A photograph of a river flowing through a wooded area. The water is brown and turbulent, suggesting a small dam or waterfall. The banks are covered in dense vegetation, including trees with yellow and orange autumn leaves and green ferns. The sky is overcast.

Top Ten Invasive Plant  
Species of the River des Peres  
Watershed

Is an Invasive Plant  
Species in Your  
Backyard?

# **The River des Peres Watershed**

The River des Peres is one of the most important landscape features in the St. Louis Metropolitan Area. Today the River des Peres and its watershed, the basin that drains rainwater into the river, serves the St. Louis area as an extension of the sewer system. The watershed is also home to many of the beautiful parks and recreational areas that the people of St. Louis enjoy.

Invasive plants pose one of the greatest threats to the beauty and integrity of our local parks and recreational areas and you can help conserve our public lands by removing invasive plants when you find them and preventing invasive plant spread.

## **In This Brochure You Will Find:**

- **Identification:** How to spot the Top Ten Invasive Plants in the River des Peres Watershed.
- **Removal:** How to remove the invasive species.
- **Alternatives:** What plants may be good alternatives in your yard.
- **Prevention:** How to prevent invasive species spread.

# The River des Peres Watershed in the City of St. Louis



## **What is an Invasive Plant Species?**

An invasive plant species is a kind of plant that is not native to your area that becomes established and spreads quickly into nearby areas. Not all nonnative species are invasive. Invasive plants cause environmental and economic harm and can often indirectly threaten human health.

## **Why are Invasive Plant Species Bad?**

Invasive plants threaten native plant and animal species by competing for resources, space and light. When native plants begin to disappear the diversity and integrity of Missouri ecosystems are substantially lowered.

## **How do Invasive Plants Get Here?**

Invasive species are often introduced by people who unknowingly plant exotic plants in their yards because they seem beautiful or practical. Invasive plants tend to grow and mature quickly, have long flowering times, and are tolerant of disturbance.

## **How do Invasive Plants Spread?**

While spreading methods vary by plant, some invaders can travel by attaching to a hiker's boot as they walk by. Others can be windblown, while others are spread by birds that eat their fruits. Many of the invasive species in this brochure threaten watersheds and can travel in floodwaters.

Photo by Oliver Hulland



## **Invasive Plants in the River des Peres Watershed**

The top ten invasive plant species that are characterized in the following pages are particular threats to the natural areas of the River des Peres Watershed because they spread quickly in floodwaters. These plants tend to have shallower root systems than the native plants that they out-compete and replace which results in increased erosion and unstable stream banks. In general these plants also lack the natural enemies of their native ranges in Eurasia which increases the speed of their spread into natural areas.

# Wintercreeper (*Euonymus hederacea*)

## Identifying Characteristics:

**Leaves:** Shiny, evergreen green leaves

**Flowers:** Green and inconspicuous; blooms April through May.

**Habit:** Perennial, usually a trailing ground cover form which grows to 6-9 inches tall and spreads by rooting stems as a sprawling, tangled, and bushy mat. When wintercreeper is given the opportunity to climb up a tree or fence, it flowers and spread long distances.

**Why it is dangerous:** When wintercreeper invades forested areas, it can quickly form an extensive, dense mat which kills important native species.



[http://www.directgardening.com/large/5572\\_1.jpg](http://www.directgardening.com/large/5572_1.jpg)

<http://www.oldhouseweb.com/gardening/garden/visuals/euofod8h.jpg>

**Removal Recommendations:** Small infestations of wintercreeper can be pulled or dug out with a trowel. Plant material should not be composted or left in your yard. Herbicide may be necessary for larger infestations and should be used according to the label. Be sure to use stream-safe varieties along stream sides.

# Garlic Mustard (*Alliaria petiolata*)

## Identifying Characteristics:

**Leaves:** Give off an odor of garlic when crushed.

**Flowers:** White with four petals; blooms in April through May.

**Habit:** Biennial; first year plants appear as a rosette of green leaves close to the ground. Second year plants flower on a central stalk and can reach up to 2 to 3½ feet in height. Adult plants produce thousands of seeds and commonly spread long fence lines, roadways, and stream banks.

**Why it is dangerous:** When garlic mustard invades forested areas it spreads quickly and exudes toxins into the soil and kills important native species.

**Removal Recommendations:** Garlic mustard has a short taproot that can be easily removed by pulling. Pulled plant material should not be composted or left in your yard.

