Meadowlily Assessment

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Introduction

Site location

The site of interest, located at Highbury and Commissioners, is approximately 12 acres of fallow land which has been overtaken in the past ten years by several pioneer species and some remaining woody shrubs and trees from its time as farmland. The land is a rolling field with speckles of young trees and stretches roughly half the length of the neighbouring Highbury Woods Park. The site is surrounded almost entirely by ESA lands, including Highbury Woods Park and the Meadowlily Woods ESA, as well as a bee rescue directly north of the site.

The field is predominantly inhabited by pioneering goldenrod species spread thickly across the rolling field, with the notable presence of other early succession plants such as horseweed and pigweed as well. Spotted through the landscape are other wildflower species such as dandelion, clover, varieties of Michaelmas daisy (New England aster, panicled aster), oxtongue, tufted vetch, and mugwort. A number of grasses and sedges also inhabit the field. Overall, the species diversity is relatively low, with incredibly low species evenness as goldenrod dominates the terrain with specklings of other species throughout.

A tall, mature stand of trees stands central to the property facing the road, including very tall conifers, tall deciduous trees, primarily maples, northern red oaks, black walnuts, and American beech trees. The trees are located where a previous habitation was, however, the abandoned house has since been torn down. These trees are very old from their height, I was unable to inspect more closely as it is private property and more closely positioned to the road.

Some berrying species of trees and shrubs inhabit the edge of the field connecting to Highbury Woods Park, including common privet and American barberry, both providing berries for bird species such as thrushes which in turn spread the seeds further. The common privet, however, is an invasive species, originally native to Europe, northern Africa, and southwestern Asia.

Sitting quietly at the edge of the property, white-tailed deer can be seen browsing through the field, making their way ultimately into the cover of Highbury Woods Park. Other wildlife can be seen in the field and neighbouring land, many species of birds (blue jays, cardinals, American robins, wood thrushes, black-capped chickadees, black-throated blue warblers, eastern meadowlarks, wild turkeys, and many others which I will later detail), rodent species (eastern gray squirrel, chipmunks, deer mice), and many species of insects, including pollinators and their predators who feed off the abundant goldenrod. I even spotted a common garter snake moving around through the sedges on one of the chilly days I surveyed the site. Most of these species rely on the food sources the field provides, while taking shelter in the surrounding mature forests.

The surrounding forests have very tall canopies and leaf litter floors with very little visible groundcover plants in the autumn, however, many species of ferns and flowers

grow among the tall canopies and provide sustenance for the many diverse inhabitants. Streams split off from the Thames River and run through both the Meadowlily Woods ESA and Highbury Woods Park. Meadowlily Woods ESA is crossed with recreational trails, with many Londoners enjoying the natural beauty of the ESA. Highbury Woods Park, directly attached to the proposal site, has less trails and human activity, with a few shorter trails entering the forest, but they are not very busy comparatively and far less worn.

Pictures:

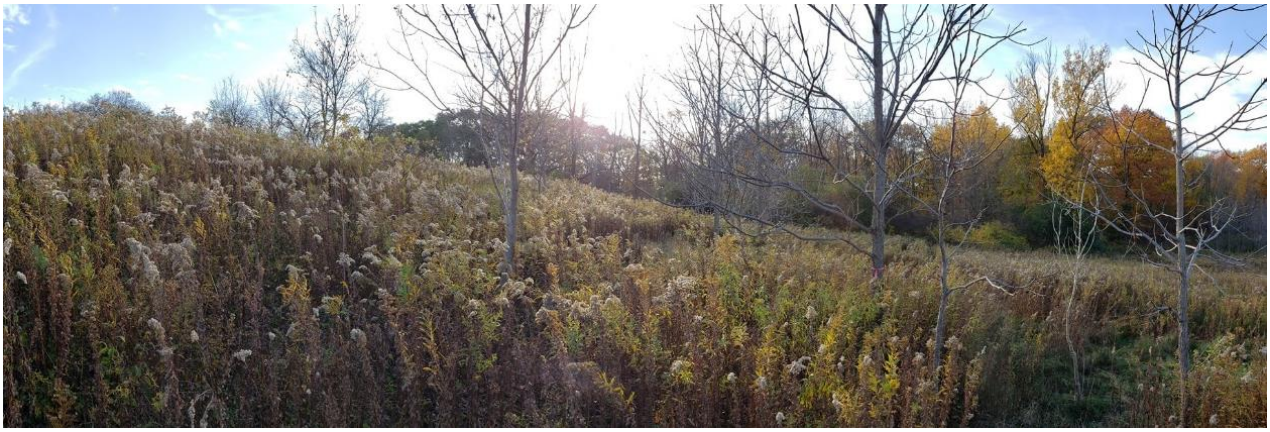
View from the southern edge of the field (above). Aerial view of the site (vacant land)

and surrounding ESA (below).

As it is, the field is a beautiful, natural environment to take in recreationally (below).

Goldenrod dominates the landscape, providing shelter and food for insects (above).

Some field maples have grown in the higher elevated sections of the field (below).



