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**MoIP Vision:** Missouri is committed to reducing the impact of invasive plants through early detection and control.

**MoIP Mission:** To benefit Missouri, MoIP advances efforts to reduce the impact of invasive plants.



## Fall 2024

Happy fall!

Autumn is an ideal time to control woody invasive plants including [non-native bush honeysuckle](#) (*Lonicera mackii* and other non-native *Lonicera* species), [privet](#) (non-native *Ligustrum* species), and [burning bush](#) (*Euonymus alatus*), among other plants. Scroll to find details on cut stem/trunk and herbicide treatment for woody invasive plants.

We hope you enjoy our news in this issue, summarized below, and, as always, please let us know your invasive plant-related questions, ideas, or concerns. We'd like to know what information you would find especially helpful for us to include in the Missouri Invasive Plant Council's (MoIP's) *State of Invasives*.

–November 2: Volunteer Workday in Arrow Rock to Remove Privet (and other workdays in November around the state)

–November 6: [MoIP Webinar: Common General Use Herbicides & How They Relate to Aquatic Use Sites](#) — Free! Register now.

–November 12: [Webinar from the Oak Woodlands & Forests Fire Consortium on Japanese Stiltgrass](#)

–Success Story: [Sierra Club Gallery Pear Tree Removal Along I-470](#)

–Missourians Making a Difference: [Dylan Jacobs](#)

–Invasive Plant to Watch: Yellow-flowered Teasel

–[MoIP Invasive Plant Survey of Natural Areas in Ozark Highlands & Mississippi Lowlands](#)

–Invasives to Treat in Fall: [bush honeysuckle](#), [privet](#), [Callery pear](#), [burning bush](#), and [Himalayan blackberry](#).

Thank you for taking action to identify and control invasive plants!

Carol Davit, MoIP Chair

Photo above of [bush honeysuckle](#) (*Lonicera maackii*) by Alan Branhagen

## November 2: Volunteer Workday in Arrow Rock to Remove Privet (and more workdays around the state in November)

**VOLUNTEER**

**Saturday, October 19th, 10-2 p.m.**  
**Saturday, November 2nd, 1-5 p.m.**  
**Rain Dates are following Sundays**

Volunteers are needed to help remove invasive privet in the historic village of Arrow Rock, ages 10 and up

Volunteer work will consist of cutting and hauling invasive privet using loppers and hand saws; Tools and training provided by MCC and MRBO

Volunteers to meet at the Arrow Rock Visitor Center  
 Trained leaders will be using herbicide to treat the freshly cut stumps after cutting has occurred

Contact [stephen@missouriconservationcorps.org](mailto:stephen@missouriconservationcorps.org) to register for these outdoor events; Children's activities; Lunch provided on October 19th

**ARROW ROCK**  
[missouriconservationcorps.org](http://missouriconservationcorps.org) ----- [mrbo.org](http://mrbo.org)

Hosted by the Missouri Conservation Corps (MCC), Missouri River Bird Observatory (MRBO), Columbia Chapter of the Daughters of the American Revolution, and Arrow Rock State Historic Site, this November 2 volunteer workday from 1:00 to 5:00 p.m. will improve natural habitats in Arrow Rock, Missouri. Rain date: November 3.

Register by emailing [stephen@missouriconservationcorps.org](mailto:stephen@missouriconservationcorps.org) and bring gloves, a reusable water bottle, and outdoor-appropriate footwear and clothing. Tools, training, herbicide, and bug spray will be provided by MCC. MRBO and MCC will host a scavenger hunt for children. A parent or guardian must accompany participating children.

More opportunities to remove invasives with a group in November include:

**November 1, 2, 8, 14, 21, 23:** [Invasive Species Volunteer Workdays with Kansas City WildLands](#)

**November 2:** Honeysuckle hack at [Schroeder Park, City of Manchester](#)

**November 2:** Honeysuckle removal at [St. Vincent Park in St. Louis](#), organized by Open Space Council

**November 2:** [Invasives Removal & Habitat Restoration Day](#), Forest Park, St. Louis

**November 9:** Honeysuckle hack in the [Deer Creek Preserve, City of Ladue](#)

**November 9:** Callery pear removal at the I-470 & Lakeside Drive intersection with the [Thomas Hart-Benton Chapter of the Sierra Club](#) (see more on this below)

## November 6: MoIP Webinar: Common General Use Herbicides & How They Relate to Aquatic Use Sites

Register for this free MoIP online training session to deepen your understanding of the safe and effective application of herbicides in and near aquatic environments. Learn about the latest best practices, regulations, and environmental impacts to ensure your herbicide use supports both land and water health.

