London Invasive Plant Management Strategy (LIPMS)

Ontario Invasive Plant Council – Annual General Meeting

October 15-16, 2018

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Ecologist
City of London

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Presentation Outline

- Development of the London Invasive Plant Management Strategy (LIPMS)
- Current City of London invasive species management practices
- Key components of the LIPMS

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Strategy Development

- Need for a strategy?
- Where is the direction for action coming from?
- Scope of the strategy -> be realistic
- Consider a high level strategy document vs. specific and detailed
- Create strategy based on OIPC framework – Strategic Process

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Official Plan Policies

- **The London Plan (2016)**
- The environmental policies of the London Plan, approved by council in 2016, build on the current Official Plan policies. The London Plan has a strong focus on protecting and improving the City's Natural Heritage System. Specifically, the goals of the City with respect to Natural Heritage focus on the following:

- 1308_ **We will plan for our city to ensure that London's Natural Heritage System is protected, conserved, enhanced, and managed for present and for future generations by taking the following actions**:
    1) Achieve healthy terrestrial and aquatic ecosystems in the city's subwatersheds.
    2) **Provide for the identification, protection, rehabilitation, and management of natural heritage features and areas and their ecological functions**.
    3) Protect, maintain, and improve surface and groundwater quality and quantity by protecting wetlands, groundwater recharge areas and headwater streams.
    4) Enhance, protect and conserve the Natural Heritage System through well planned built form and community design.
    5) **Maintain, restore, monitor and improve the diversity and connectivity of natural heritage features and areas and the long-term ecological function and biodiversity of Natural Heritage Systems**.
    6) Encourage, through education and incentive programs, the cooperation of property owners in the maintenance of, or enhancement to, the naturalization of lands and the sustainable use of our Natural Heritage System.
    7) Monitor the potential impacts of climate change to maintain the integrity and resiliency of the Natural Heritage System and adjust management activities accordingly.
    8) Provide opportunities for appropriate recreational activities based on the ecological sensitivities of the area.

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LIPMS Vision

- ***"To further enhance the City's commitment to leadership in managing and protecting the Natural Heritage System from the threats, dangers and costs associated with invasive plant species presence."***
  - As identified in policy 1417 of the London Plan, management of invasive plant species and associated restoration efforts will focus on specific components of the Natural Heritage System including the following:
    - a) **Environmentally Significant Areas** - to protect the existing ecosystem features and functions, to increase the amount of interior forest habitat, and to strengthen corridors.
    - b) **Significant Wetlands** - to protect the natural features and ecological functions of all provincially significant wetlands and wetlands.
    - c) **Significant Valleylands** - to protect existing ecosystem features and functions, maintain water resource functions, and rehabilitate eroded banks and channels.
    - d) **Significant Woodlands and Woodlands** - to protect existing ecosystem features and functions, to increase the amount of interior forest habitat, and to retain or restore linkages between isolated natural areas.
    - e) **Upland Corridors** - to retain or create linkages between otherwise isolated natural areas.

