Prospect Heights Natural Resources Commission

Naturalization Plan for the Prospect Heights Slough

June 16, 2016

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

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.

Summary of the Hey Report

Main Problems:

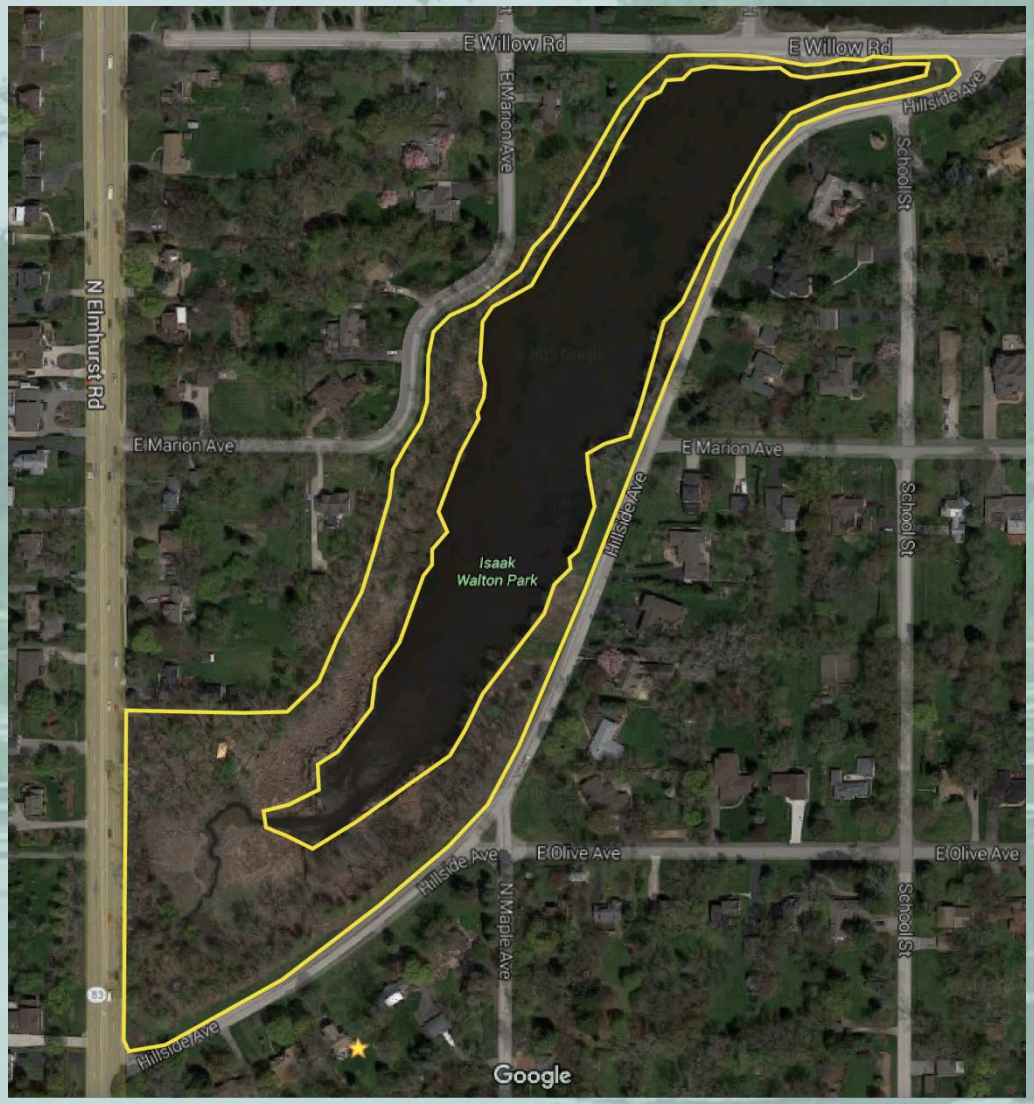
1. Shoreline erosion
2. High nutrient loads
3. Excessive native aquatic growth
4. Large goose population
5. Shallow water depth
6. Invasive plant species

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.

Native plants have evolved over time into balanced ecosystems supporting a wide range of life. Invasive plants form monocultures, or large stands of only one species. This decreases the biodiversity that all animals have come to depend on. 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.

