

**Waterfront Botanical Gardens Ongoing Plant Species List  
Final Report: March – September, 2014**

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This report is the result of a plant survey undertaken during the 2014 field season to identify and document the species growing on the future site of the Louisville Waterfront Botanical Gardens off River Road. This 23-acre site sits on an old landfill that has basically been undisturbed for the past 40 years. One of the goals for undertaking this project was to get a glimpse of the floristic makeup of the land prior to the garden's development. Starting in spring, monthly field trips commenced. It was clear from the start that this disturbed site would support many nonnative plants and in total there were 74. The dominant invasive shrub throughout the property was amur honeysuckle where it formed dense, dark thickets with little to no vegetation growing beneath. In the mown areas, the European herbaceous plant called birdsfoot-trefoil with bright yellow flowers carpeted the ground.

Of the 57 native plants, several were a treat to find. These included maypop passion-flower, sleeping silene, valley redstem, rough marsh-elder and common milkweed. The dominant native herbaceous plant was common goldenrod.

While studying this site, the views of the surrounding landscape were beautiful, especially the Ohio River to the north and the city of Louisville to the west. The location is a perfect spot for a top-notch botanical garden and hopefully, this baseline study will be the start of many other research projects and partnerships in botany, or studying insect pollinators, birds, mammals, water quality, and urban restoration to name a few.

Please note that this baseline study follows the common and scientific names used in the state's only comprehensive botanical manual, *Plant Life of Kentucky: An Illustrated Guide to the Vascular Flora* by Jones 2005.

**Dicot Families:**

**Aceraceae – Maple Family**

Boxelder – *Acer negundo* (native, common) riparian/mesic habitats-keep (watch density)

Red maple – *Acer rubrum* (native, common) riparian/mesic habitats-keep

Silver maple – *Acer saccharinum* (native, common) riparian/mesic habitats-keep

**Amaranthaceae – Amaranth Family**

Japanese chaff-flower – *Achrysanthes japonica* (Asia, uncommon) a major invasive plant in moist areas along the Ohio River corridor, remove!

**Anacardiaceae – Sumac Family**

Poison-ivy – *Toxicodendron radicans* (native, common) recommend removal or thinning (fruits are a good source for birds and other small animals)

### **Apiaceae – Carrot Family**

Poison-hemlock – *Conium maculatum* (Eurasia, dominant herbaceous plant, invasive, poisonous) toxic-remove!

Wild carrot – *Daucus carota* (Eurasia, common) weed in field, roadsides, train tracks

Field hedge-parsley – *Torilis arvensis* (Europe, common) weed in field, roadsides, train tracks. Can become invasive

### **Araliaceae – Ginseng Family**

English ivy – *Hedera helix* (Europe, invasive) in woods, aggressive invasive can kill host tree, remove!

**Asclepiadaceae – Milkweed Family** (many milkweeds are butterfly pollinated and larvae use them as a food source. Milkweeds often have mutualistic relationships with several species)

Sandvine – *Ampelamus albidus* (native, uncommon) good butterfly/bee plant

Common milkweed – *Asclepias syriaca* (native, rare) excellent restoration/butterfly plant for site!

### **Asteraceae – Aster Family**

White snakeroot – *Ageratina altissima* (native, common) woodlands, edges

Common ragweed – *Ambrosia artemisiifolia* (native, common) pioneer species associated with disturbed soil and will likely be outcompeted in later successful states, can be invasive. Watch.

Giant ragweed – *Ambrosia trifida* (native, common) can become invasive

Common burdock – *Arctium minus* (Eurasia, rare) butterfly and moth food source (larvae) successional species most likely will be outcompeted

Annual wormwood – *Artemisia annua* (Eurasia, uncommon) associated with disturbed soil and will likely be outcompeted

Mugwort – *Artemisia vulgaris* (Eurasia, invasive) may be outcompeted by later successional stages in this habitat. Watch!

Spotted knapweed – *Centaurea maculosa* (Europe, uncommon) weed along roadsides

Chicory – *Cichorium intybus* (Europe, common) weed in field, roadsides

Canada thistle – *Cirsium arvense* var. *arvense* (Eurasia, invasive) excellent butterfly and bird (seeds) plant (20 species of butterfly larvae are known to feed on this plant). Has deep, extensive rhizomes making removal difficult

Bull thistle – *Cirsium vulgare* (Europe, uncommon) associated with disturbed soil and will likely be outcompeted. Good for butterflies, bees, birds

Horseweed – *Conyza canadensis* (native, common) an aggressive colonizer

Plains tickseed – *Coreopsis tinctoria* (naturalized from cultivated midwestern plants, rare) in field

Annual fleabane – *Erigeron annuus* (native, common) in fields, along roadsides

Philadelphia fleabane – *Erigeron philadelphicus* (native, uncommon) keep for pollinator diversity