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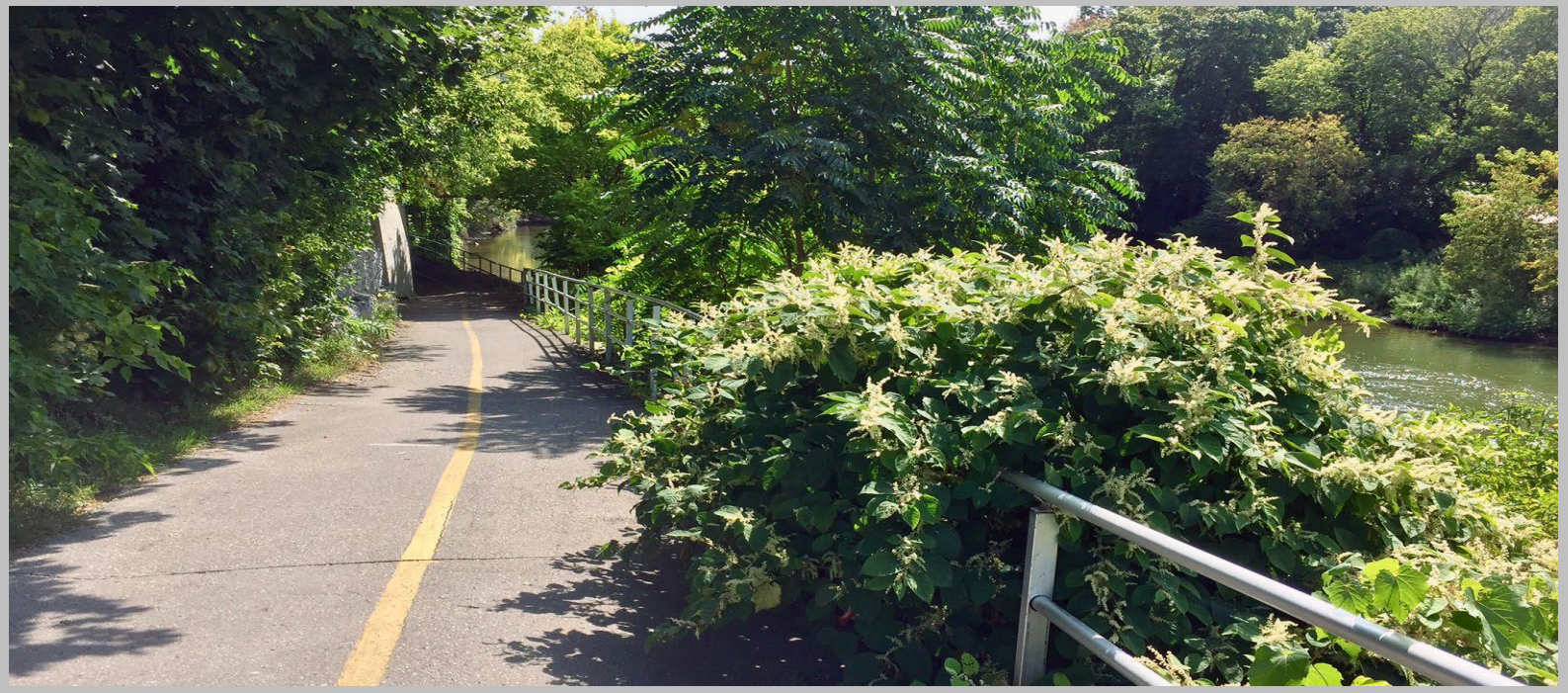
Strategic Process