Buckthorn eliminates any hope of native growth, making the ground as absorbent as pavement and increasing runoff into the water. Reed canary and cattails spread like wildfire creating large monocultures, decreasing habitat for birds.

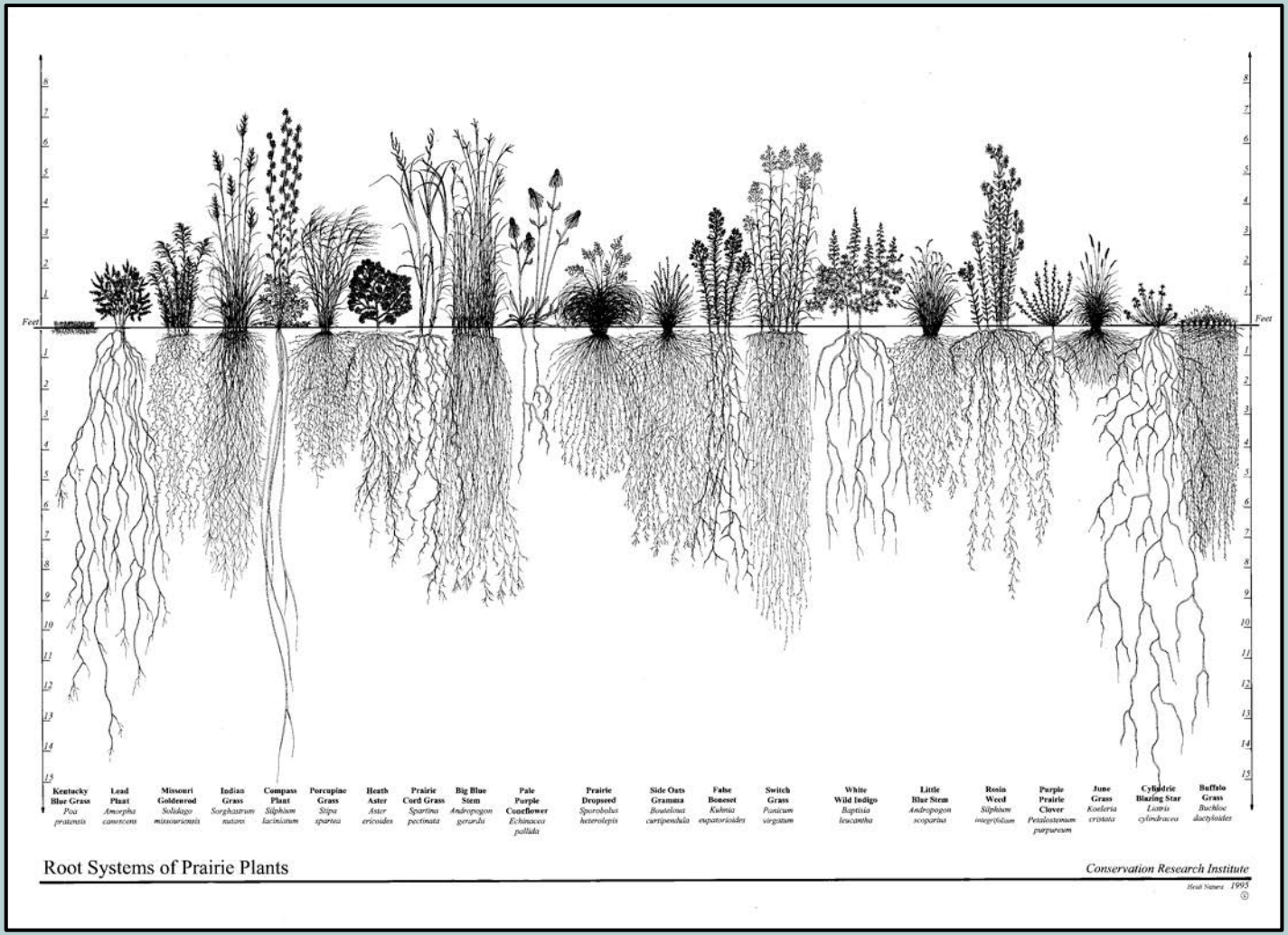
Why are vegetative buffers important and what role do they play ?