This webinar, presented by **Lucas Madison**, the Corteva land management specialist for Arkansas, Oklahoma, Missouri, and Iowa, will cover common active ingredients (and their associated brand names manufactured by several different companies) appropriate for application near water. These active ingredients represent a large portion of the herbicides used today in both retail and commercial



settings, in pastures, and right-of-way applications. The presentation will cover how different formulations of active ingredients can impact performance, environmental fate, and user safety. The presentation will also cover toxicology as well as label and SDS navigation.

Don't miss this opportunity to enhance your expertise and protect our aquatic ecosystems!

Wednesday, November 6, 2024 at 4:00 p.m.

Free. Register [here](#). The webinar will be about 45 minutes, followed by a question/answer session. The webinar will be recorded with a link to a recording of the webinar sent to all registrants.

## November 12: Oak Woodlands & Forests Fire Consortium Webinar: Understanding the Impact of Japanese Stiltgrass Invasion on a Restored Upland Oak Woodland in Mississippi



Oak restoration is often successful at promoting native, fire-tolerant forbs and oak regeneration through prescribed burning and canopy thinning, but these disturbances can also promote non-native plant invasions. **Japanese stiltgrass** (*Microstegium vimineum*) is a common invader of restoration sites and one of the most problematic species in the eastern United States.

This one-hour, free webinar will be presented by Dr. Griffin Williams, with the U.S. Forest Service Pacific Northwest Research Station, who will discuss how to best manage the invasion of non-native plant

species that thrive under restoration disturbances, and what makes Japanese stiltgrass such a good invader of these ecosystems. He will also discuss recent findings on the competitive ability of Japanese stiltgrass and its impact on native plant regeneration in relation to the oak woodland restoration efforts at the Strawberry Plains Audubon Center in Holly Springs, Mississippi. In addition, Dr. Williams will share management considerations relating to combating invasive plants and promoting natural oak regeneration.

When: Tuesday, November 12 at 1:00 p.m. Register [here](#).

Photo of [Japanese stiltgrass](#) (*Microstegium vimineum*) courtesy of the Oak Woodlands & Forests Fire Consortium website

## Success Story: Local Sierra Club Leads Gallery Pear Tree Removal Effort



On October 12, 2024, the [Thomas Hart-Benton Group of The Sierra Club](#) (the THB Group), along with its partners, organized the beginnings of a successful [Callery pear tree](#) (*Pyrus calleryana*) removal project at the interchange of I-470 and Lakeside Drive in the Kansas City region. Along with the Missouri Department of Conservation, the Missouri Department of Transportation (MoDOT), MoIP, and others, several determined

volunteers worked alongside MoDOT staff to remove about one-third of the Callery pear trees that had grown up at the intersection. The MoDOT staff provided a front loader to pick up cut trees and filled a whole dump truck with shredded trees. Cut stumps were treated with herbicide.

Future workdays (to be held each second Saturday of each month from 1:00 to 4:00 p.m. through March 2025, with the next workday scheduled for November 9, 2024) will remove the remaining trees, and the volunteers may move to work on other intersections of I-470. MoDOT anticipates that it will take about two years before the ground at this intersection is ready for a native planting of native trees and other plants to replace the Callery pear trees because invasive [teasel](#) (*Dipsacus* spp.) is rampant and needs to be treated with herbicide.

It is likely that the THB Group will be seeking partners to continue Callery pear tree eradication as well as on the planting and maintenance of native plants to support pollinating sections along I-470. If you can help, [contact the THG Group](#).

*Photos above, by Janet Blauvelt, show volunteers in action to remove Callery pear trees at the I-470 and Lakeside Drive intersection and the results of their work—about one-third of the trees removed from the site!*

## Missourians Making a Difference: Interview with Dylan Jacobs

Throughout Missouri, many individuals are making significant progress in the early detection and control of invasive plants. MoIP is pleased to highlight their efforts.

The Missouri Pheasants Forever/Quail Forever (PFQF) Habitat Specialist Crew, of which **Dylan Jacobs** has been a part since its formation in 2021, is stationed at [Shaw Nature Reserve](#) in Gray Summit, Missouri. The Habitat Specialist Crew was established via a collaborative effort to coordinate and conduct wildlife habitat management practices on cooperating lands in east-central Missouri.



The PFQF Habitat Specialist Crew is supported through a partnership between the Missouri Department of Conservation, Shaw Nature Reserve, and Quail Forever, and by generous donations from Nestlé Purina, Steve & Jeanne Maritz, and Roeslein Alternative Energy.