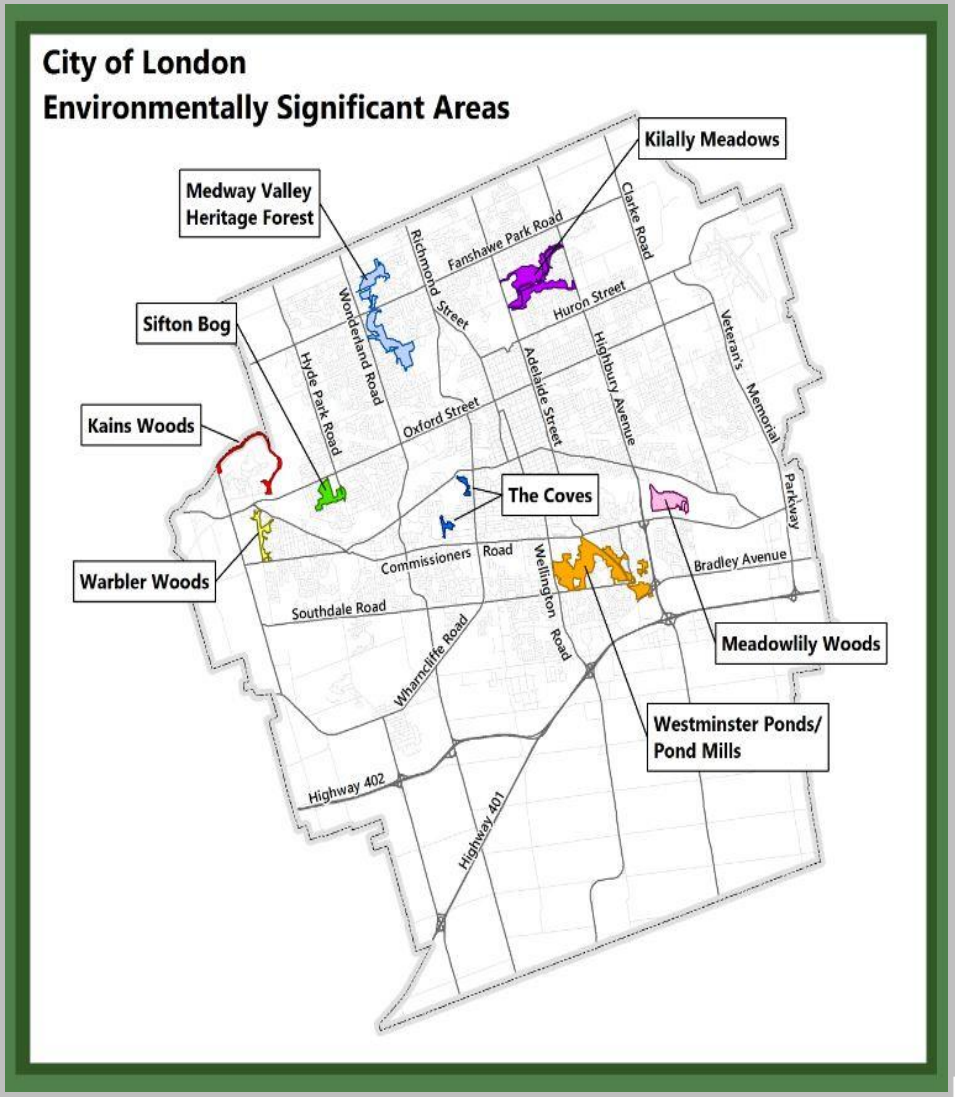
- Strategic Process
  - 5.1 Inventory/Mapping
  - 5.2 Early Detection & Rapid Response
  - 5.3 Management
  - 5.4 Restoration
  - 5.5 Prevention



Environmentally Significant Areas (ESA)

- Managed ESAs in London

- Westminster Ponds (204 h)
- Sifton Bog (40 h)
- Warbler Woods (29 h)
- Kains Woods (25 h)
- Kilally Meadows (132 h)
- Meadowlily Woods (44 + 14h)
- Medway VHF (95 + 34h)
- Coves ESA (46 ha)



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ESA Management Team

- ESA Team

- ESAs are managed by the UTRCA under agreement with the City
- ESA Team have unique skills:
  - Invasive Species Management
  - Professional foresters/arborists
  - Pesticide licenses
  - Tree Risk Assessor Qualification
  - Carpentry
  - Municipal by-law enforcement
- Yearly Operating Budget
- Yearly Capital Budget

ESA Invasive Species Management

Invasive Plant Species Management in London's ESAs, Parks & Woodlands

	2006 - 2008	2009	2010	2011	2012	2013	2014	2015	2016
Phragmites australis (Common Reed)*							•	•	•
Japanese Knotweed*						•	•	•	•
Dog Strangling Vine*						•	•	•	•
Common and Glossy Buckthorn*	•	•	•	•	•	•	•	•	•
Giant Hogweed*					•	•	•	•	•
Garlic Mustard		•						•	•
Goutweed							•	•	•
Periwinkle								•	•
Purple Loosestrife		•						•	•
Black Locust								•	•
Scots Pine							•	•	•
Non-Native Honeysuckle								•	•
Russian/Autumn Olive							•	•	•