**Warning:** Removal when seed pods are dry requires extra caution to prevent seed spread.



[http://www.missouriplants.com/Whitealt/Alliaria\\_petiolata\\_page.html](http://www.missouriplants.com/Whitealt/Alliaria_petiolata_page.html)

<http://popgen.unimaas.nl/~jilindsey/commanster/Plants/Flowers/SpFlowers/Alliaria.petiolata.jpg>

[http://www.icode6.net/native\\_suburbia/invasives/images/garlic\\_mustard\\_02.jpg](http://www.icode6.net/native_suburbia/invasives/images/garlic_mustard_02.jpg)

# Bush Honeysuckle (*Lonicera maackii*)

## Identifying Characteristics:

**Leaves:** Opposite, round, and usually stay green in winter

**Flowers:** Flowers (as displayed below) turn from white to yellow as they age; blooms early May and continue through fall.

**Habit:** multi-stemmed upright deciduous shrub that grows up to 30 feet tall.

**Why it is dangerous:** Bush Honeysuckle can form a dense understory thicket which can restrict native plant growth and kill young tree seedlings. Over twenty species of birds feed on the persistent fruits and widely disseminate seeds across the landscape.

**Removal Recommendations:** Honeysuckle bushes may be removed with a saw or dug out. Herbicide may be necessary for most individuals and should be applied to the exposed ends of cut stumps. Use herbicide according to the label and be sure to use stream-safe varieties along stream sides.



<http://www.forestryimages.org/images/192x128/0016079.jpg>

[http://www.missouriplants.com/Whiteopp/Lonicera\\_maackii\\_plant.jpg](http://www.missouriplants.com/Whiteopp/Lonicera_maackii_plant.jpg)

[http://www.tolweb.org/tree/ToLimages/Lonicera\\_maackii0142.jpg](http://www.tolweb.org/tree/ToLimages/Lonicera_maackii0142.jpg)

# Japanese Honeysuckle (*Lonicera japonica*)



## Identifying Characteristics:

**Leaves:** Evergreen, oblong to oval, sometimes lobed, have short stalks, and occur in pairs along the stem.

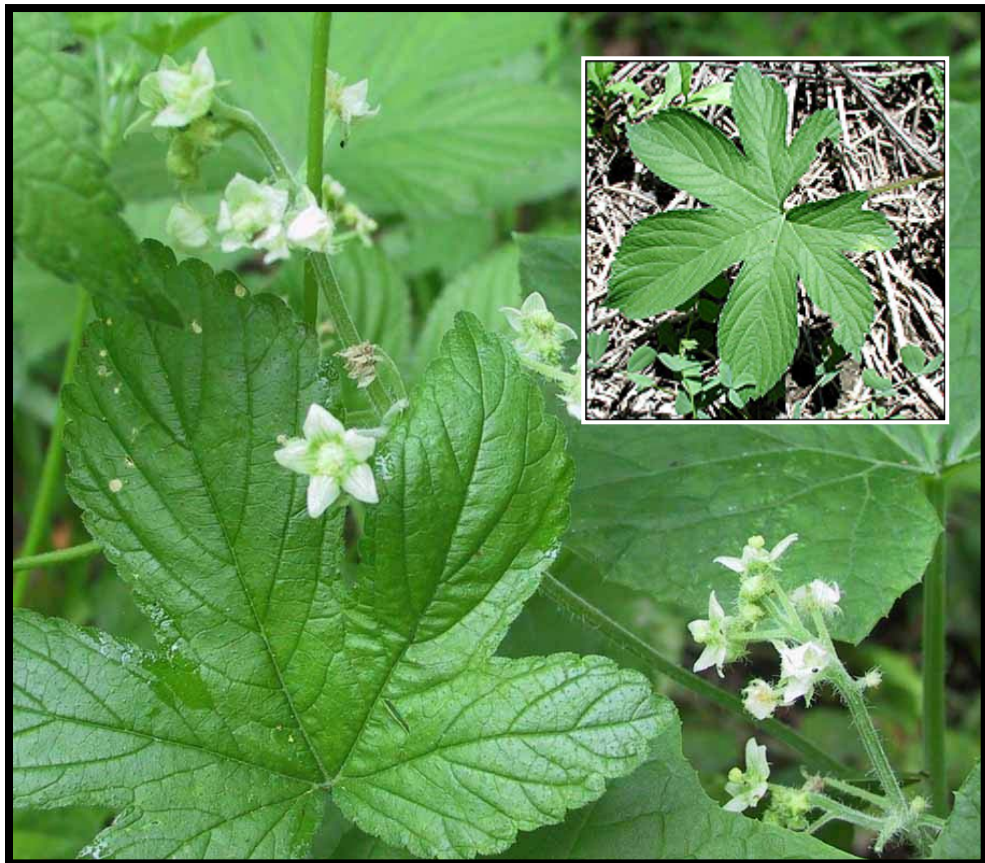
**Flowers:** Flowers turn from white to yellow as they age; blooms early May and continue through fall.