Late eupatorium – *Eupatorium serotinum* (native, uncommon) weed in fields, roadsides

Common quickweed – *Galinsoga quadriradiata* (tropical America, common) weed in field, especially moist ground  
Rough marsh-elder – *Iva annua* (native, common) in field; large seeds were important food source used by Native Americans  
Pineapple-weed – *Matricaria discoidea* (Cordilleran area, uncommon)  
Yellowtop – *Packera glabella* (native, common) in moist soil, keep for pollinator diversity  
Goldenrod – *Solidago canadensis* (native, abundant) excellent butterfly plant, good for overall ecology. Keep, major native plant on site  
Prickly sowthistle – *Sonchus asper* (Europe, uncommon) pioneer species of disturbed soil and will likely be outcompeted  
Common dandelion – *Taraxacum officinale* (Eurasia, common) pioneer species of disturbed soil and will likely be outcompeted  
Fistulose goat's beard – *Tragopogon dubius* (Europe, rare) along roadsides  
Tall ironweed – *Vernonia gigantea* (native, uncommon) beautiful native plant in field

#### **Balsaminaceae – Touch-me-not Family**

Orange touch-me-not – *Impatiens capensis* (native, common) in woodlands, edges, cultivate, showy and good for hummingbirds and bees  
Yellow touch-me-not – *Impatiens pallida* (native, uncommon) in woodlands, edges

#### **Bignoniaceae – Catalpa Family**

Princess-tree – *Paulownia tomentosa* (China, rare) along train tracks

#### **Boraginaceae – Borage Family**

Corn-gromwell – *Buglossoides arvensis* (Europe, common) in field

**Brassicaceae – Mustard Family** (many mustards are pioneer species of disturbed soil and will likely be outcompeted)

Garlic mustard – *Alliaria petiolata* (Europe, dominant, invasive plant in woods) aggressive invasive remove without prejudice  
Shepherd's purse – *Capsella bursa-pastoris* (Europe, common)  
Hoary bittercress – *Cardamine hirsuta* (Europe, common)  
Vernal whitlow-grass – *Draba verna* (Eurasia, common)  
Poor-man's pepper – *Lepidium virginicum var. virginicum* (native, common)  
Creeping yellow cress – *Rorippa sylvestris* (Eurasia, common) in moist soil  
Field pennycress – *Thlaspi arvense* (Europe, common)

#### **Cannabaceae – Hemp Family**

Japanese hops – *Humulus japonicus* (Japan, rare) vine in field

#### **Caprifoliaceae – Honeysuckle Family**

Japanese honeysuckle – *Lonicera japonica* (Asia, common) aggressive invasive remove without prejudice  
Amur honeysuckle – *Lonicera maackii* (Asia, dominant shrub at site, invasive) aggressive invasive remove without prejudice

### **Caryophyllaceae – Pink Family**

Thyme-leaved sandwort – *Arenaria serpyllifolia* (Eurasia, uncommon)

Clammy mouse-ear chickweed – *Cerastium glomeratum* (Eurasia, common) associated with disturbed soil and will likely be outcompeted

Common chickweed – *Stellaria media* (Eurasia, common) associated with disturbed soil and will likely be outcompeted

Sleeping silene – *Silene antirrhina* (native, rare) in field

### **Celastraceae – Bittersweet Family**

Climbing euonymus – *Euonymus fortunei* (Asia, invasive) in woods, aggressive invasive vine and groundcover remove without prejudice, kills host tree

### **Chenopodiaceae – Goosefoot Family**

Lamb's-quarters – *Chenopodium album* (Europe, common) associated with disturbed soil and will likely be outcompeted

### **Clusiaceae – Mangosteen Family**

Common St. John's-wort – *Hypericum perforatum* (Europe, uncommon) along roadsides

Spotted St. John's-wort – *Hypericum punctatum* (native, uncommon) in field

### **Convolvulaceae – Morning-glory Family**

Hedge bindweed – *Calystegia sepium* (native, uncommon) good for pollinators, watch density

Wild sweet potato vine – *Ipomoea pandurata* (native, uncommon) climbing vine

### **Dipsacaceae – Teasel Family**

Teasel – *Dipsacus fullonum* (Europe, common) can become invasive, remove

### **Euphorbiaceae – Spurge Family**

Roughpod copperleaf – *Acalphya ostryifolia* (native, uncommon) in field

Prairie-tea – *Croton monanthogynus* (native, uncommon) in field

Small spreading sandmat – *Euphorbia humistrata* (adventive from midwest U.S., common) dry soil, especially along tracks