*denotes priority species

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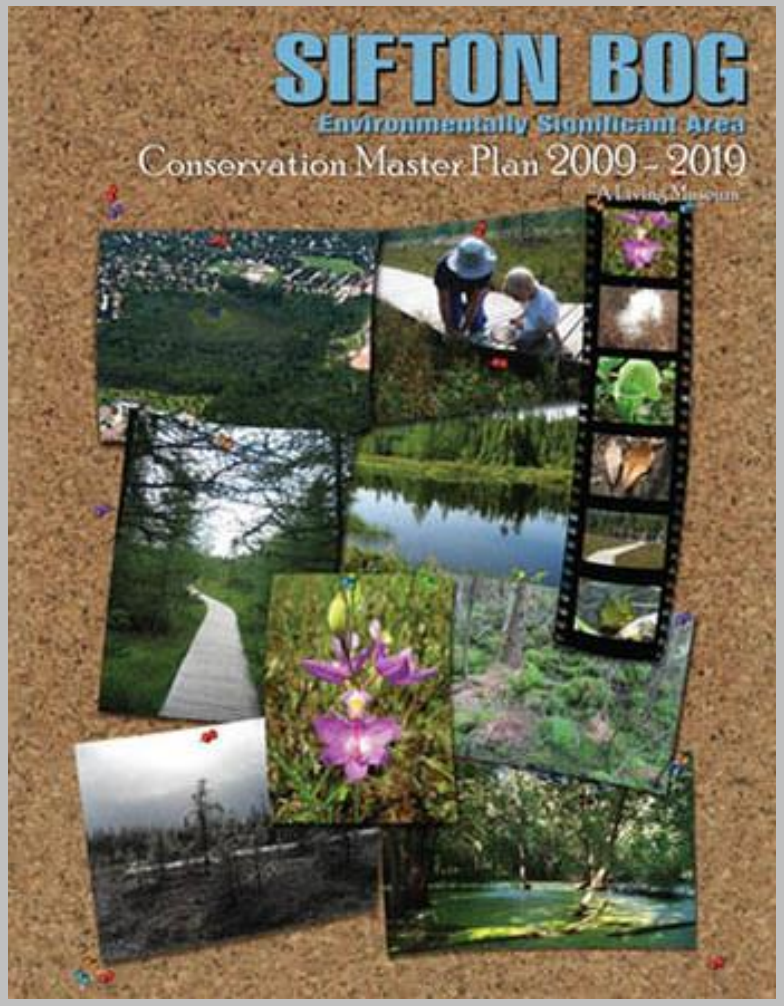
Conservation Master Plans for ESAs



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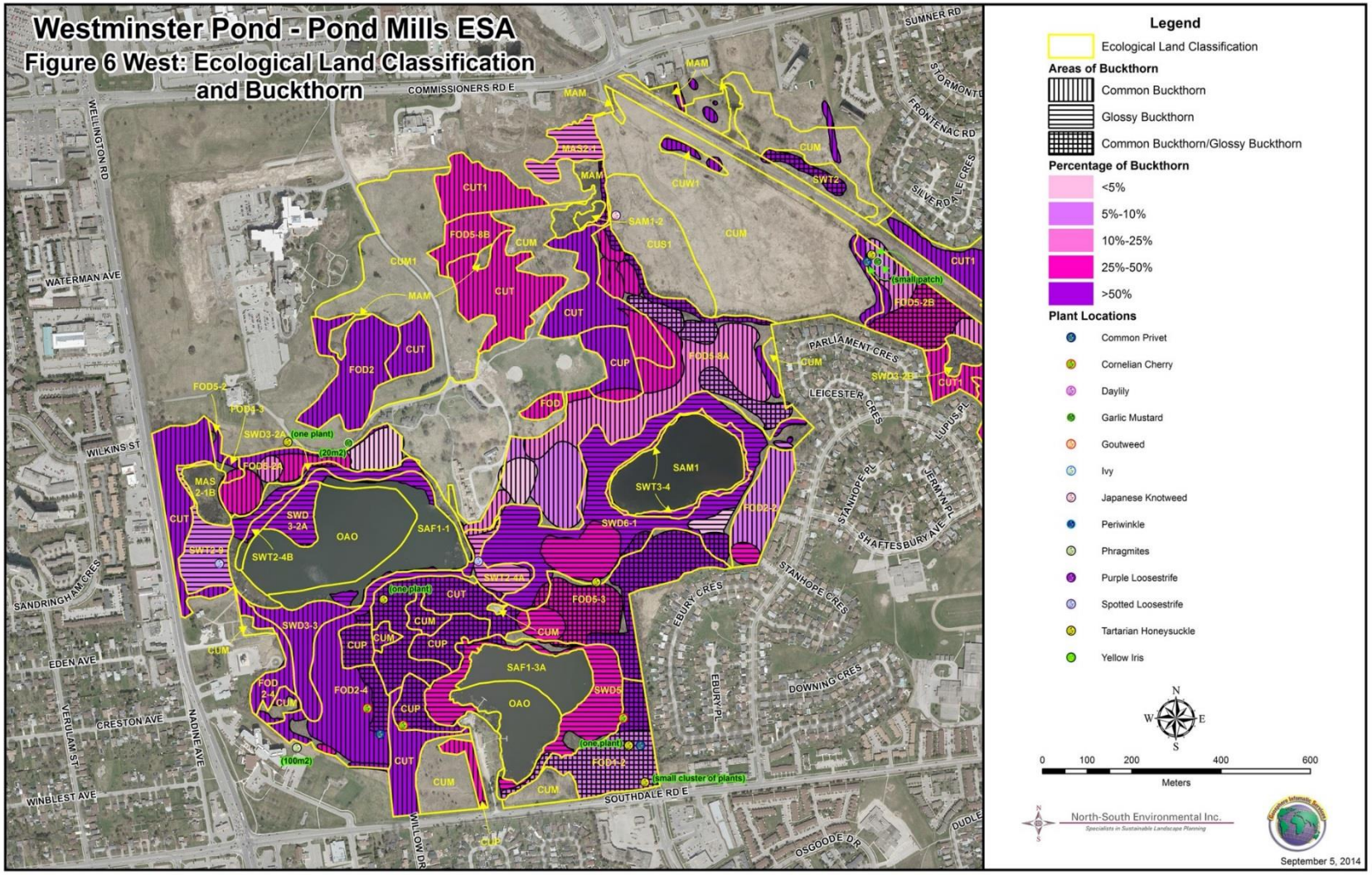
Buckthorn in the Westminster Ponds ESA



