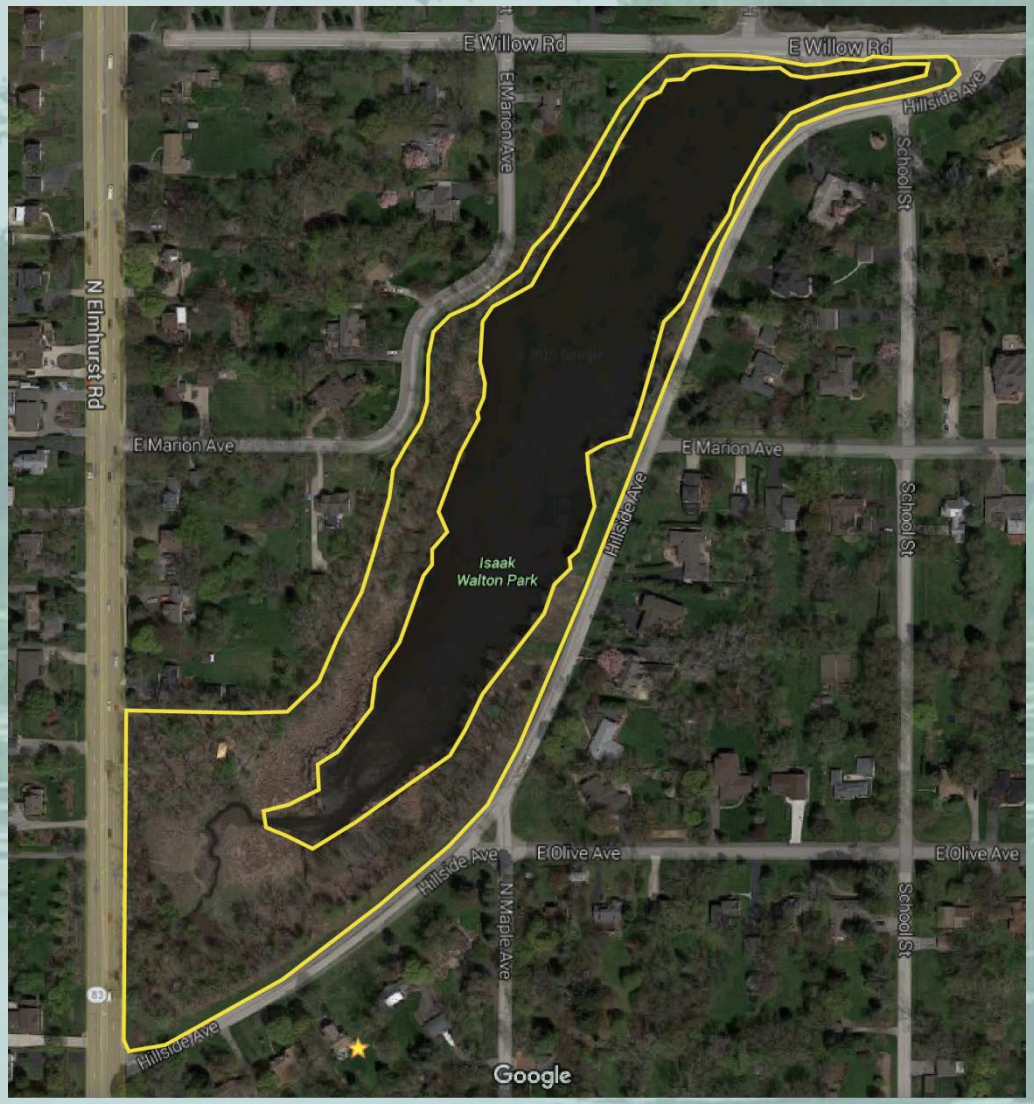
1. Shoreline erosion
2. High nutrient loads
3. Excessive native aquatic growth
4. Large goose population
5. Shallow water depth
6. Invasive plant species

Recommended Solutions:

1. Removal of turf grass at the shorelines
2. Re-vegetation of shorelines with native plants
3. Reduction of goose populations
4. Removal of invasives
5. Community outreach and education
6. Detain, retain or filter incoming storm water
7. Controlled burns or scheduled mowing

Slough – Problems: Shoreline erosion, nutrient overload, invasive aquatic growth, goose population, invasive plant species, contaminated storm water runoff, low water levels.

Slough remove invasive plants and turf grass and plant 8 acres of vegetated buffer strips. Plant native aquatic plantings from the shoreline out into the water to enhance the shorelines visual appeal while providing habitat and shading out other aquatic plants.



Prospect Heights Natural Resources Commission
Slough Work Area -

Why are invasive plants bad and what role did they play in all this?

Invasive removal is the first step in restoration. While buckthorn is the most prolific and destructive of the invasives, cattails, reed canary, garlic mustard, ragweed, honeysuckle, teasel, Canadian thistle and several other species populate the slough.

1. Native plants have evolved over time into balanced ecosystems supporting a wide range of life.

2. Invasive plants form monocultures, or large stands of only one species. This decreases the biodiversity that all animals have come to depend on.

3. Instead of hundreds of different native plants and hundreds of species of insects and animals there is one stand of buckthorn or acres of teasel or reed canary grass and a limited amount of inhabitants.

4. Buckthorn eliminates any hope of native growth, making the ground as absorbent as pavement and increasing runoff into the water.

5. Reed canary and cattails spread like wildfire creating large monocultures, decreasing habitat for birds.

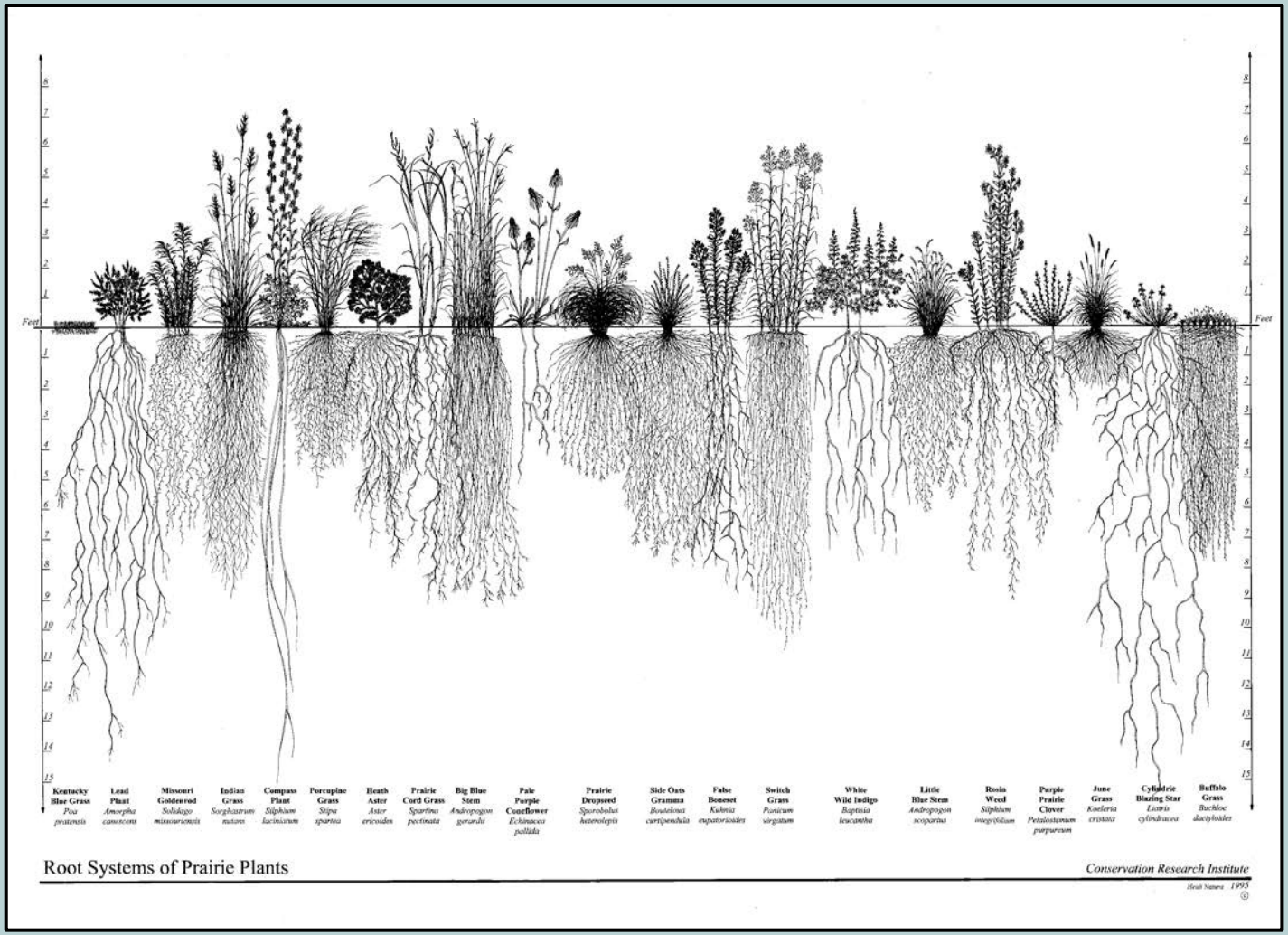
Why are vegetative buffers important and what role do they play ?