**Fabaceae – Legume Family** (points to consider...exotic Fabaceae (like clover) are excellent plants for pollinators, especially bees. They are nitrogen fixers and help condition soil. They are also a food source for many herbivores)

Crown-vetch – *Coronilla varia* (Mediterranean, invasive) in field/woodland edges, an aggressive invasive recommend removal but excellent for butterflies and other pollinators so maybe delay complete removal to facilitate pollinators

Honeylocust – *Gleditsia triacanthos* (native, rare) in field, keep

Birdsfoot-trefoil – *Lotus corniculatus* (Europe, abundant) in field

Alfalfa – *Medicago sativa* (Eurasia, common) in field

Yellow sweet-clover – *Melilotus officinalis* (Eurasia, common) in field

Black locust – *Robinia pseudoacacia* (native, common) keep, watch density

Pinnate hop-clover – *Trifolium campestre* (Eurasia, common) in field  
Alsike clover – *Trifolium hybridum* (European cultigen, common) in field  
White clover – *Trifolium repens* (Eurasian cultigen, common) in field  
Common vetch – *Vicia sativa* (Europe, uncommon) in field

#### **Geraniaceae – Geranium Family**

Carolina crane’s-bill – *Geranium carolinianum* (native, common) in disturbed soil

#### **Juglandaceae – Walnut Family**

Black walnut – *Juglans nigra* (native, uncommon) woodlands, keep

**Lamiaceae – Mint Family** (these mints are pioneer species of disturbed soil and will likely be outcompeted)

Ground-ivy- *Glechoma hederacea* (Europe, common) can be highly aggressive invasive

Henbit – *Lamium amplexicaule* (Eurasia, common)

Red dead-nettle – *Lamium purpureum* (Eurasia, common)

#### **Lythraceae – Loosestrife Family**

Valley redstem – *Ammannia coccinea* (native, locally common in one moist depression only) a beautiful native wetland species

Purple loosestrife – *Lythrum salicaria* (Eurasia, rare) considered one of the worst invasive plants in wetland corridors throughout the United States. Eradicate!

#### **Malvaceae – Mallow Family**

Velvetleaf – *Abutilon theophrasti* (India, uncommon) in field

Prickly sida – *Sida spinosa* (tropical America, uncommon) in field

#### **Moraceae – Mulberry Family**

White mulberry – *Morus alba* (Eurasia, uncommon) in field, remove

#### **Oleaceae – Olive Family**

White ash – *Fraxinus americana* (native, uncommon) “threatened” and succumbing to the deadly emerald ash borer

#### **Oxalidaceae – Wood-sorrel Family**

Common yellow wood-sorrel – *Oxalis stricta* (native, common) disturbed ground

#### **Passifloraceae – Passion-Flower Family**

Maypop passion-flower – *Passiflora incarnata* (native, rare) a beautiful native wildflower, can become aggressive

#### **Phytolaccaceae – Pokeweed Family**

Pokeweed – *Phytolacca americana* (native, common) associated with disturbed soil and will likely be outcompeted. Good for Lepidoptera (larve) and birds. Toxic pass poke salad stage

**Plantaginaceae – Plantain Family** (both species below pioneer species associated with disturbed soil and will likely be outcompeted)

English plantain – *Plantago lanceolata* (Eurasia, common)

American plantain – *Plantago rugelii* (native, common)

**Platanaceae – Sycamore Family**

Sycamore – *Platanus occidentalis* (native, uncommon) riparian/mesic habitats, keep

**Polygonaceae – Smartweed Family**

Pennsylvania smartweed – *Polygonum pennsylvanicum* (native, uncommon) in field

Jumpseed – *Polygonum virginianum* (native, uncommon) moist ground

Curly dock – *Rumex crispus* (Europe, common) considered invasive, remove

**Ranunculaceae – Buttercup Family**

Yam-leaved clematis – *Clematis terniflora* (Asia, rare) along roadsides

Lesser celandine – *Ranunculus ficaria* (Eurasia, invasive) in woodlands, considered to be one of the worst herbaceous invasive plants, especially along riparian corridors. Remove or manage populations if at all possible? (Dr. Jeff Masters Ph.D. topic)

Hispid buttercup – *Ranunculus hispidus* (native, uncommon) in field, keep

**Rosaceae – Rose Family**

Indian strawberry – *Duchesnea indica* (Asia, common) pioneer species of disturbed soil and will likely be outcompeted

Spring avens - *Geum vernum* (native, common) in woods, keep

Bradford pear – *Pyrus calleryana* (Cultivated tree escaping, common) an aggressive invasive that is spreading rapidly, remove

Multiflora rose – *Rosa multiflora* (Asia, common) invasive, remove

**Rubaceae – Madder Family** (Galium species below associated with disturbed soil and will likely be outcompeted)

Cleavers – *Galium aparine* (native, common)