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Early Detection and Rapid Response

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Invasive Species Management

MANAGING INVASIVE GOUTWEED
PROTECTING SPECIES AT RISK

2015 UPDATE

The City of London retained Dillon Consulting Ltd. to prepare an Invasive Species Management Plan for the Medway Valley Heritage Forest Environmentally Significant Area (MVHF ESA) as part of the Conservation Master Plan (CMP) Phase 1, Natural Heritage Inventory and Evaluation of the MVHF ESA in 2013.

INVASIVE HORTICULTURAL SPECIES

Goutweed (*Aegopodium podagraria*) has escaped from gardens and is now in our ESA's.

Goutweed Control (False-rue Anemone Protection) - barrier around False-rue Anemone colony, Goutweed right up to barrier - July 16, 2014

Goutweed Control (False-rue Anemone Protection) - barrier around False-rue Anemone colony - May 10, 2015

1 RESEARCH & POLICY

As part of that plan, Goutweed (*Aegopodium podagraria*) was identified as a high priority species to control and manage as it poses a threat to a significant population of False Rue-anemone (*Enemion biternatum*). False Rue-anemone is listed under both the provincial Endangered Species Act, 2007 and federal Species at Risk Act, 2002 as Threatened.

Currently, False Rue-anemone is believed to occupy only six sites in southwestern Ontario, one of which is the MVHF ESA (COSEWIC, 2005).

Goutweed has been identified as a direct threat to False Rue-anemone through encroachment.

Goutweed was also identified as encroaching on populations of Cream Violet (*Viola striata*) and Green Dragon (*Arisaema dracontium*) in the MVHF ESA. Although not listed at risk, both species are rare and of conservation concern.

Control efforts took place in close proximity and in some cases, within patches of False Rue-anemone. Therefore, management activities have been registered under Section 23.17 (Species protection, recovery activities) of Ontario Regulation 242/08 under the Endangered Species Act, 2007.

2 MONITORING & CONTROL

The Plan called for a mix of chemical and manual control methods which were carried out in 2014 (and 2015). Fortunately, a natural surface trail acted as a barrier to prevent further spread of the Goutweed, protecting the False Rue-anemone population in places. The plan required additional barriers to be in place to protect the False Rue-anemone from the effects of the chemical controls (spraying).

UTRCA treated areas of Goutweed in July, August and October of 2014.

Success – The Goutweed treated by UTRCA in 2014 was effectively mitigated (see photos) and spring ephemerals including Trout Lily, Wild Leek, Wild Ginger, Toothwort, and Jack-in-the-pulpit appeared on the forest floor in those areas this spring.