The PFQF Habitat Specialist Crew has been enhancing native habitat on both public and private lands in a 75-mile radius of Shaw Nature Reserve in Missouri with stewardship services including prescribed burning, burn plan development, establishment of firebreaks, woodland management, invasive plant control, site preparation prior to establishing native plantings, and seeding native plants.

Habitat Restoration Manager **Dylan Jacobs** with PFQF took time out of his busy schedule to describe his work. Enjoy!

#### **What is your job title? How long have you been with PFQF Habitat Specialist Crew?**

I was recently promoted to Habitat Restoration Manager, a position that oversees all the PFQF Habitat Specialist Crews across the state. I was the crew lead for the Shaw Nature Reserve crew for the past three years. The Habitat Specialist Crews are designed to increase capacity in treating invasive species, expand prescribed fire activity, and diversify native habitats in prioritized regional landscapes on both public and private land. These teams fill the gap when landowners cannot secure a contractor to complete management practices on their property.

My colleagues and I are currently in the process of establishing two additional habitat crews across the state. One will be located in the [Missouri River Hills Priority Geography](#) based at [Prairie Fork Conservation Area](#) in Central Missouri and the other will be in southwestern Missouri working in the Golden Grasslands Conservation Opportunity Area.

#### [Read more](#)

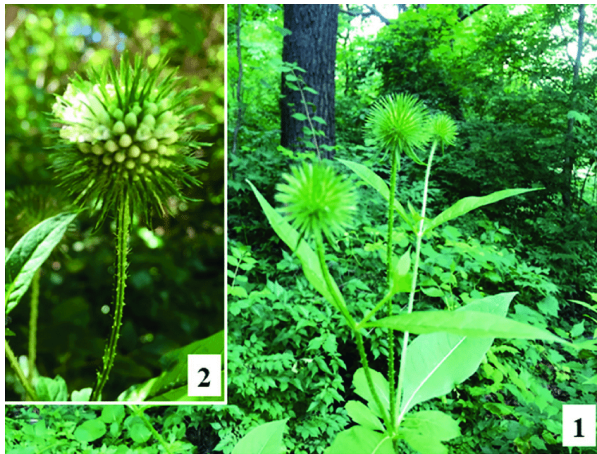
*Photo above of Dylan Jacobs by Christina Jacobs*

## **Invasive to Watch: Yellow-flowered Teasel**

Yellow-flowered teasel (*Dipsacus strigosus*) has recently been documented in Indiana. While not found yet in Missouri, MoIP encourages all Missourians to be on the lookout for it: Early detection is key to controlling invasives before infestations are widespread.

In the photos at left, note (1) Prickly stem and opposite, short-petiolate leaves along the stem. Plants can reach nearly 9 feet in height. (2) Globular flowerhead with white petals and anthers.

The species, native to western Asia, is naturalized in several locations in Europe. The Indiana location of the plant is the first documented occurrence in North America. The new record was collected along a recently constructed bike path in a moist wooded area of the Butler University campus in Indianapolis, Indiana. Like other species of *Dipsacus*, *D. strigosus* is likely to be invasive, so efforts will be made to eradicate this

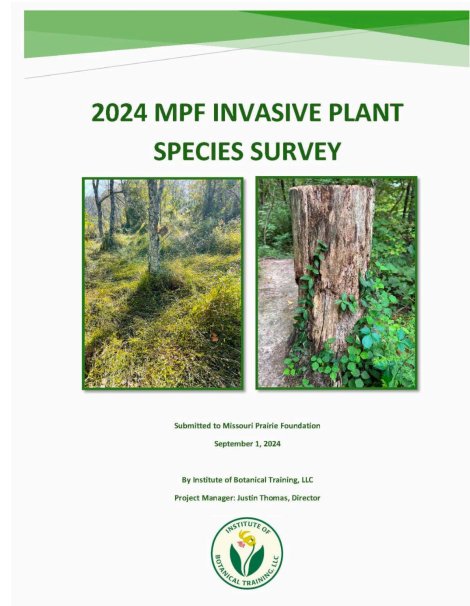


population in Indiana. Nevertheless, Missouri needs to be on the lookout!

Information and photos from [Rebeca Dolan and the Proceedings of the Indiana Academy of Science](#)

## New Invasive Plant Survey of Missouri Natural Areas in Ozark Highlands & Mississippi Lowlands

Thanks to funding from the Richard King Mellon Foundation, MoIP contracted with the Institute of Botanical Training to survey more than 30 designated Missouri Natural Areas in the Ozark Highlands and the Mississippi Lowlands in 2024. These locations were chosen to survey because they harbor high levels of native biodiversity, making the early detection and control of invasive plants especially important. Also, more data about invasive plant abundance, threat of spread, and impacts are needed in both regions. The data contained in the survey will be used to make the MoIP Ranked Assessment of Invasive Plants more complete and more up-to-date. The Institute of Botanical Training also recorded invasive plant data in [EDDMapS](#), an online, national invasive plant mapping system.