Vegetative buffers play a major role in solving our problems. Turf grass while not invasive, is not native and does not provide food, shelter or any other ecological benefit. Additionally, it's very shallow root system provides little water retention or shoreline stabilization.

Native plants have very deep root systems up to 15 feet. Native plants typically have more biomass below ground than above ground.

It is easy to see how native plants will prevent soil erosion, filter harmful elements, and hold back more runoff, reducing the volume of inflow into the watershed.

Over time, vegetative buffers are very effective is reducing nutrient load and stabilizing the ecosystem.



Courtesy of Conservation Research institute and Heidi Natura

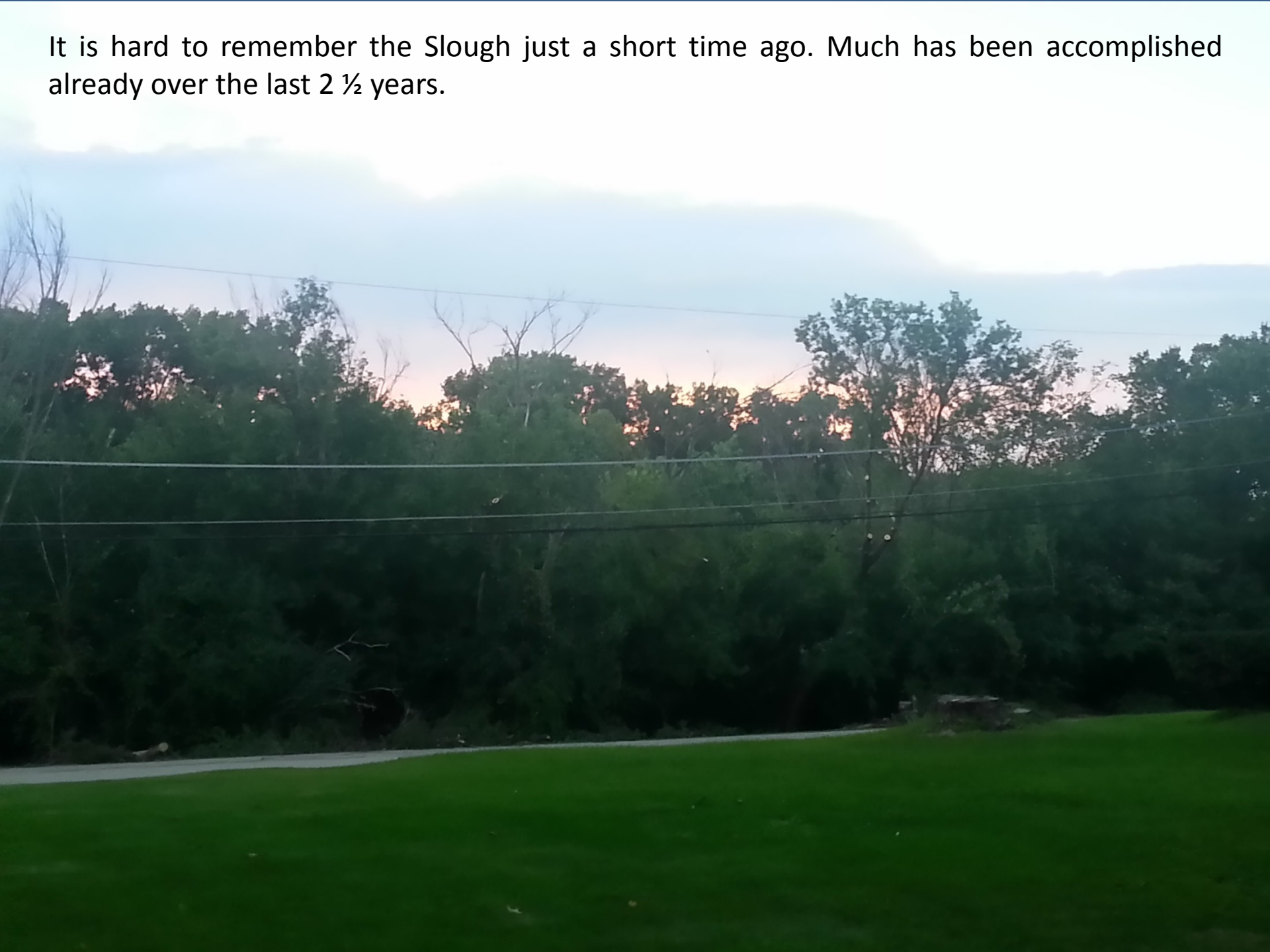
Buffer strips also enhance the visual appeal of the environment.

Buffers strips are created in several ways. Once invasives are removed, the native seed bank has the opportunity to emerge in the presence of light, water and nutrients and contribute significantly.

Prepared areas are also seeded with native seeds, native plugs and plantings of trees and shrubs. It takes time for buffers to fully mature as native plants spend the first two years developing their root systems. This is why community outreach and education are so important in this time of transition.

Buffer strips will also reduce the goose population as it does not provide favorable habitat for geese. Mow paths provide public access through the buffer strips.

It is hard to remember the Slough just a short time ago. Much has been accomplished already over the last 2 ½ years.



So why does restoration take so long and look so bad sometimes? Why are there so many weeds? Why don't you go after all of them?

1. Not all weeds are bad.
2. Some are annuals and will go away on their own, some are biannual and have a two year life cycle, some are non-invasive and some are very invasive.
3. Non-invasive weeds actually serve a very valuable service. One of the cardinal rules of restoration is if there is space available, something will move in and take it.
4. Better it be a non-invasive annual weed than something highly invasive.
5. Disturbance is anything that disrupts the soil and existing plant community, changing resource availability and allowing other plants to grow.
6. Removing buckthorn, foot traffic from work days an wildlife traffic are all examples of disturbance to the soil.
7. Many weed seeds lie dormant in the soil waiting for a disturbance to give them the opportunity to come to the forefront. This is why we see a flush of weeds at the Slough after invasive removal.
8. Many weeds arrive courtesy of animal transport.
9. Weeds happen.

Invasive weeds like Canada thistle, teasel, clover and reed canary, need to be completely taken out with the use of herbicides as they spread underground and are close to impossible to irradiate.

Other plants that don't pose such a threat simply need to be managed by removing flowers before the go to seed to prevent next years crop from coming in.

Using non-invasive plants as "place holders" allows us time to get the invasives controlled without giving them space for them to expand. Eventually, the natives will out compete the non-invasive species.

Land management is a complicated and involved process with many factors to consider.