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

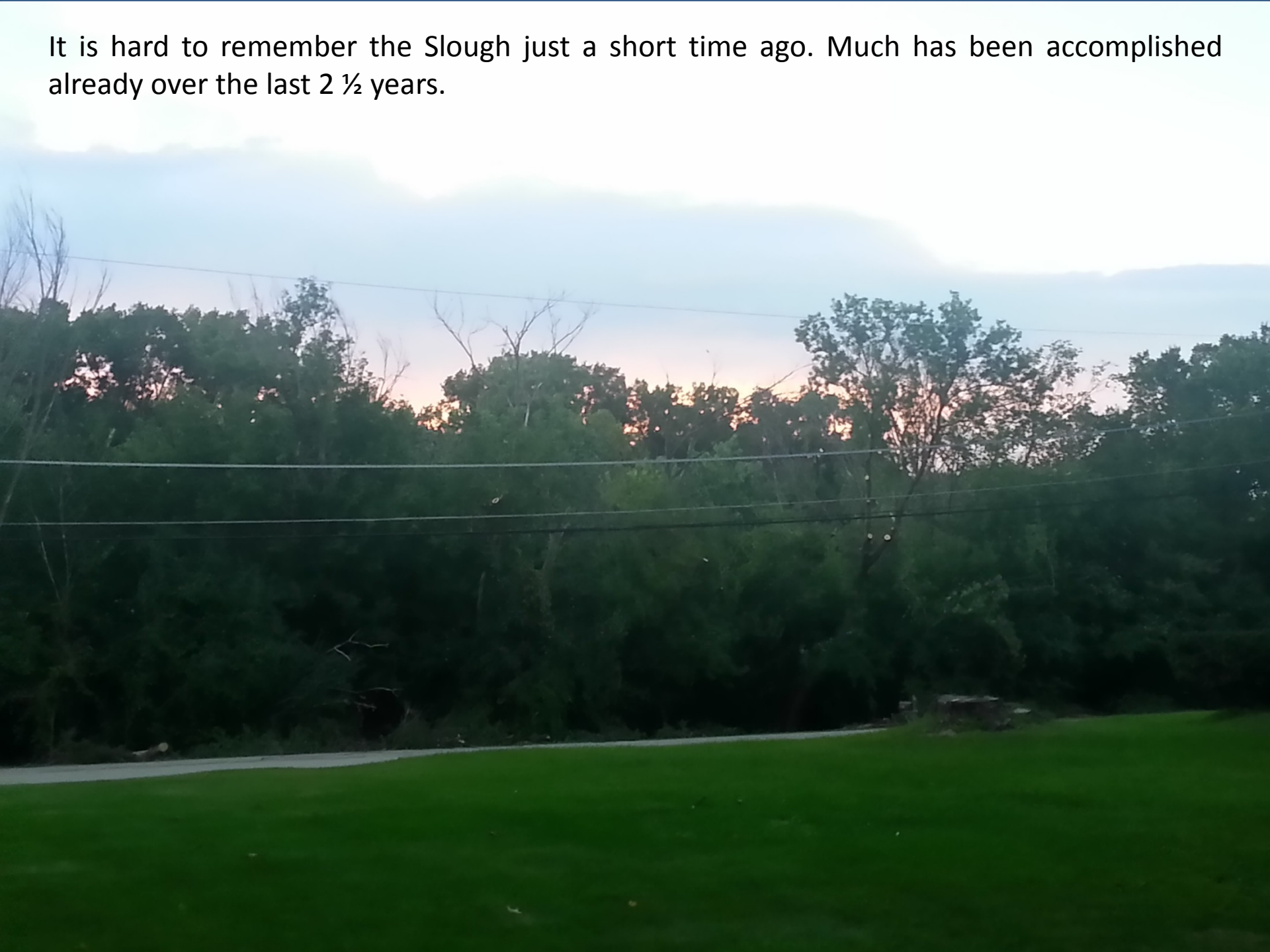
Buffer strips also enhance the visual appeal of the environment.

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?

Not all weeds are bad. 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. 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. Better it be a non-invasive annual weed than something highly invasive.

Disturbance is anything that disrupts the soil and existing plant community, changing resource availability and allowing other plants to grow. Removing buckthorn, foot traffic from work days an wildlife traffic are all examples of disturbance to the soil. 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. Many weeds arrive courtesy of animal transport. Weeds happen.