**Habit:** Perennial, woody vine. Seeds are spread by birds.

**Why it is dangerous:** Japanese honeysuckle has few natural enemies which allows it to spread widely. Native shrubs and young trees can be killed by girdling when vines twist tightly around stems and trunks or because of competition for resources.

**Removal Recommendations:** Small infestations of Japanese honeysuckle can be removed by pulling. Herbicide may be necessary for larger stands and should be applied to the exposed ends of cut stems. Use herbicide according to the label and be sure to use stream-safe varieties along stream sides.

# Japanese Hops (*Humulus japonicus*)



## **Identifying Characteristics:**

**Leaves:** Hand-shaped and can be 2 to 5 inches in length.

**Flowers:** Greenish flowers; blooms August through September.

**Habit:** Annual, deciduous twining vine that may reach nearly forty feet in length.

**Why it is dangerous:** Japanese hops is a rapidly-growing vine that can form dense stands and displace native plants.

**Removal Recommendations:** Pull plants before they set seed (they flower August–September). When pulling the plants, attempt to remove as much of the rootstock as possible and do not compost or leave plant material in your yard.

<http://www.sycamoreisland.org/gallery/gallery5/wildflower32.jpg>

<http://extension.missouri.edu/explore/wildthing/images/japanesehops01.jpg>

# Japanese Knotweed

*(Polygonum cuspidatum)*

## Identifying Characteristics:

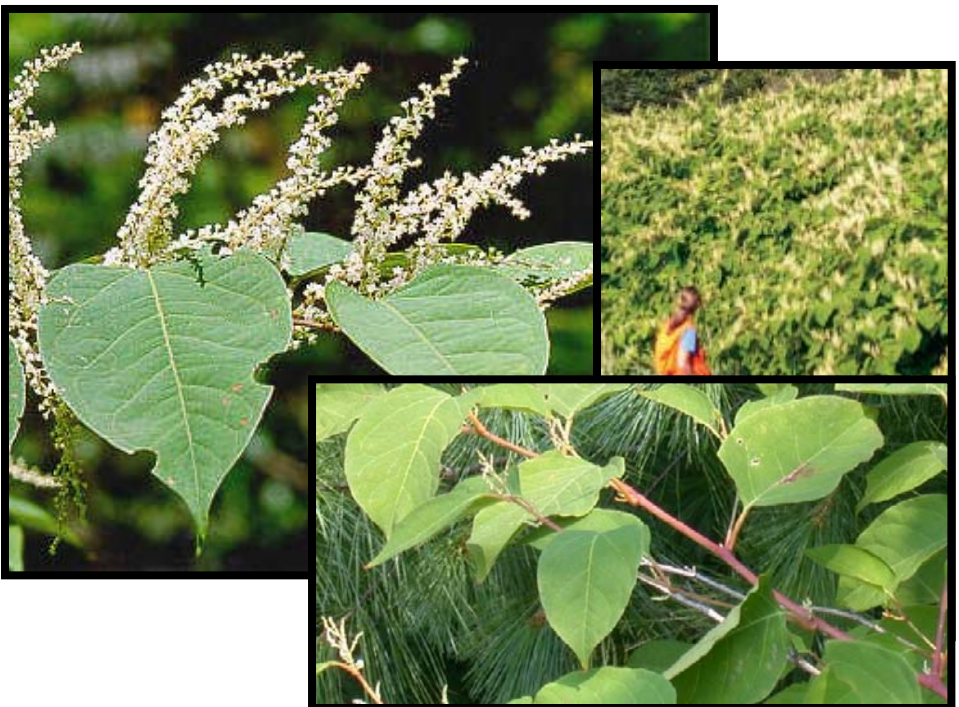
**Leaves:** Four to six inches long, oval-shaped, an abrupt point

**Flowers:** Whitish flowers are borne in open, drooping panicles; blooms July through September.

**Habit:** perennial with spreading rhizomes and numerous reddish-brown, freely branched stems. The plant can reach 4 to 8 feet in height and is often shrubby.