1. Invasive plants all have their own time table when it comes to managing them.

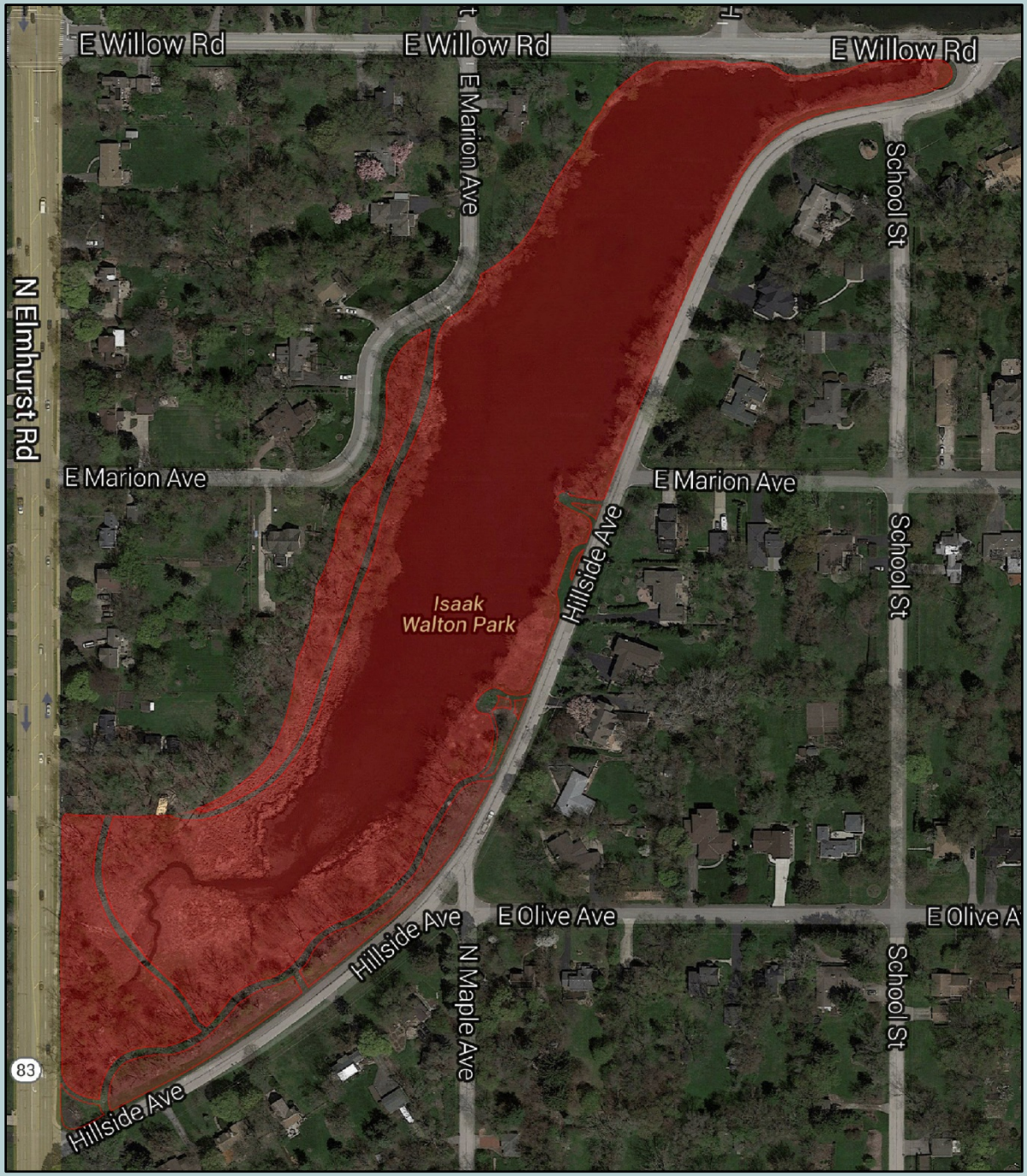
2. As a result, we constantly need to prioritize our efforts due to the unique qualities of various plant species that need to be managed at the appropriate times.

3. When you factor in all of the projects under PHNRC management it is easy to see what a juggling act it can be to be in the right place at the right time.

4. It is a task that could not be accomplished without the love and dedication of our volunteer base.

5. Volunteers make this organization go. They are the reason we have accomplished so much in such a short time. Volunteers have become good friends, share a common dialogue and look forward to work days. Most have found it to be a very rewarding personal experience.

We encourage anyone with an interest in making a difference in Prospect Heights to come out and join a work day.



Slough Plan Overview

The goal is to strike a balance between restoration and preservation of the Slough with public access for the enjoyment of the residents.

Constructing mow paths and hiking trails are essential to providing neighborhood access to enjoy what is being created while protecting the the health and wellbeing of the wildlife.

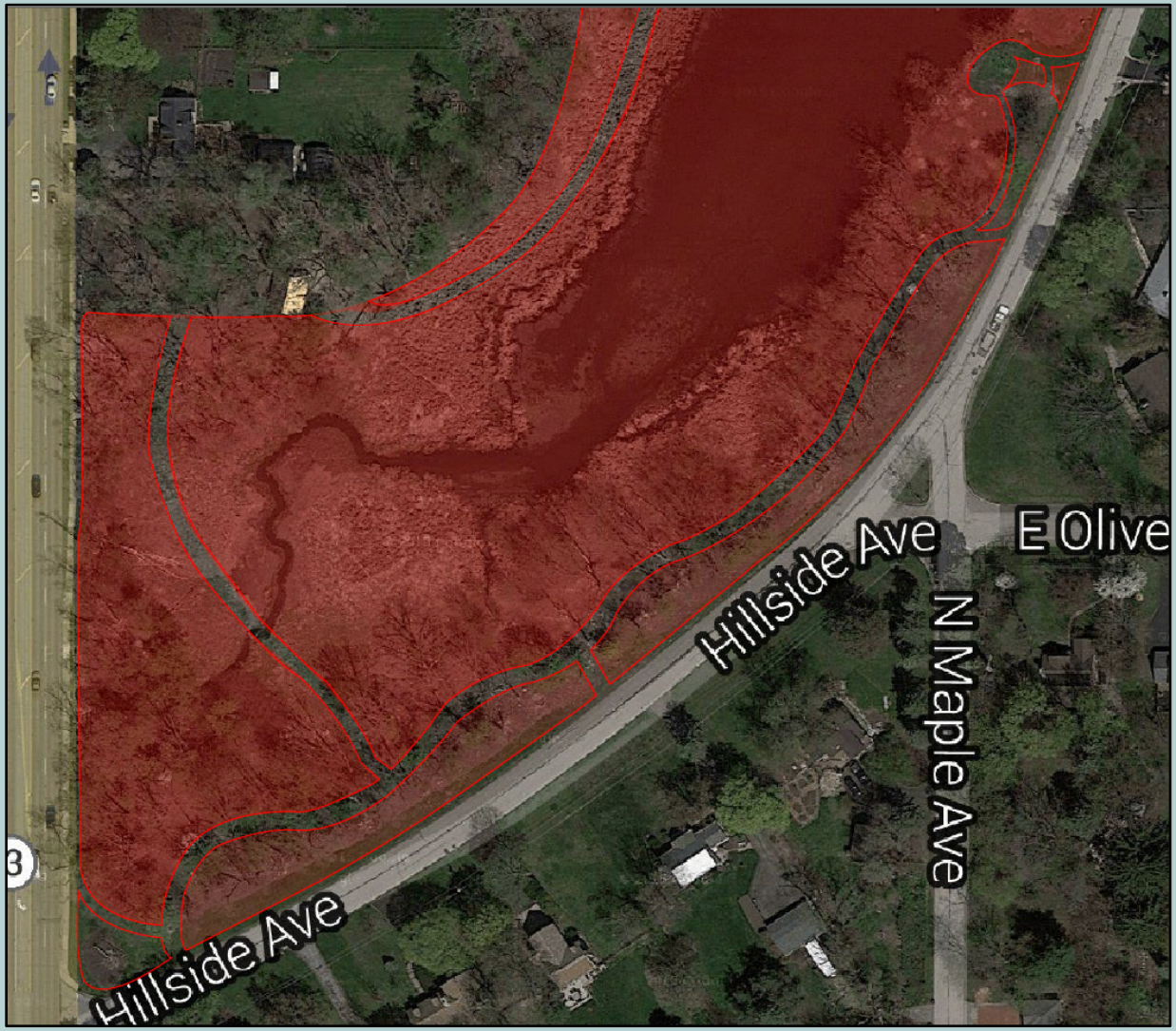
The plantings at Marion and Hillside are now in their second year and are showing a great deal of maturity. The PHNRC rule of thumb is to keep plantings in the view paths of individual homes under 2-3 feet limiting taller plantings to the areas in-between the homes and blind spots.

Mow paths will be 6 feet in width with additional open areas for resident enjoyment.

Eleocharis and path rush are shorter species of rushes that will serve to stabilize the shoreline while not changing the appearance of the open area.

While the root systems are not quite as deep as other natives, they make up for it with more biomass to the root systems. The short height still provides public access to the water and water fowl access out of the water.

Path rush is a native species that can tolerate foot traffic, allowing residents full access to the shoreline while providing stabilizing roots underground.



The intention is for every area of the Slough to be its own unique experience based on the conditions that are present within that given area.

One of the features we feel will be a big highlight is the woodland path that runs parallel to Hillside down to Elmhurst road with access points from the street and branches off of the main route to cross over to Isaac Walton Park.

