

## **Louisville Nature Center / Beargrass Creek Preserve**

### **Invasive Weed Management Plan**

Invasive species identified after completion of detailed survey of all areas of the preserve - Priority of invasive species management will be based upon severity of threat of the following listed plant species:

#### Severe Threat:

- 1 – *Lonicera maackii* ( Shrub Honeysuckle )
- 2 – *Euonymus fortunei* ( Winter Creeper )
- 3 – *Rosa multiflora* ( Multiflora Rose )
- 4 – *Lonicera japonica* ( Japanese Honeysuckle )
- 5 – *Euonymus alata* ( Winged Euonymous )
- 6 – *Celastrus orbiculata* ( Oriental Bittersweet )
- 7 – *Dioscorea oppositifolia* ( Chinese Yam )
- 8 – *Ligustrum sinense* ( Privet )

#### Significant Threat:

- 1 – *Ampelopsis brevipedunculata* ( Porcelainberry )
- 2 – *Morus alba* ( White Mulberry )
- 3 – *Glechoma hederacea* ( Ground Ivy )

#### Lesser Threat

- 1 – *Rhodotypos scandens* ( Jetbead )

### **INVASIVE SPECIES DETAILS**

## Lonicera maackii

*Effects on natural areas:* Severely limits the ability of forests to regrow, reducing seedling establishment and herb species richness in forests.

*Distribution:* Abundant / Widespread in all areas of the preserve's forested community and along perimeter / Roadside.

*Control Measures:* Physical removal by hand – pulling smaller plants or grubbing out large plants will not be implemented in the preserve's sensitive habitats due to this method creating open soil areas and any rootstocks that remain will result in rapid reinvasion or resprouting of exotics.

Bush Honeysuckle in targeted areas will be hand picked of fruit then the stems will be cut at the base with pruners then a 25% solution of Glyphosate will be applied to the freshly cut stump with a sponge applicator to prevent resprouting. Application of Glyphosate will be applied in early fall through the dormant season.

## Euonymus fortunei

*Effects on natural areas:* Wintercreeper can cover the ground and vegetation and eliminate native groundcover species in mesic and dry-mesic forests. Climbing vines can reach 40 to 70ft and can kill native shrubs and small trees.

*Distribution:* Abundant / Widespread in all areas of the preserve's groundcover layer. Vines found climbing up trunks of native species of trees along main hiking trail and forest interior.

*Control Measures:* In areas of severe infestations – Foliar spraying with 2,4d and Triclopyr in Autumn after the first frost can reduce the population. Herbicide applications will stop prior to emergence of native spring wildflowers. In areas where wintercreeper has become lignified / trunk size a 25% solution of Glyphosate will be applied to the freshly cut stump.

## Rosa multiflora

*Effects on natural areas:* The arching canes and thorns form impenetrable thickets that smother out native vegetation. Canes that climb into trees can add weight to the branches, making them vulnerable to breaking in windstorms.

*Distribution:* Abundant / Widespread in all areas of preserve's shrub layer. Dense impenetrable thickets can be found scattered along main hiking trail and also in open / sunny areas of the forest interior. Also found growing along the preserve's perimeter and roadside.

*Control Measures:* Several person team will hold back canes with pitchfork while another cuts the canes towards the base. Cut canes will be painted with a 25% solution of Glyphosate using a sponge applicator.

## Lonicera japonica

*Effects on natural areas:* Overgrows small trees and shrubs and can girdle trees as vines thicken with

age. Honeysuckle forms a dense groundcover in sunny areas, outcompeting native vegetation.

*Distribution:* Isolated populations found in open / sunny areas along preserve's perimeter and roadside.

*Control Measures:* Japanese Honeysuckle will be significantly reduced by cutting vines off of trees to prevent them from climbing to the light necessary for stronger photosynthesis. Honeysuckle found growing along ground will be sprayed with a 2% application of Glyphosate. Applications of Herbicide will only be sprayed in areas where there is no native vegetation present. All other areas of Honeysuckle will be pulled up by hand.

### Euonymus alata

*Effects on natural areas:* Naturalizes in woodlands where it can establish dense stands outcompeting native understory plants for light and space.

*Distribution:* Found in isolated pockets throughout preserve's interior and along main hiking trail.

*Control Measures:* Seedlings will be easily pulled up by hand. For larger shrubs stems will be cut back and painted with a 25% solution of Glyphosate using a sponge applicator.

### Ampelopsis brevipedunculata

*Effects on natural areas:* Its vigorous growth shades out and outcompetes small native plants. It grows over native shrubs and up trees increasing top weight and making them vulnerable to wind damage.

*Distribution:* Abundant / Widespread along open / sunny areas of preserve's perimeter and roadside.

*Control Measure:* Vines will be pruned in fall to prevent flower buds from forming the following season. A 2% spray application of Glyphosate will be applied to foliage for control of larger infestations.

### Morus alba

*Effects on natural areas:* Forms dense, shallowly rooted thickets that exclude native plants. White Mulberry is considered a severe threat to the native Red Mulberry.

*Distribution:* Isolated pockets found in open / sunny areas along the preserve's perimeter and roadside.

*Control Measures:* Seedlings will be hand pulled. Larger shrubs / trees will be cut back and stumps painted with a 25% solution of Glyphosate using a sponge applicator.

### Glechoma hederacea

*Effects on natural areas:* Ground Ivy forms a ground cover that deters the establishment and growth of native plants and can form dense colonies in natural areas.

*Distribution:* Abundant / Widespread in all areas of the preserve's ground cover layer.

*Control Measures:* Small patches will be hand pulled or raked in damp soil. Larger populations will be sprayed with a 2% application of Glyphosate in the dormant season when most other native species are dormant.

### Rhodotypos scandens

*Effects on natural areas:* This plants adaptability gives it the potential to be a troublesome invasive but it is not currently a major competitor in any large areas.

*Distribution:* Isolated pockets found growing along main trail.

*Control Measures:* Small plants will be hand pulled or dug out to prevent reproduction from the root pieces. For larger plants - Stems will be cut back to base and a 25% solution of Glyphosate will be painted on stumps using a sponge applicator.

### Celastrus orbiculata

*Effects on natural areas:* Oriental Bittersweet is a serious threat to plant communities due to its high reproductive rate. Vines severely damage native vegetation by constricting and girdling stems. Vines can shade, suppress and ultimately kill native vegetation.

*Distribution:* Found along forest edge and under gaps in the forest canopy in isolated pockets.

*Control Measure:* Cut climbing or trailing vines as close to the root collar as possible and apply a 25% solution of Glyphosate using a sponge applicator.

### Dioscorea oppositifolia

*Effects on natural areas:* Vines quickly overgrow shrubs and small trees blocking light to the ground. Plant species diversity declines under heavy vine cover.

*Distribution:* Found in isolated pockets under gaps in forest canopy.

*Control Measure:* Bulbils will be hand picked to keep vines from spreading. A spray application of a 2% Glyphosate solution will be applied to the foliage late in the growing season for better control.

### Ligustrum sinense

*Effects on natural areas:* Privet can dominate the shrub layer of an invaded habitat, thus altering species composition and natural community structure by choking out native plant species.

*Distribution:* Abundant / Widespread in all areas of the preserve's forested community.

*Control Measures:* Stems will be cut at the base with pruners then a 25% solution of Glyphosate will be applied to the freshly cut stump with a sponge applicator.