Additional areas of Goutweed were treated in June and July of 2015 by UTRCA.

Next steps include seeding of the Goutweed areas treated in 2014 with a native seed mix this fall.

The Upper Thames River Conservation Authority (UTRCA) is implementing the Goutweed control and monitoring under contract with the City of London, coordinated by the City Ecologist, Linda McDougall. Brandon Williamson and Dan Jones are the lead staff at the UTRCA for the project. Jennifer Petruniak, M.Sc., is the lead biologist at Dillon on the project, supported by Jonathan Harris.

3 EDUCATION & OUTREACH

OPIC/SERO Presentation at 2014 AGM and available online.

Presentations to the Ecological & Environmental Planning Advisory Committee.

Public Update Poster circulated on City Website and at events.

Presentation at Nature London meeting.

Ongoing efforts to inform and educate the community through Adopt an ESA program and other events.

Signage in the MVHF ESA keeps public informed.

This project is fully funded by the City of London to protect and restore the City's Natural Heritage System.

DILLON CONSULTING

UPPER THAMES RIVER CONSERVATION AUTHORITY

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Restoration

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STANDARD CONTRACT DOCUMENTS FOR MUNICIPAL CONSTRUCTION PROJECTS

SUPPLEMENTAL STANDARDS FOR PARKS AND OPEN SPACES

SPECIFICATION FOR SEEDING AND COVER

Table 1.2: Permanent Seed Mixes and Seed Certificate Analysis Values – Naturalization Seed (cont'd)

Permanent Seed Mix	Seed Mix %	Minimum % Germination	Maximum % of Weed Seed
Type 2: Upland Meadow		70	3.0
*Ontario Seed Company 'Native Prairie Meadow Mix' **			
Grasses, Sedges			
Fowl Bluegrass	25%		
Switchgrass	22%		
Indian Grass	20%		
Little Bluestem	15%		
Forbs			
Black Eyed Susan	7%		
Evening Primrose	4%		
Foxglove Beardtongue	2%		
New England Aster	1%		
Showy Tick-trefoil	1%		
Wild Bergamot	1%		
Early Goldenrod	1%		
White Vervain	1%		

* Or approved equal

Permanent Seed Mix	Seed Mix %	Minimum % Germination	Maximum % of Weed Seed
Type 3: Wet Meadow / Seasonal Floodplain		70	3.0
*Quality Seeds 'Wet Meadow Mix' **			
Grasses, Sedges			
Virginia Wild Rye	18%		
Riverbank Wild Rye	15%		
Big Blue Stem	12%		
Fowl Bluegrass	18%		
Fowl Mannagrass	10%		
Soft Rush	5%		
Wool Grass	5%		
Canada Bluejoint	3%		
Forbs			
Blue Vervain	5%		
Black Eyed Susan	4%		
New England Aster	3%		
Boneset	2%		

* Or approved equal

Permanent Seed Mix	Seed Mix %
Additional / Overseed Species (At City's discretion)	
Common Milkweed	1-2%
Butterflyweed	1-2%
Round-headed Bush Clover	1-2%

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Community Involvement

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LIPMS - Recommendations

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Financial Plan

Funding Destination	Annual Current Budget	Annual Proposed Budget
Thames Valley Corridor	$0	$100,000
City of London ESAs	$75,000	$150,000
City of London Woodlands	$50,000	$150,000
City of London Parks	$25,000	$75,000
Other Vectors	$0	$25,000
Totals	$150,000	$500,000

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Phragmites Management Strategy

- City staff are currently working on developing a City-wide *Phragmites* Management Strategy with the London *Phragmites* Working Group.

  - Environmental and Ecological Planning Advisory Committee (EEPAC)
  - Agricultural Advisory Committee (AAC)
  - Lower Thames Valley Conservation Authority (LTVCA)
  - Upper Thames River Conservation Authority (UTRCA)
  - Kettle Creek Conservation Authority (KCCA)
  - Ministry of Transportation – Ontario (MTO)
  - City of London: Stormwater Management Unit, Sewer Operations, Parks Operations, Transportation Planning and Design, Roadside Operations, Environmental Programs, Urban Forestry, and Environment and Parks Planning

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Thank You

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