The type of paths constructed will be based on the typography of the terrain. Mow paths will be the proffered standard.

The west woodland path will extend from Isaac Walton Park to Marion/Maple. That area contains a wide range of native species, very unique views of the slough and an abundance of wildlife because of the diversity.

Areas outside of the mow paths would be restored buffers with native plants specific to the soil and moisture conditions.

Monitoring

Monitoring and keeping records is essential to assessing the wellness of an ecosystem. Monitoring plant species, soil composition, water quality, wildlife, amphibians, bird migrations and insects are key indicators to the health of the habitat they exist in. Recording the results provides a historical record which can be compared so judgments can be made about the steps that have been taken, how effective they have been and if changes need to be made.

1. Establish baselines for all categories
2. Establish a monitoring schedule unique to each category based on predetermined criteria for that category
3. Keep the historical record, set guidelines for review and adjustments
4. Categories
    a. Plants
    b. Soil
    c. Water quality
    d. Wildlife
    e. Amphibians
    f. Birds
    g. insects
    h. Education and outreach

Maintenance program

1. Make adjustments based on monitoring
2. Continue invasive removal
3. Continue seeding and replanting efforts
4. Prescribed burns
5. Scheduled mowing

Summary

It is critical to understand how important, fragile and essential this wetland is to the community, the state and the overall ecosystem. As guardians and advocates for this historically significant sliver of natural wetland, we have a moral obligation to ensure its health and wellbeing, not only for future generations, but for the reptiles, amphibians, macroinvertebrates, insects, fish, birds, mammals and all of the wildlife that call it home. These residents depend on the wetland for their existence yet they have no voice of their own so they can do nothing to preserve or protect it.

Habitat is the single most important and essential factor in determining what is attracted to it. A healthy environment equates directly to the right abundance of microbiotic and macrobiotic elements, the plants and all of the living things that make it a functional ecosystem. Everything is interdependent, so loss of any one of these components results in a change to the whole. As an entire community changes, so do the parts. It is a cyclical balance that has a tipping point. We have already witnessed changes in plant populations based on changes in the hydrology. As plants disappear, so do the things that depend on them.

The recommendations that we have made have been based on this understanding. They are conservative in action, which means that results will not be immediate. The nutrient overload will not be affected overnight. Lush native buffers and shorelines will not happen overnight. Progress and transformation will be a slow, but with a steady progression. It will take years to see significant impact, but it can happen naturally and in the right way.

It is our sincere hope that the community, local residents and the city council will support our recommendations and their implementation.

PHNRC February 2016

Slough and Hillcrest Lake Ecological Management Schedule 2016-2017 Appendix B

Site Description

The Slough and Hillcrest Lake are a wetland located in the City of Prospect Heights that is partially owned by the Park District and partially the City of Prospect Heights. The wetland was formed by glacial retreat thousands of years ago and is on the original land surveys maps prior to heavy human settlement as one wetland. Sometime after 1938, Willow Rd was constructed through the wetland, now delineating it into the Northern "Hillcrest Lake" and the Southern "Slough". Decades of neglect and lack of natural areas management have allowed invasive plants to choke out the native plant community that was here prior to settlement. The PHNRC has been managing the area known as the "Slough" since 2014. Restoration efforts have already resulted in many species of conservative plants to reappear, such as the Michigan Lily. These plants were dormant for decades and are coming back with restoration activity.

Despite the history of neglect, the Slough and Hillcrest Lake wetland supports a diverse assemblage of native species that are being conserved through ecological restoration work. These efforts are focused on the removal of invasive species and on conducting regular prescribed burns to restore ecosystem processes and conditions under which the wetland evolved.

The plan for development of the Slough was presented at the PHNRC regular June 2016 board meeting and is attached as Appendix A. The Hillcrest Lake area would be scheduled to have the same type of restoration as the Slough but **no work will be scheduled there until the MWRD road project is completed.**

Status: In the second year of restoration

Work performed to date:

- Spent 1 1/2 years removing invasive buckthorn.
- Planted 7,206 native plant plugs representing 70 + species. See addendum B
- Seeded 25 pounds of native grasses
- Managed invasive plants
- Burned the west Marion / Maple corridor.

Work scheduled for 2016-17

- Removal of 8 acres of turf grass and nonnative species replace with Riparian buffers.
- Create Mow paths and hiking trails.
- Continued planting and seeding of native plugs and seed.
- Continued maintenance
  - Prescribed burns in the fall 2016 and spring 2017.
  - Manage invasive plants.
  - Manage aesthetics.

Location	Activity	Timeline	Crew	Notes
	Selectively cut non-native grasses and other early successional species Cut low quality, non-native and early successional species to make room for the high quality wetland, woodland and prairie plants. Cut low in the first year and then 1 ft or above once seedlings have started growing to provide them with a competitive edge	**Sp, Su, Fa**	**Volunteers, Interns**	**Cut at about a foot** after the first year, consider plant biology when making cutting decision as to benefit perennials and discredit annuals

Location	Activity	Timeline	Crew	Notes
	Remove invasive woody plants Cut and herbicide or herbicide invasive woody species such as buckthorn (*Rhamnus* spp.), multiflora rose (*Rosa multiflora*), Asian honeysuckle (*Lonicera* spp.), smooth arrow-wood (*Viburnum recognitum*), Japanese barberry (*Berberis thunbergii*), honey locust (*Gleditsia triacanthos*), black locust (*Robinia pseudocacia*), white poplar (*Populus alba*), white mulberry (*Morus alba*), gray dogwood (*Cornus racemosa*), and winged euonymus (*Euonymus alatus*). Thin native trees including cottonwood (*Populus deltoides*), black cherry (*Prunus serotina*), ash (*Fraxinus* spp.), basswood (*Tilia americana*), hawthorn (*Crataegus* spp.), and elm (*Ulmus* spp.) Several herbicide treatments are appropriate depending on conditions: 1. Cut stump: apply 20-30% triclopyr (Garlon 4, Element 4) in carrier oil to cut surface when temperature is < 80°F (ester formulation can volatilize and damage non-target species)	**Fa, Wi** Dormant season is preferred; The ground should be dry or frozen and care should be taken to avoid negatively impacting native vegetation, herptiles, nesting birds, and disturbing soil (avoid brush cutting especially in April, May & June). Multiflora rose and Japanese barberry may be cut year round	**Volunteers, Interns**	**Burn brush piles, cut safely** Do not accumulate piles, burn no later than 1 week after cutting; cut stumps as low to the ground as possible; stack and burn brush away from wetlands and native ground layer vegetation

Slough ans

2. Cut stump: apply 50-100% triclopyr (Garlon 3A, Element 3A, Tahoe 3A) to cut surface when temperature is above freezing
3. Cut stump: apply 50-100% glyphosate (Roundup, Rodeo, AquaNeat) to cut surface immediately after cutting when temperature is above freezing
4. Basal bark: apply 20-30% triclopyr in carrier oil to the base of stems under 6" diameter in a thick band (do not apply in spring during sapflow) use this method for smaller white poplar and black locust

	Remove invasive woody seedlings and re-sprouts	**Sp, Su, Fa**	**Volunteers, Interns**	**Carefully apply herbicide**

	Apply herbicide to leaves of small invasive woody seedlings and re-sprouts; spraying is preferable to cutting for white poplar. Two treatments are appropriate: 1. Apply 5-10% triclopyr (Garlon 3A, etc.) plus surfactant to leaves 2. Apply 5-10% glyphosate (Roundup, etc.) plus surfactant to leaves; use this treatment option for honeysuckle	In spring when resprouts have reached at least 6 in. Use care to prevent harming non target species. Fall maybe ideal when native plants are dormant		Avoid overspray and off-target damage
Entire Site	**Remove reed canary grass (RCG)** Remove RCG (*Phalaris arundinacea*); Cut flower heads of RCG where necessary to prevent seed set; apply herbicide, several treatments may be appropriate depending on conditions: 1. Apply 3% glyphosate (Roundup, Rodeo, Aqua Neat) plus surfactant to leaves during the growing season **Remove reed canary grass (RCG) continued** 2. Apply 1-2% sethoxydim (Poast, a grass-specific UV-sensitive herbicide) plus surfactant to leaves when overcast but rain not forecasted 3. Cut flower heads where necessary to prevent seed set	**Sp, Su, Fa** Preferred timing is in spring and fall	**Volunteers, Interns**	**Use appropriate herbicide** RCG near water should be treated with an aquatic-approved herbicide and surfactant.
	Remove sweet clover Pull white and yellow sweet clover (*Melilotus* spp., annuals or biennials) by hand before flowering (typically beginning May-June); cut, bag, and remove flowering plants to prevent seed set. Pull first year plants any time ground not frozen; compost debris on site	**Sp, Su, Fa**	**Volunteers, Interns**	
	Remove lily-of-the-valley and orange day lily Apply 3-5% glyphosate (Roundup) plus surfactant to leaves of lily-of-the-valley (*Convallaria majalis*, flowers in May) and orange day lily (*Hemerocallis fulva*, flowers in June and July)	**Sp, Su, Fa** Treatment most effective during flowering	**Volunteers, Interns**	**Waxy leaves** Surfactant helps herbicide penetrate the waxy leaf cuticle
	Remove wild parsnip	**Sp, Su, Fa**	**Volunteers, Interns**	**Avoid skin contact**