Forest in the Highbury Woods Park, open forest floor and tall canopies (below).

Site history

The field has been abandoned for decades, but its previous use before laying fallow was as agricultural land. The property has a small habitation on its east side, which has since been removed. Tenants were present up until recently on the land in a mobile home, but it has since been vacant entirely as new ownership prepares for potential development.

There have been quarrels this year between the local community and a development company seeking to develop the land. The company has a pending application with the City of London for plans to build a massive housing complex on this 12-acre plot of land, 13 semi-detached townhomes (fourplexes) and 37 single-family detached homes, for a grand total of 89 houses. The locals and outdoors enthusiasts who frequent the surrounding ESA say that this massive development will undoubtedly alter the surrounding environment from the peaceful, quiet chunk of nature remaining in the city into just another busy suburb, and I must agree for a number of reasons.

The developers claim that they have “taken into consideration impacts on the environment, noise, traffic, energy use, capacity of current of infrastructure and more”, but if you assess the footprint that 89 houses, each containing families, will bring to this otherwise quiet and natural area, they cannot account for enough. Currently, only a few households live on the same street as the proposed development, each in their own house surrounded by property often in part woods. Walking up Meadowlily Rd, you might encounter a couple cars parked along the side of the narrow road, a rare car drives by every so often. With the addition of 89 houses, assuming the average household in Ontario has 1.45 cars, that would mean an additional 129 cars in this small area causing

a massive increase in traffic in and out of Meadowlily Rd. Gone would be the natural atmosphere, where the most sounds you hear are the birds singing, the insects chirping. You have instead cars and motorcycles running, occasionally beeping a horn or revving an engine, the calling of neighbours and shouts of children, radios playing, dogs barking at all hours. The still atmosphere of this one so few natural feeling zones in London would be absolutely altered. The company proposes they will be installing “barrier trees” to help muffle much of the sound but this is far too little effort, especially considering how long these trees will truly take to grow versus the expected construction and move in times of these new residents.

Along with them, these families also bring along pets, such as house cats. Anyone who has ever owned a house cat can tell you that they can prove incredibly difficult to contain. Many simply allow their furry friends to wander their neighbourhoods, especially if they are in a low traffic area. The problem comes that cats are an incredibly devastating force on native wildlife, being in fact the leading killer of birds worldwide with domestic cats being responsible for over 80 million deaths every year in Canada alone. A few feral cats, maybe even a few domestic cats from current residents on Meadowlily Rd, might catch a number of birds and other wildlife every year in the ESA, but the damage that 89 houses worth of cats could bring to this *Environmentally Sensitive Area* is astronomical. Given the estimate that 37% of households in Canada have at *least* one cat, there would be a likely minimum of 33 cats added to this sensitive ecosystem. An estimate of the true average number, going off American data regarding average cats per household as 1.8 per household (Canadian statistics are lacking on the subject), puts the number of cats likely to be present in these 89 houses at a staggering 160 cats! The ESA is home to

several threatened and endangered bird species. Some birds native to the area, such as American woodcocks, are ground nesters. Local populations of these native birds could be decimated in a year or two if even this low estimate of the potential cats becomes present on this land, let alone if a more likely average amount of 160 cats are brought to the land.

Besides house cats wandering these protected lands, an estimated additional 231 people (based on an average household size of 2.6 in Canada) will be living in extremely close proximity to the ESA. This will undoubtedly cause a surge of regular traffic through the neighbouring ESA as many may take daily excursions through the trails. This additional surge will likely increase the amount of littering and pollution through the areas, damaging the health of the ecosystems, but will also cause greater off trail damage from people wandering frequently off the marked trails. There are current efforts in the Meadowlily Woods ESA and Highbury Woods Park to keep people off some of the trails in order to allow them to renaturalize over time. Surely some people go off trail currently, but the massive increase in frequent use by new residents could cause a proportionately massive increase in off trail damage as ground dwelling plants and ground nesting birds' eggs are trampled.

The grounds upon which development is planned are currently habitat for many different species, including large mammals such as white-tailed deer and coyotes and threatened native birds such as barn swallows, eastern meadowlarks, wood thrush, and many more species. Many, such as the larger species, will be entirely evicted from their habitat on the eastern side of the ESA (Highbury Woods Park) as they will seek to avoid interaction with humans and our pets as much as possible. The increased frequent traffic

through both the streets and Meadowlily Woods ESA will further pressure large animals to leave the area entirely and we will be left with small city-adaptable species such as squirrels and mice. Smaller species, like insects and small mammals and birds relying on the field for food and shelter, will have much of their habitat entirely bulldozed and uprooted, being forced to escape into neighbouring lands, which may not be suitable to their needs for meadow ecosystems in many cases. Pollinators which once had nearly 12 acres of goldenrod and various wildflowers to harvest will be greeted instead by artificial gardens and pesticides used on both lawns and ornamental plants, causing potential colony collapses and wiping out native pollinator biodiversity almost entirely. The neighbouring bee rescue could also face their colonies dying off from people in the housing units using neonicotinoids or other pesticides and herbicides on their properties.