Piedmont bedstraw – *Galium pedemontanum* (Europe, common)

**Salicaceae – Willow Family**

Eastern cottonwood – *Populus deltoides* (native, common) riparian/mesic habitats, keep

**Scrophulariaceae – Figwort Family**

Clammy hedge-hyssop – *Gratiola neglecta* (native, locally common in one moist depression only) desirable wetland species

Moth mullein – *Verbascum blattaria* (Eurasia, uncommon) in field

Common mullein – *Verbascum thapsus* (Europe, uncommon) in field

Corn speedwell – *Veronica arvensis* (Eurasia, common) disturbed ground

Birdseye speedwell – *Veronica persica* (Asia, common) disturbed ground

### **Solanaceae – Nightshade Family**

Jimsonweed – *Datura stramonium* (Asia and s. U.S., uncommon) showy native that is moth pollinated, poisonous, can become invasive

Virginia ground-cherry – *Physalis virginiana* (native, rare) weed in dry soil

Black nightshade – *Solanum ptychanthum* (native, uncommon) in field

### **Ulmaceae – Elm Family**

Hackberry – *Celtis occidentalis* (native, common) usually riparian/mesic habitats, keep but watch density

American elm – *Ulmus americana* (native, common) usually riparian/mesic habitats, keep

### **Violaceae – Violet Family**

Common blue violet – *Viola sororia* (native, common) in woodlands

### **Vitaceae – Grape Family**

Porcelain-berry – *Ampelopsis brevipedunculata* (Asia, common) can become an invasive vine, remove

Virginia-creeper- *Parthenocissus quinquefolia* (native, common) in woodlands, a colorful vine in fall and good food source for birds, watch density can kill host tree

### **Monocot Families:**

#### **Alliaceae – Onion Family**

Wild onion – *Allium canadense* (native, uncommon) along train tracks

Field garlic – *Allium vineale* (Europe, common in field) can become invasive, remove

**Cyperaceae – Sedge Family** (sedge species in moist to wet soil in field, keep for possible pond or wetland habitat)

Sedge – *Carex festucacea* (native, common)

Sedge – *Carex frankii* (native, uncommon)

Sedge – *Carex grisea* (native, uncommon)

Sedge – *Carex vulpinoidea* (native, common)

#### **Juncaceae – Rush Family**

Path rush – *Juncus tenuis* (native, common) in field

#### **Poaceae – Grass Family**

Creeping bent grass – *Agrostis stolonifera* (Europe, common) in field

Downy chess – *Bromus sp.*

Bermuda grass – *Cynodon dactylon* (Old World, abundant) in field, can be invasive, remove

Orchard grass – *Dactylis glomerata* (Europe, common) along roadsides, in field

Hairy crab grass – *Digitaria sanguinalis* (Eurasia, common) in field, bare ground

Common barnyard grass – *Echinochloa crus-galli* (Asia, locally common in wet to moist ground) in field

Goose grass – *Eleusine indica* (Old World, uncommon) bare ground

Tall fescue – *Festuca arundinacea* (Europe, common) invasive, remove

Little barley – *Hordeum pusillum* (native, common) in field

Annual bluegrass – *Poa annua* (Europe, common) bare ground

Kentucky bluegrass – *Poa pratensis* (northern U.S. and Europe, common)

Timothy – *Phleum pratense* (Europe, uncommon) in field

Nodding foxtail – *Setaria faberi* (Asia, common) in field, roadsides

Yellow foxtail – *Setaria pumila* (Europe, common) in field, roadsides

Johnson grass – *Sorghum halepense* (Old World, abundant) in field, roadsides, train tracks, can become invasive, remove

### **Additional notes on flora**

#### **Definitions of frequency of species used on 23 acre Botanical Garden site:**

**Abundant:** plant found in large quantities throughout site

**Common:** plant widespread and plentiful in certain habitats throughout site, easily found.

**Uncommon:** plant scattered or occasional throughout the site.

**Rare:** plant found in one or two locations only.

**Invasive species definition:** refers to a plant that has been introduced into an environment in which it did not evolve and therefore has very few natural enemies, if any, to keep it in check. It is highly aggressive, opportunistic, adaptable, and able to reproduce quickly and expand its numbers and coverage rapidly, thus invading new habitats.

#### **Some invasive species on site of major concern:**

Poison hemlock

English ivy

Mugwort

Canada thistle

Garlic mustard

Crown-vetch

Japanese honeysuckle

Amur honeysuckle

Climbing euonymus

Lesser celandine

Bradford pear

Multiflora rose

Porcelain-berry

Tall fescue

Johnson grass

**Number of native species: 57**



**Number of nonnative species: 74**

**Number of shared native/nonnative origin: 2**

**Total number of species to date: 133**