	Remove wild parsnip (*Pastinaca sativa*, a monocarpic perennial); several treatments are appropriate: 1. Pull plants by (gloved) hand 2. Cut, bag, and remove mature flower and seed heads June-October 3. Apply 2-5% glyphosate (Roundup, etc.) plus surfactant to basal rosettes in spring			Direct handling of this plant can cause rash and blistering
Entire site	**Remove teasel** Cut stalks of bolting teasel plants (*Dipsacus spp.*, a biennial or monocarpic perennial) just before flowering (typically beginning July); cut, bag, and dispose of flower heads in bloom to prevent seed set. Where appropriate, apply herbicide to first year rosettes of teasel; several treatments are appropriate: 1. Apply 0.25-0.5% clopyralid (Transline) plus surfactant 2. Apply 2.5-5% triclopyr (Garlon 3A, etc.) plus surfactant 3. Apply 0.25% aminopyralid (Milestone) plus surfactant 4. Apply 2-4% glyphosate (Roundup) plus surfactant	**Sp, Su, Fa**	**Volunteers, Interns**	
	Remove garlic mustard Pull garlic mustard (*Alliaria petiolata*, a biennial) by hand before seed set (typically late May-July); pull first year plants any time ground not frozen, compost piled waste in low-quality areas	**Sp, Su, Fa**	**Volunteers, Interns**	**Avoid trampling** Give good instruction to volunteers and spread out groups
	Collect and hand broadcast extant native seed Collect and distribute seeds of native plants near and within the site to improve colonization of cleared areas and bolster native populations; seed dispersal may be immediate, after a fall prescribed burn, or during the dormant season	**Su, Fa**	**Volunteers**	**Seed source** Try collecting in the nearby collections familiar to the commission
Entire site	**Conduct prescribed burn** The entire site should be burned frequently with one or few growing seasons in between fires. The wetland will be burned after it	**Late Fa, early Sp**	**Volunteers**	**Volunteer assistance** Trained volunteers are welcome to help

accomplishes a certain quality and good coverage of grasses that will carry a fire

Note: All ecological management schedule activities are subject to monitoring and supervision by the Prospect Heights Natural Areas Commission. Timing of treatments may change slightly depending on weather and phenology. All ecological management activities should follow best management practices and be acknowledged and approved by PHNRC

Com Ed Prairie Restoration Ecological Management Schedule 2016-2017 Appendix C

Site Description

Com Ed Prairie Restoration is located in the Com Ed right of way, nestled between Route 83 and Somerset Park, along the Prospect Heights Park District Bike path. The 4.5 acre site was likely prairie until the late 1800's, when it was converted into agricultural use. Sometime after 1938 high voltage power lines were installed and the area has been maintained by Com Ed as a right of way since then. The area is under a lease agreement from Com Ed to the Prospect Heights Park District, originally for the Park District to maintain the area next to the Bike Path. In 2015, the lease agreement was amended and updated to include all restoration activities of the PHNRC.

In 2014, a Com Ed Green Regions grant was awarded to restore the area back to prairie. The starting conditions were a nonnative turf grass and a seedbed of nonnative weedy species that had accumulated due to Com Ed mowing practices, except for one section labeled C that was mowed weekly for the last 30 years. In December 2014, 80 lbs. of prairie seed mix were seeded after removing the turf vegetation with herbicide.

In December 2015, a very thick mat of clover came in from the seed bed in addition to the prairie seedlings. Area A was herbicided with a selective herbicide and reseeded. Area C was herbicided and not reseeded.

Unfortunately, approximately 20% of the entire site was erroneously mowed down low, effectively killing most of the prairie seedlings coming up in those areas.

The current efforts are and will be focused on the removal of invasive species, encouraging the young prairie seedlings by selectively cutting, plugging and seeding plants, and on conducting regular prescribed burns to restore ecosystem processes and conditions.

Location	Activity	Timeline	Crew	Notes
	Selectively cut non-native grasses and other early successional species Cut low quality, non-native and early successional species to make room for the high quality prairie plants. Cut low in the first year and then 1 ft or above once seedlings have started growing to provide them with a competitive edge	**Sp, Su, Fa**	**Volunteers, Interns**	**Cut at about a foot** after the first year, consider plant biology when making cutting decision as to benefit perennials and discredit annuals
Location				
	Collect and hand broadcast extant native seed Collect and distribute seeds of native plants near and within the site to improve colonization of cleared areas and bolster native populations; seed dispersal may be immediate, after a fall prescribed	**Su, Fa**	**Volunteers**	**Seed source** Try collecting in the nearby collections familiar to the commission

burn, or during the dormant season

1.

Conduct prescribed burn The entire site should be burned frequently with one or few growing seasons in between fires. The prairie will be burned after it accomplishes a certain quality and good coverage of grasses that will carry a fire	**Late Fa, early Sp**	**Com Ed** **Contractors**	**Volunteer assistance** Trained volunteers are welcome to help

Note: All ecological management schedule activities are subject to monitoring and supervision by the Prospect Heights Natural Areas Commission. Timing of treatments may change slightly depending on weather and phenology. All ecological management activities should follow best management practices and be acknowledged and approved by PHNRC

Gary Morava Nature Preserve Ecological Management Schedule Appendix D

Site Description

Gary Morava Nature Preserve is 1.6 acre property that is owned by the Park District. Historically, the area was in agricultural use for decades until it was purchased by the Park District. Many invasive species of plants have been allowed to grow there, choking out desirable species. There is a meandering creek that is tributary to McDonald Creek, eventually emptying into the Slough and Hillcrest Lake wetland.

This is a Park District project. The project was just recently awarded a ComEd Green Regions grant administered through Openlands. The idea for the project was to create an interpretive nature park, providing ecological benefits and wildlife habitat while nurturing children's connection to nature through education. The parcel of land is adjacent to The Gary Morava Recreational Facility, which offers a variety of classes and programs, including preschool, after school care and summer day camp for elementary age school children. The area is easily accessible, across the street from the Prospect Heights Library and within walking distance of Eisenhower Elementary School.

Status: In the first year of restoration.

Work performed to date:

- Spent last winter removing invasive buckthorn.
- Planted 500 native plugs
- Seeded 5 pounds of native seed
- Managed invasive plants

Work scheduled for 2016-18

- Stabilize the shore line with native plugs.
- Create hiking trails.
- Continued planting and seeding of native plugs and seed.
- Install interpretative signage
- Install interpretative bridge
- Create interactive nature areas
- Create prairie area
- Plant native shrubs and trees
- Continued maintenance
  - Manage invasive plants.
  - Manage aesthetics.