**Why it is dangerous:** Japanese knotweed spreads and grows quickly, killing or suppressing native species.

**Removal Recommendations:** Persistent cutting over several years can eliminate knotweed, especially in small, isolated patches. Do not compost or leave plant material in your yard. Sometimes herbicide is necessary and should be used according to the directions on the label. Be sure to use stream-safe varieties along stream sides.



<http://www.co.stevens.wa.us/weedboard/other%20weeds/jk1.jpg>

<http://www.ipswich.gov.uk/NR/rdonlyres/30F71A54-F542-48CF-BE9B-0CA060E5294F/0/jkw.jpg>

[http://www.forestry.ky.gov/NR/rdonlyres/C8595659-4DED-43EB-8302-](http://www.forestry.ky.gov/NR/rdonlyres/C8595659-4DED-43EB-8302-154940129A9D/0/japaneseknotweed.bmp)

[154940129A9D/0/japaneseknotweed.bmp](http://www.forestry.ky.gov/NR/rdonlyres/C8595659-4DED-43EB-8302-154940129A9D/0/japaneseknotweed.bmp)

# Johnsongrass (*Sorghum halepense*)

## Identifying Characteristics:

**Leaves:** Distinctive white midrib on each leaf

**Flowers:** Blooms May through June

**Habit:** Perennial grass up to 8 feet tall with a large, purple or reddish flower head (shown in the left and center pictures below). Each plant has an extensive rhizome network underground.

**Why it is dangerous:** Johnsongrass directly shades other plants, decreases nutrients and moisture for other plants, and inhibits the growth of other plants by the production of allelotoxins.

**Removal Recommendations:** Small stands of johnsongrass may be removed by pulling. Herbicide may be necessary for larger stands and should be used according to the label in the spring or late fall. Be sure to use stream-safe varieties along stream sides.



# Musk Thistle (*Carduus nutans*)



## Identifying Characteristics:

**Leaves:** Long, triangular and end in a sharp spine.

**Flowers:** Purple disc-shaped heads that are single, at the end of a stem; blooms in May through October.

**Habit:** Herbaceous, biennial; adults grow up to 8 feet tall.

**Why it is dangerous:** Musk thistle grows in dense patches that kill native plants and are not readily grazed by herbivores because of their spiny leaves.

**Removal Recommendations:** In small patches digging into the taproot before flowering time can kill the plant but herbicide may be necessary. Small plants are most vulnerable to herbicide which should be used according to the directions on the label. Be sure to use stream-safe varieties along stream sides.

[http://pick4.pick.uga.edu/mp/20p?see=1\\_SB26663&res=640](http://pick4.pick.uga.edu/mp/20p?see=1_SB26663&res=640)

[http://www.opsu.edu/UnivSchools/ScienceMathNurs/PlantsGrassh/plants/pasturebig/carduus6\\_5\\_41.jpg](http://www.opsu.edu/UnivSchools/ScienceMathNurs/PlantsGrassh/plants/pasturebig/carduus6_5_41.jpg)

<http://biology.missouristate.edu/Herbarium/Plants%20of%20the%20Interior%20Highlands/Flowers/Cardus%20nutans.jpg>

# Lesser Celandine (*Ranunculus ficaria*)

## Identifying Characteristics:

**Leaves:** Dark green, shiny, stalked leaves are kidney or heart-shaped

**Flowers:** Glossy yellow petals; blooms in March and April

**Habit:** Perennial, spreads primarily by bulblets and underground tubers. The tiny cream-colored bulblets are attached to leafstalks and are easily dislodged from the plant and transported by floodwater.

**Why it is dangerous:** Large infestations of lesser celandine appear as a green carpet as early as February and prevent native spring ephemeral wildflowers from growing.



**Removal Recommendations:** Small infestations of lesser celandine can be dug out using a hand trowel or small shovel. Effective removal of the plants from a site requires the removal of all plant parts, including underground tubers, as each tuber is capable of producing a new plant. For larger infestations, herbicide treatment may be necessary early in the season when spring ephemerals have not yet begun to grow. Be sure to use stream-safe varieties along stream sides.