The claim that they will be able to mitigate the pollution, environmental toxins, traffic, invasive species, and plain habitat destruction that comes with putting an 89-house development in this small natural area of land is frankly inconceivable. The developers claim that the development is not on official ESA lands so protestors have no reasons to be worried about the ESA, but with factors I have discussed above there is no doubt that the overall health of the Meadowlily ESA will decrease as more and more people inhabit the area and leave our heavy footprint on it.

Potential Ecological Planning

Initially, I had envisioned restoring this site to the same state as the surrounding forests, tall growing canopy trees, low growing flowers and ferns growing through the leaf

litter. However, I then realized that while forests are often the goal of restoration, meadows and grasslands are a valuable ecosystem as well. Pollinator species currently at risk due to our use of pesticides, and native bird species who feed on seeds or insects both benefit greatly from natural meadow space.

The restoration goal for this site would be to transition the field from a near monoculture of goldenrod to a diverse mix of native pollinator-friendly wildflowers with a great span in the periods which they bloom to give ample production to pollinators all growing season, with seed head producing species such as. Additionally, I would plant eastern flowering dogwoods in the understory of the central forest land on the property. These trees are an endangered species, one which inhabits the surrounding ESA, and they provide food in the form of berries for many species of birds. Acquiring seeds or saplings from genetically distinct populations will help prevent vulnerability to Dogwood anthracnose fungus, as some individuals will be more likely to carry resistance genes.

To achieve the goal of diversifying the species of wildflowers and grasses, we will closely access native species for productivity and their specific interactions with other species in the area, such as which benefit butterfly and moth species as host plants for their larvae or which provide seeds for local birds and rodents through the winter (for example, Teasel, though non-native to the Americas, provides a source of seed for native finches and other small birds through the winter and they have become naturalized on the continent).

The plan to restore the field will involve controlled burnings as well as tilling areas to allow for the seeds we introduce to take root easiest. Monitoring for undesired species (including preventing an overabundance of goldenrod to sweep the newly disturbed

spaces again) will need to take place as new swathes of the field are tilled and seeded with the desired species, with undesired species being removed before they are allowed to put out seeds and spread.

A successful culmination for the site would see the field abloom at almost every time of the growing season, with abundant flowers colouring a green field. To keep with the recreational use of the neighbouring ESA, specific paths could be marked through a portion of the field to allow people to fully take in the beauty of the now true meadow. The central stand of trees on the property could be a specific area for eastern flowering dogwood trees, helping establish a healthy population of the endangered species in the understory and surely attracting outdoorsmen to come and see the brilliant white blossoms as they fill the understory.

Site assessment

Table 1: Site inventory

Plants (Oct 23rd to 26th)	**Birds (Oct 23rd to 26th)**
Canadian goldenrod (*Solidago canadensis*)	Blue jay (*Cyanocitta cristata*)
Red clover (*Trifolium pratense*)	American robin (*Turdus migratorius*)
Bird vetch (*Vicia cracca*)	Mourning dove (*Zenaida macroura*)
Field maple (*Acer campestre*)	Black-capped chickadee (*Poecile atricapillus*)
Common privet (*Ligustrum vulgare*)	Northern cardinal (*Cardinalis cardinalis*)
American barberry (*Berberis canadensis*)	Wild turkey (*Meleagris gallopavo*)

False chamomile (*Tripleurospermum inodorum*)	House sparrow (*Passer domesticus*)
Curled dock (*Rumex crispus*)	European starling (*Sturnus vulgaris*)
Pale smartweed (*Persicaria lapathifolia*)	Hairy woodpecker (*Leuconotopicus villosus*)
White goosefoot (*Chenopodium album*)	Song sparrow (*Melospiza melodia*)
Broad-leaved dock (*Rumex obtusifolius*)	Red-winged blackbird (*Agelaius phoeniceus*)
Purslane (*Portulaca oleracea*)	Common grackle (*Quiscalus quiscula*)
Common ragweed (*Ambrosia artemisiifolia*)	Dark-eyed junco (*Junco hyemalis*)
Hairy crabgrass (*Digitaria sanguinalis*)	Eastern meadowlark (*Sturnella magna*)
Perennial sow thistle (*Sonchus arvensis*)	
Common chicory (*Cichorium intybus*)	
Mugwort (*Artemisia vulgaris*)	
Wild carrot (*Daucus carota*)	
White heath aster (*Symphyotrichum ericoides*)	

Description of the site

The sites topography consists of slowly sloping hills, with the highest point being its southern edge, and its lowest point being its northwest edge. The eastern edge is lower than the southern edge, but higher than the northwestern edge.

The field is dominated primarily by goldenrod plants but many other species or grasses, flowers, and forbs can be found in the field. There are some patches of tree and shrub growth in the field, young growth only as old as 10-12 years likely, mainly field maples which have had seeds blow in from the neighbouring woods. A tall mature stand of trees is located centrally at the east edge of the property, with notable conifers since I observed no conifer species in Highbury Woods Park.

There are no permanent standing water sources on the property, however wet season may see temporary puddles form in some of the lower lying topography of the land.

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