Location	Activity	Timeline	Crew	Notes

Location	Activity	Timeline	Crew	Notes
	Selectively cut non-native early successional species Cut low quality, non-native and early successional species to make room for the high quality woodland plants. Cut low in the first year and then 1 ft or above once seedingshave started growing to provide them with a competitive edge	**Sp, Su, Fa**	**Volunteers, Interns**	**Cut at about a foot** after the first year, consider plant biology when making cutting decision as to benefit perennials and discredit annuals
	Remove invasive woody plants Cut and herbicide or herbicide invasive woody species such as buckthorn (*Rhamnus* spp.), multiflora rose (*Rosa multiflora*), Asian honeysuckle (*Lonicera* spp.), smooth arrow-wood (*Viburnum recognitum*), Japanese barberry (*Berberis thunbergii*), honey locust (*Gleditsia triacanthos*), black locust (*Robinia pseudocacia*), white poplar (*Populus alba*), white mulberry (*Morus alba*), gray dogwood (*Cornus racemosa*), and winged euonymus (*Euonymus alatus*). Thin native trees including cottonwood (*Populus deltoides*), black cherry (*Prunus serotina*), ash (*Fraxinus* spp.), basswood (*Tilia americana*), hawthorn (*Crataegus* spp.), and elm (*Ulmus* spp.) Several herbicide treatments are appropriate depending on conditions: 1. Cut stump: apply 20-30% triclopyr (Garlon 4, Element 4) in carrier oil to cut surface when temperature is < 80°F (ester formulation can volatilize and damage non-target species) 2. Cut stump: apply 50-100% triclopyr (Garlon 3A, Element 3A, Tahoe 3A) to cut surface when temperature is above freezing 3. Cut stump: apply 50-100% glyphosate (Roundup, Rodeo, AquaNeat) to cut surface immediately after cutting when temperature is above freezing 4. Basal bark: apply 20-30% triclopyr in carrier oil to the base of stems under 6” diameter in a thick band (do not apply in spring during sapflow) use this method for smaller white poplar and black locust	**Fa, Wi** Dormant season is preferred; The ground should be dry or frozen and care should be taken to avoid negatively impacting native vegetation, herptiles, nesting birds, and disturbing soil (avoid brush cutting especially in April, May & June). Multiflora rose and Japanese barberry may be cut year round	**Volunteers, Interns**	**Burn brush piles, cut safely** Do not accumulate piles, burn no later than 1 week after cutting; cut stumps as low to the ground as possible; stack and burn brush away from wetlands and native ground layer vegetation
	Remove invasive woody seedlings and re-sprouts Apply herbicide to leaves of small invasive woody seedlings and re-	**Sp, Su, Fa** In spring when	**Volunteers, Interns**	**Carefully apply herbicide** Avoid overspray and off-

	sprouts; spraying is preferable to cutting for white poplar. Two treatments are appropriate: 1. Apply 5-10% triclopyr (Garlon 3A, etc.) plus surfactant to leaves 2. Apply 5-10% glyphosate (Roundup, etc.) plus surfactant to leaves; use this treatment option for honeysuckle	resprouts have reached at least 6 in. Use care to prevent harming non target species. Fall maybe ideal when native plants are dormant		target damage
Entire Site	**Remove reed canary grass (RCG)** Remove RCG (*Phalaris arundinacea*); Cut flower heads of RCG where necessary to prevent seed set; apply herbicide, several treatments may be appropriate depending on conditions: 1. Apply 3% glyphosate (Roundup, Rodeo, Aqua Neat) plus surfactant to leaves during the growing season **Remove reed canary grass (RCG) continued** 2. Apply 1-2% sethoxydim (Poast, a grass-specific UV-sensitive herbicide) plus surfactant to leaves when overcast but rain not forecasted 3. Cut flower heads where necessary to prevent seed set	**Sp, Su, Fa** Preferred timing is in spring and fall	**Volunteers, Interns**	**Use appropriate herbicide** RCG near water should be treated with an aquatic-approved herbicide and surfactant.
	Remove sweet clover Pull white and yellow sweet clover (*Melilotus* spp., annuals or biennials) by hand before flowering (typically beginning May-June); cut, bag, and remove flowering plants to prevent seed set. Pull first year plants any time ground not frozen; compost debris on site	**Sp, Su, Fa**	**Volunteers, Interns**	
	Remove lily-of-the-valley and orange day lily Apply 3-5% glyphosate (Roundup) plus surfactant to leaves of lily-of-the-valley (*Convallaria majalis*, flowers in May) and orange day lily (*Hemerocallis fulva*, flowers in June and July)	**Sp, Su, Fa** Treatment most effective during flowering	**Volunteers, Interns**	**Waxy leaves** Surfactant helps herbicide penetrate the waxy leaf cuticle
	Remove wild parsnip Remove wild parsnip (*Pastinaca sativa*, a monocarpic perennial);	**Sp, Su, Fa**	**Volunteers, Interns**	**Avoid skin contact** Direct handling of this plant

	several treatments are appropriate: 1. Pull plants by (gloved) hand 2. Cut, bag, and remove mature flower and seed heads June-October 3. Apply 2-5% glyphosate (Roundup, etc.) plus surfactant to basal rosettes in spring			can cause rash and blistering
Entire site **primarily PR01**	**Remove teasel** Cut stalks of bolting teasel plants (*Dipsacus spp.*, a biennial or monocarpic perennial) just before flowering (typically beginning July); cut, bag, and dispose of flower heads in bloom to prevent seed set. Where appropriate, apply herbicide to first year rosettes of teasel; several treatments are appropriate: 1. Apply 0.25-0.5% clopyralid (Transline) plus surfactant 2. Apply 2.5-5% triclopyr (Garlon 3A, etc.) plus surfactant 3. Apply 0.25% aminopyralid (Milestone) plus surfactant 4. Apply 2-4% glyphosate (Roundup) plus surfactant	**Sp, Su, Fa**	**Volunteers, Interns**	
	Remove garlic mustard Pull garlic mustard (*Alliaria petiolata*, a biennial) by hand before seed set (typically late May-July); pull first year plants any time ground not frozen, compost piled waste in low-quality areas	**Sp, Su, Fa**	**Volunteers, Interns**	**Avoid trampling** Give good instruction to volunteers and spread out groups
	Collect and hand broadcast extant native seed Collect and distribute seeds of native plants near and within the site to improve colonization of cleared areas and bolster native populations; seed dispersal may be immediate, after a fall prescribed burn, or during the dormant season	**Su, Fa**	**Volunteers**	**Seed source** Try collecting in the nearby collections familiar to the comission
Entire site	**Conduct prescribed burn** The entire site should be burned frequently with one or few growing seasons in between fires. The nature preserve will be burned after it accomplishes a certain quality and good coverage of grasses that will	**Late Fa, early Sp**	**Volunteers**	**Volunteer assistance** Trained volunteers are welcome to help

carry a fire

Note: All ecological management schedule activities are subject to monitoring and supervision by the Prospect Heights Natural Areas Commission. Timing of treatments may change slightly depending on weather and phenology. All ecological management activities should follow best management practices and be acknowledged and approved by PHNRC

Remnant Prairie Ecological Management Schedule Appendix E

Site Description

The Remnant Prairie is a 7 acre parcel of land in Wheeling that is owned by Com Ed, with a lease agreement with the Prospect Heights Park District. The lease agreement was amended in 2015 to allow for ecological restoration of the site. Historically, the land was prairie and wet prairie based on the original pre-settlement land survey maps. It was converted to agricultural use in the late 1800's and later became ComEd right of way sometime between 1938 to 1960 when the high tension power lines were installed. For some reason, a community of native prairie plants survived, likely due to the railroad and right of way that was installed prior to agricultural conversion. This site is severely degraded and contains a very thick invasion of invasive plants, notably teasel and crown vetch. This site has however become a very important area for the PHNRC to collect locally genetic seed from an assemblage of over 50 native prairie plants. The PHNRC has spent very little time managing the site, mostly by removing teasel. Even with limited management, the plant community has responded very positively and several new species have been found since management started. PHNRC will continue to manage the site on a limited basis and collect seed.

Status:
In the second year of limited management by PHNRC.
Area has never been mowed.
Contains many different species of prairie plants and is an important seed source.
Heavily infested with invasive species.
Limited management has improved quality and number of species of plants
Grade C prairie by INHS standards.

Work Done:
Limited invasive plant removal, mainly teasel and crown vetch
Almost a hundred pounds of seed has been collected by volunteers.

Future Work:
Increase invasive management to bring the area up to a grade B prairie, at which point it will be burned by Com Ed.
Continue seed collection
FQI analysis (monitoring). To date, several new species have been identified even with limited management.