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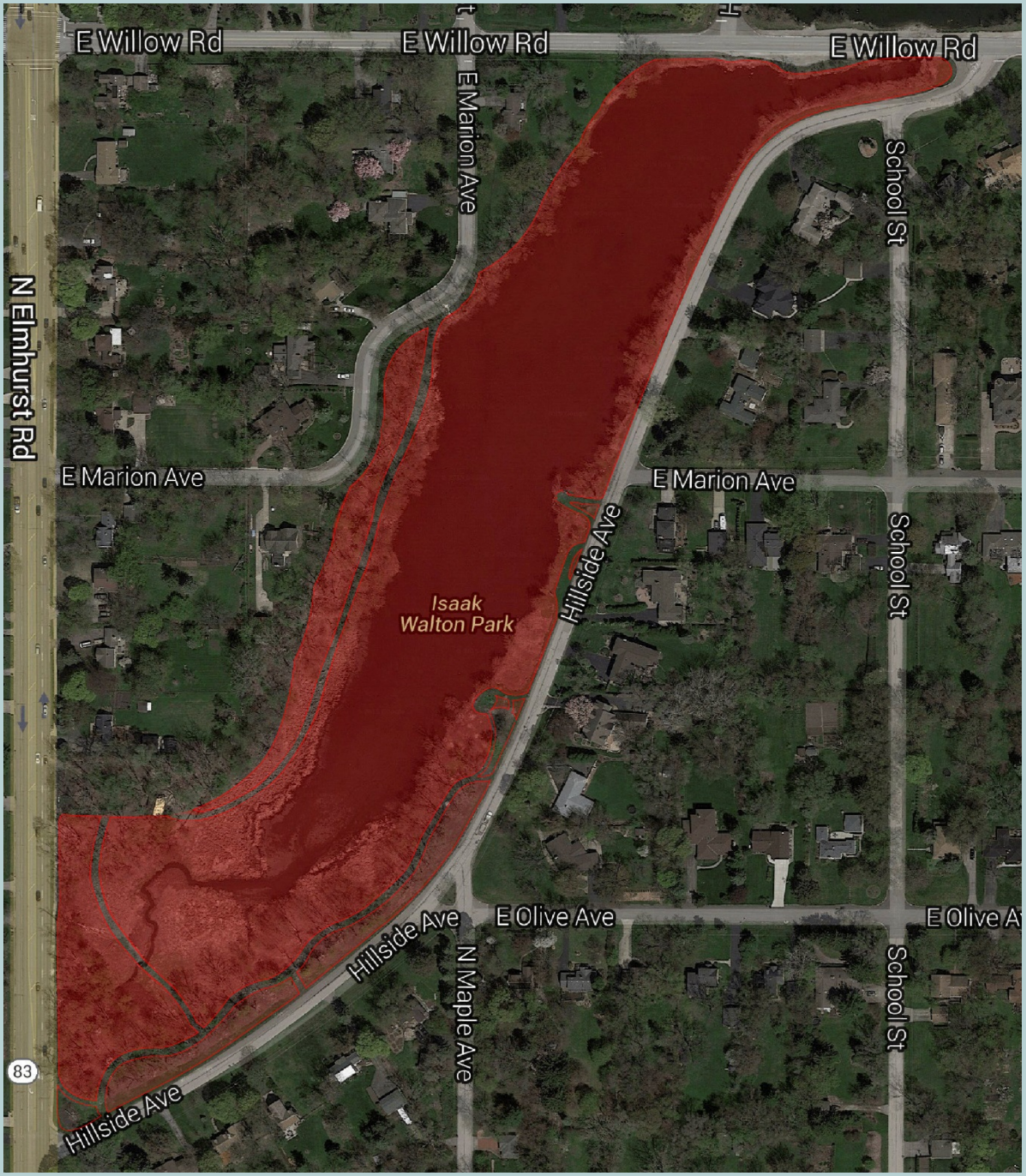
Invasive weeds like Canada thistle, teasel, clover and reed canary, need to be completely taken out with the use of herbicides as they spread underground and are close to impossible to irradiate.

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.

All this allows us time to get natives in and out compete non-native plants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Recommended Wellness Action Plan 2015-2016

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

Recommended Maintenance Action Plan 2015-2016

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