<http://content.answers.com/main/content/wp/en/thumb/2/24/240px-RanunculusFicaria.jpg>

[http://www.wildflower-wegner.de/images/Ranunculus\\_ficaria\\_2.JPG](http://www.wildflower-wegner.de/images/Ranunculus_ficaria_2.JPG)

<http://www.umext.maine.edu/onlinepubs/htmpubs/images/Celtuber.jpg>

# Crown Vetch (*Securigera varia*)

## Identifying Characteristics:

**Leaves:** Arranged in groups of 15 to 25 pairs of oval leaflets.

**Flowers:** Pinkish, clustered on long stalks; blooms May through August.

**Habit:** perennial, legume that reproduces by seeds and spreads vegetatively. Stems can be up to 6 feet long and rhizomes up to 10 feet long.

**Why it is dangerous:** Crown vetch spreads rapidly and out-competes important native plant species.

**Removal Recommendations:** Mowing several times a year for several years may kill existing plants and prevent spread. Herbicide may be necessary for large infestations and should be used according to the label. Be sure to use stream-safe varieties along stream sides.



# Native Alternatives for Your Yard

Ask your local nursery about these suggestions for native species that will beautify your yard

## Vines and Groundcover



Wild Ginger  
*Asarum canadense*



Virginia Creeper  
*Parthenocissus quinquefolia*

## Shrubs and Small Trees



Arrow-wood  
*Viburnum dentatum*



Spicebush  
*Lindera benzoin*

[http://www.urbanext.uiuc.edu/groundcovers\\_sp/directory/images/images/slide04.jpg](http://www.urbanext.uiuc.edu/groundcovers_sp/directory/images/images/slide04.jpg)  
[http://cricket.biol.sc.edu/acmoore/527/plants/Parthenocissus\\_quinquefolia.jpg](http://cricket.biol.sc.edu/acmoore/527/plants/Parthenocissus_quinquefolia.jpg)  
<http://faculty.etsu.edu/mcdowelt/images%20used%202001%5Cspicebush.JPG>  
<http://www.djroger.com/bluemuffin.JPG>

# Native Alternatives for Your Yard

## Perennial Flowers



Great Blue Lobelia  
*Lobelia siphilitica*



Cardinal Flower  
*Lobelia cardinalis*



Wild Bergamot  
*Monarda fistulosa*



Whorled Mountainmint  
*Pycnanthemum verticillatum*

[http://www.illinoiswildflowers.info/prairie/plantx/hm\\_mintx.htm](http://www.illinoiswildflowers.info/prairie/plantx/hm_mintx.htm)

[http://www.fs.fed.us/wildflowers/plant-of-the-week/images/cardinal/lobelia\\_cardinalis\\_asheilman\\_lg.jpg](http://www.fs.fed.us/wildflowers/plant-of-the-week/images/cardinal/lobelia_cardinalis_asheilman_lg.jpg)

[http://www.missouriplants.com/Bluealt/Lobelia\\_siphilitica\\_page.html](http://www.missouriplants.com/Bluealt/Lobelia_siphilitica_page.html)

[http://www.missouriplants.com/Pinkopp/Monarda\\_fistulosa\\_plant.jpg](http://www.missouriplants.com/Pinkopp/Monarda_fistulosa_plant.jpg)

# Local Suppliers of Native Plant Species

## **Forest Keeling**

Elsberry, MO. 63343

800-356-2401

[www.fknursery.com](http://www.fknursery.com)

## **Missouri Wildflowers Nursery**

Jefferson City, MO. 65109

573-496-3492

<http://www.mowildflowers.net/>

## **Hamilton Seeds & Wildflowers**

Elk Creek, MO. 65464

417-967-2190

<http://www.hamiltonseed.com/>

## **Prairie Hill Farm**

Auxvasse, MO 65231

573-387-4680

## **Missouri Department of**

### **Conservation**

Licking, MO. 65542

800-669-3787

## **For More Information Explore:**

The River des Peres Watershed Coalition

<http://www.thegreencenter.org/rdp/index.asp>

Plant Conservation in St. Louis

<http://www.centerforplantconservation.org/>

Plants Native to Missouri

<http://www.grownative.org/>

<http://www.mobot.org/>

## **Other Ways to Help Prevent Invasive Species Spread:**

- ✓ Avoid buying and planting invasive species in your yard
- ✓ Rinse your tires, equipment and hiking boots and check your animals to avoid transporting seeds between parks and neighborhoods in mud clumps
- ✓ Spread awareness by telling your neighbors and friends about invasive species
- ✓ Remove invasive plants when you find them in your yard
- ✓ Avoid placing invasive species waste in compost piles, biodegradable bags, or lawn waste containers



River des Peres Watershed Coalition

Photo by Oliver Hulland