Location	Activity	Timeline	Crew	Notes

Remove invasive woody plants Cut and herbicide or herbicide invasive woody species such as buckthorn (*Rhamnus* spp.), multiflora rose (*Rosa multiflora*), Asian honeysuckle (*Lonicera* spp.), smooth arrow-wood (*Viburnum recognitum*), Japanese barberry (*Berberis thunbergii*), honey locust (*Gleditsia triacanthos*), black locust (*Robinia pseudocacia*), white poplar (*Populus alba*), white mulberry (*Morus alba*), gray dogwood (*Cornus racemosa*), and winged euonymus (*Euonymus alatus*). Thin native trees including cottonwood (*Populus deltoides*), black cherry (*Prunus serotina*), ash (*Fraxinus* spp.), basswood (*Tilia americana*), hawthorn (*Crataegus* spp.), and elm (*Ulmus* spp.) Several herbicide treatments are appropriate depending on conditions: Cut stump: apply 20-30% triclopyr (Garlon 4, Element 4) in carrier oil to cut surface when temperature is < 80°F (ester formulation can volatilize and damage non-target species) 1. 2. Cut stump: apply 50-100% triclopyr (Garlon 3A, Element 3A, Tahoe 3A) to cut surface when temperature is above freezing 3. Cut stump: apply 50-100% glyphosate (Roundup, Rodeo, AquaNeat) to cut surface immediately after cutting when temperature is above freezing Basal bark: apply 20-30% triclopyr in carrier oil to the base of stems under 6" diameter in a thick band (do not apply in spring during sapflow) use this method for smaller white poplar and black locust	**Fa, Wi** Dormant season is preferred; The ground should be dry or frozen and care should be taken to avoid negatively impacting native vegetation, herptiles, nesting birds, and disturbing soil (avoid brush cutting especially in April, May & June). Multiflora rose and Japanese barberry may be cut year round	**Volunteers, Interns**	**Create brush piles, cut safely** Accumulate piles, cut stumps as low to the ground as possible; stack brush away from native ground layer vegetation. Notify Com Ed after each workday, send a map of brush pile locations to the Senior Environmental Specialist who will inform the Crew to take away the brush piles.
4. **Remove invasive woody seedlings and re-sprouts** Apply herbicide to leaves of small invasive woody seedlings and re-sprouts; spraying is preferable to cutting for white poplar. Two treatments are appropriate: 1. Apply 5-10% triclopyr (Garlon 3A, etc.) plus surfactant to leaves Apply 5-10% glyphosate (Roundup, etc.) plus surfactant to leaves; use this treatment option for honeysuckle	**Sp, Su, Fa** In spring when resprouts have reached at least 6 in. Use care to prevent harming non target species. Fall maybe ideal when native plants are dormant	**Volunteers, Interns**	**Carefully apply herbicide** Avoid overspray and off-target damage

	2. **Remove sweet clover** Pull white and yellow sweet clover (*Melilotus* spp., annuals or biennials) by hand before flowering (typically beginning May-June); cut, bag, and remove flowering plants to prevent seed set. Pull first year plants any time ground not frozen; compost debris on site	**Sp, Su, Fa**	**Volunteers, Interns**	
	1. **Remove wild parsnip** Remove wild parsnip (*Pastinaca sativa*, a monocarpic perennial); several treatments are appropriate: 1. Pull plants by (gloved) hand 2. Cut, bag, and remove mature flower and seed heads June-October 3. Apply 2-5% glyphosate (Roundup, etc.) plus surfactant to basal rosettes in spring	**Sp, Su, Fa**	**Volunteers, Interns**	**Avoid skin contact** Direct handling of this plant can cause rash and blistering
	2. **Remove teasel** Cut stalks of bolting teasel plants (*Dipsacus spp.*, a biennial or monocarpic perennial) just before flowering (typically beginning July); cut, bag, and dispose of flower heads in bloom to prevent seed set. Where appropriate, apply herbicide to first year rosettes of teasel; several treatments are appropriate: 1. Apply 0.25-0.5% clopyralid (Transline) plus surfactant 2. Apply 2.5-5% triclopyr (Garlon 3A, etc.) plus surfactant 3. Apply 0.25% aminopyralid (Milestone) plus surfactant Apply 2-4% glyphosate (Roundup) plus surfactant	**Sp, Su, Fa**	**Volunteers, Interns**	
Entire site primarily PR01	**Remove garlic mustard** Pull garlic mustard (*Alliaria petiolata*, a biennial) by hand before seed set (typically late May-July); pull first year plants any time ground not frozen, compost piled waste in low-quality areas	**Sp, Su, Fa**	**Volunteers, Interns**	**Avoid trampling** Give good instruction to volunteers and spread out groups

Collect and hand broadcast extant native seed Collect and distribute seeds of native plants near and within the site to improve colonization of cleared areas and bolster native populations; seed dispersal may be immediate, after a fall prescribed burn, or during the dormant season	**Su, Fa**	**Volunteers**	**Seed source** Try collecting in the nearby collections familiar to the comission
Conduct prescribed burn The entire site should be burned frequently with one or few growing seasons in between fires. The prairie will be burned after it accomplishes a certain quality and good coverage of grasses that will carry a fire. Currently, there is not enough grass cover to carry a fire. Adjacent pockets of tall grasses will be seeded into those that are devoid of them. Tentative plan for prescribed burn is 2018, dependent on ComEd contractors assessing the site prior to this.	**Late Fa, early Sp**	**ComEd Contractors**	**Volunteer assistance** Trained volunteers are welcome to help

Note: All ecological management schedule activities are subject to monitoring and supervision by the Prospect Heights Natural Areas Commission. Timing of treatments may change slightly depending on weather and phenology. All ecological management activities should follow best management practices and be acknowledged and approved by PHNRC

Remnant Sedge Meadow Ecological Management Schedule Appendix F

Site Description

The Remnant Sedge Meadow is a 5 acre parcel of land in Wheeling that is owned by Com Ed, with a lease agreement with the Prospect Heights Park District. The lease agreement was amended in 2015 to allow for ecological restoration of the site. Historically, the land was wet prairie based on the original pre-settlement land survey maps. It was converted to agricultural use in the late 1800's and later became ComEd right of way sometime between 1938 to 1960 when the high tension power lines were installed. For some reason, a community of native wet prairie plants survived, likely due to the railroad and right of way that was installed prior to agricultural conversion.

This site is in very good condition and hosts dozens of species of wet prairie sedges, rushes and grasses, as well as several very conservative plants, ie.,the narrow leaved loosestrife and native orchids. A very large section has been invaded by cattails, notably there before any restoration activity. The area is an important site for seed collection.

The PHNRC has spent very little time managing the site, mostly by removing teasel and purple loosestrife. Even with limited management, the plant community has responded very positively and several new species have been found since management started. The threatened narrow loosestrife has expanded its range from a single plant to almost a dozen. PHNRC will continue to manage the site on a limited basis and collect seed.

Status:
In the second year of limited management by PHNRC.
Area has a STOP MOW order since 2015.
Contains many different species of wet prairie and sedge meadow plants and is an important seed source.
Scarcely infested with invasive species.
Limited management has improved quality and number of species of plants

Work Done:
Limited invasive plant removal, mainly teasel and purple loosestrife
Almost 20 pounds of seed has been collected by volunteers.

Future Work:
Increase invasive management of teasel.
Seed into drier areas with seed from adjacent areas (remnant prairie)
Continue seed collection
FQI analysis (monitoring). To date, several new species have been identified even with limited management.

Entire Site	**Remove reed canary grass (RCG)** Remove RCG (*Phalaris arundinacea*); Cut flower heads of RCG where necessary to prevent seed set; apply herbicide, several treatments may be appropriate depending on conditions: 1. Apply 3% glyphosate (Roundup, Rodeo, Aqua Neat) plus surfactant to leaves during the growing season **Remove reed canary grass (RCG) continued** 2. Apply 1-2% sethoxydim (Poast, a grass-specific UV-sensitive herbicide) plus surfactant to leaves when overcast but rain not forecasted 3. Cut flower heads where necessary to prevent seed set	**Sp, Su, Fa** Preferred timing is in spring and fall	**Volunteers, Interns**	**Use appropriate herbicide** RCG near water should be treated with an aquatic-approved herbicide and surfactant.
Entire Site	**Remove purple loosestrife** Remove purple loosestrife (*Lythrum salicaria*); Cut flower heads of loosestrife where necessary to prevent seed set; apply herbicide, several treatments may be appropriate depending on conditions: 1. Apply 3% glyphosate (Roundup, Rodeo, Aqua Neat) plus surfactant to leaves during the growing season 2. Cut flower heads where necessary to prevent seed set	**Sp, Su, Fa** Preferred timing is in spring and summer	**Volunteers, Interns**	**Use appropriate herbicide** Purple loosestrife near water should be treated with an aquatic-approved herbicide and surfactant.
	Remove sweet clover Apply 3-5% glyphosate (Roundup) plus surfactant to leaves of lily-of-the-valley (*Convallaria majalis*, flowers in May) and orange day lily (*Hemerocallis fulva*, flowers in June and July)	**Sp, Su, Fa** Treatment most effective during flowering	**Volunteers, Interns**	Surfactant helps herbicide penetrate the waxy leaf cuticle
	Remove teasel	**Sp, Su, Fa**	**Volunteers,**	

				Interns
	Cut stalks of bolting teasel plants (*Dipsacus spp.*, a biennial or monocarpic perennial) just before flowering (typically beginning July); cut, bag, and dispose of flower heads in bloom to prevent seed set. Where appropriate, apply herbicide to first year rosettes of teasel; several treatments are appropriate: 1. Apply 0.25-0.5% clopyralid (Transline) plus surfactant 2. Apply 2.5-5% triclopyr (Garlon 3A, etc.) plus surfactant 3. Apply 0.25% aminopyralid (Milestone) plus surfactant Apply 2-4% glyphosate (Roundup) plus surfactant			
	Collect and hand broadcast extant native seed	**Su, Fa**	**Volunteers**	**Seed source**
Entire site	Collect and distribute seeds of native plants near and within the site to improve colonization of cleared areas and bolster native populations; seed dispersal may be immediate, after a fall prescribed burn, or during the dormant season 4.			Try collecting in the nearby collections familiar to the comission
Conduct prescribed burn		**Late Fa, early Sp**	**ComEd Contractors**	**Volunteer assistance**
The entire site should be burned infrequently with several growing seasons in between fires. The sedge meadow will be burned after it accomplishes a certain quality and good coverage of grasses that will carry a fire. No tentative plan for prescribed burn is currently in place.				Trained volunteers are welcome to help

Note: All ecological management schedule activities are subject to monitoring and supervision by the Prospect Heights Natural Areas Commission. Timing of treatments may change slightly depending on weather and phenology. All ecological management activities should follow best management practices and be acknowledged and approved by PHNRC

Tully Park Ecological Management Schedule Appendix G

Site Description

Tully Park is a 2 acre piece of land that is owned by the Park District within the City of Prospect Heights. Historical land survey notes , 1957 aerial topography maps and 1938 and 1960 satellite imagery indicate that the area was prairie mixed with wet prairie. Following settlement, the area was in agricultural use prior to acquisition by the Park District. The area is surrounded by homes.

Local area residents reached out to the Prospect Heights Park District and PHNRC requesting that the area be converted into a natural area. After the Park District approval of such a conversion, PHNRC has been working strictly in an advisory position to help the residents with this conversion. PHNRC has offered knowledge, resources and limited time to help the residents of Tully Park.

This Management schedule will help them to define the activities necessary for restoration of the site.

Location	Activity	Timeline	Crew	Notes
	Selectively cut non-native grasses and other early successional species Cut low quality, non-native and early successional species to make room for the high quality prairie plants. Cut low in the first year and then 1 ft or above once seedlings have started growing to provide them with a competitive edge	**Sp, Su, Fa**	**Volunteers,**	**Cut at about a foot** after the first year, consider plant biology when making cutting decision as to benefit perennials and discredit annuals

Location	Activity	Timeline	Crew	Notes
	Remove invasive woody plants Cut and herbicide or herbicide invasive woody species such as buckthorn (*Rhamnus* spp.), multiflora rose (*Rosa multiflora*), Asian honeysuckle (*Lonicera* spp.), smooth arrow-wood (*Viburnum recognitum*), Japanese barberry (*Berberis thunbergii*), honey locust (*Gleditsia triacanthos*), black locust (*Robinia pseudocacia*), white poplar (*Populus alba*), white mulberry (*Morus alba*), gray dogwood (*Cornus racemosa*), and winged euonymus (*Euonymus alatus*). Thin native trees including cottonwood (*Populus deltoides*), black cherry (*Prunus serotina*), ash (*Fraxinus* spp.), basswood (*Tilia americana*), hawthorn (*Crataegus* spp.), and elm (*Ulmus* spp.) Several herbicide treatments are appropriate depending on conditions: 1. Cut stump: apply 20-30% triclopyr (Garlon 4, Element 4) in carrier oil to cut surface when temperature is < 80°F (ester formulation can volatilize and damage non-target species)	**Fa, Wi** Dormant season is preferred; The ground should be dry or frozen and care should be taken to avoid negatively impacting native vegetation, herptiles, nesting birds, and disturbing soil (avoid brush cutting especially in April, May & June). Multiflora rose and Japanese barberry may be cut year round	**Volunteers, Interns**	**Burn brush piles, cut safely** Do not accumulate piles, burn no later than 1 week after cutting; cut stumps as low to the ground as possible; stack and burn brush away from wetlands and native ground layer vegetation

	2. Cut stump: apply 50-100% triclopyr (Garlon 3A, Element 3A, Tahoe 3A) to cut surface when temperature is above freezing 3. Cut stump: apply 50-100% glyphosate (Roundup, Rodeo, AquaNeat) to cut surface immediately after cutting when temperature is above freezing 4. Basal bark: apply 20-30% triclopyr in carrier oil to the base of stems under 6" diameter in a thick band (do not apply in spring during sapflow) use this method for smaller white poplar and black locust			
	Remove invasive woody seedlings and re-sprouts Apply herbicide to leaves of small invasive woody seedlings and re-sprouts; spraying is preferable to cutting for white poplar. Two treatments are appropriate: 1. Apply 5-10% triclopyr (Garlon 3A, etc.) plus surfactant to leaves 2. Apply 5-10% glyphosate (Roundup, etc.) plus surfactant to leaves; use this treatment option for honeysuckle	**Sp, Su, Fa** In spring when resprouts have reached at least 6 in. Use care to prevent harming non target species. Fall maybe ideal when native plants are dormant	**Volunteers, Interns**	**Carefully apply herbicide** Avoid overspray and off-target damage
Entire Site	**Remove reed canary grass (RCG)** Remove RCG (*Phalaris arundinacea*); Cut flower heads of RCG where necessary to prevent seed set; apply herbicide, several treatments may be appropriate depending on conditions: 1. Apply 3% glyphosate (Roundup, Rodeo, Aqua Neat) plus surfactant to leaves during the growing season **Remove reed canary grass (RCG) continued** 2. Apply 1-2% sethoxydim (Poast, a grass-specific UV-sensitive herbicide) plus surfactant to leaves when overcast but rain not forecasted 3. Cut flower heads where necessary to prevent seed set	**Sp, Su, Fa** Preferred timing is in spring and fall	**Volunteers, Interns**	**Use appropriate herbicide** RCG near water should be treated with an aquatic-approved herbicide and surfactant.
	Remove sweet clover	**Sp, Su, Fa**	**Volunteers, Interns**	

	Pull white and yellow sweet clover (*Melilotus* spp., annuals or biennials) by hand before flowering (typically beginning May-June); cut, bag, and remove flowering plants to prevent seed set. Pull first year plants any time ground not frozen; compost debris on site			
	Remove lily-of-the-valley and orange day lily Apply 3-5% glyphosate (Roundup) plus surfactant to leaves of lily-of-the-valley (*Convallaria majalis*, flowers in May) and orange day lily (*Hemerocallis fulva*, flowers in June and July)	**Sp, Su, Fa** Treatment most effective during flowering	**Volunteers, Interns**	**Waxy leaves** Surfactant helps herbicide penetrate the waxy leaf cuticle
Entire site	**Remove garlic mustard** Pull garlic mustard (*Alliaria petiolata*, a biennial) by hand before seed set (typically late May-July); pull first year plants any time ground not frozen, compost piled waste in low-quality areas Collect and distribute seeds of native plants near and within the site to improve colonization of cleared areas and bolster native populations; seed dispersal may be immediate, after a fall prescribed burn, or during the dormant season	**Sp, Su, Fa**	**Volunteers, Interns**	**Avoid trampling** Give good instruction to volunteers and spread out groups Try collecting in the nearby collections familiar to the commission and Tully Park residents
	Conduct prescribed burn The entire site should be burned frequently with one or few growing seasons in between fires. The site should be burned after it accomplishes a certain quality and good coverage of grasses that will carry a fire	**Late Fa, early Sp**	**Contractors**	**Volunteer assistance** Trained volunteers are welcome to help

Note: All ecological management schedule activities are subject to advisement by the Prospect Heights Natural Areas Commission. Timing of treatments may change slightly depending on weather and phenology. All ecological management activities should follow best management practices.