MoIP has shared the survey with the owners and managers of the survey sites, including the Missouri Department of Conservation, the National Park Service, the L-A-D Foundation, Missouri Department of Natural Resources, and the U.S. Forest Service to aid their efforts to control invasives in these areas. View and download the survey [here](#).

## Woody Invasives to Treat in Fall



Not all invasive plants are most effectively treated at the same time of year, and treatment methods can differ according to the seasons. Here, we highlight several woody species to treat in fall—the primary method for most of them being "cut-and-treat": Stems/trunks are cut and immediately after, the cuts are treated with herbicide to reduce resprouting. Adding a dye to the herbicide, as shown at left, identifies treated stems/trunks. You can find treatment guidelines for

**Note:** Treatment methods may differ considerably if invasives are found in otherwise intact, highly biologically diverse areas, in disturbed areas/altered landscapes, or if invasives are found in or near water. When using chemicals to treat invasives, always read label instructions.

*Photo above by Steve Clubine. Photos below by Alan Branhagen; Leslie J. Mehrhoff, Bugwood.org; James Miller, USFS, Bugwood.org; Carol Davit; Audrey Stanard*

**Bush honeysuckles** (*Lonicera maackii* and other non-native *Lonicera* shrub species) are large, upright shrubs reaching 15 to 20 feet tall at maturity. In early summer, white flowers emerge and change to a pale yellow over time, producing bright red juicy berries in early fall. Leaves are opposite, 1 to 3 inches long, and narrowly oval with a pointed tip. The bark is grayish brown and tight with grooves that run vertically.



These shrubs spread through woodland communities, dominating the understory and shading out native herbaceous plants as well as native shrubs and native tree seedlings. The abundant red berries are readily consumed by migrating birds in the fall. They are high in carbohydrates but are lacking in fat, which is needed by birds that migrate long distances.

Recommended control varies depending on shrub size and density, as well as landscape type. Small plants can simply be pulled by hand, as they are shallow-rooted.

For larger plants, cut stems/trunks with loppers or a saw and then daub the cut stems with a 10% to 20% solution of glyphosate. No surfactant is needed when applying herbicide to cut stems/stumps. Be sure to paint or daub the cut stems with herbicide as soon as possible after cutting the trunks/stems.

Bush honeysuckle holds its leaves for several weeks after the first frosts, making fall an ideal time to easily identify and locate them in woodlands.

For more on control methods, including basal-bark treatment, consult this [Missouri Department of Conservation bush honeysuckle fact sheet](#).



**Non-native privets** (*Ligustrum* sp.) are multi-stemmed shrubs reaching up to 16 feet tall at maturity. **Four species occur in Missouri.**

Leaves are small, opposite, with smooth margins, and at nearly a right angle to the stem. The leaf surface is glossy on top and pale green underneath. Chinese privet has a hairy mid-vein on the lower surface while the

European privet is hairless on the underside of the mid-vein. White flowers appear May to June and are abundant and fragrant. Fruits appear in late summer in clusters near the ends of branches. As the fruit ripens it turns from pale green to dark purple or nearly black.

Wildlife (primarily birds) consume the fruits, thereby spreading the seed and contributing to future invasions. Privet also spreads clonally through the roots. Dense stands often form near creeks, fence rows, and in the understory of woodlands. Leaves remain green for several weeks after the first fall frosts.

Cut stems/trunks with loppers or a saw and then daub the cut stems with a 10% to 20% solution of glyphosate. No surfactant is needed when applying herbicide to cut stems/stumps. (Another recommended treatment is a foliar application of glyphosate after the first hard frost. A 3% to 4% rate of glyphosate with ammonium sulfate and surfactant is adequate for control, ensuring that herbicide covers most of the leaves on the shrub. It is not necessary to spray the leaves to the point of runoff.)

**Burning bush** (*Eunomymous alatus*) is spreading rapidly into forests and woodlands. In fall, it is readily identifiable by its brilliant red leaves.

This deciduous shrub can grow to 20 feet. Two to four corky ridges often form along the length of young stems, though they may not appear in shaded areas or closed canopies. The opposite, dark green leaves are < 2 inches long, smooth, rounded, and taper at the tips. The leaves turn bright crimson to purple color in the fall. The flowers are inconspicuous, greenish yellow, and have four petals. Flowers develop from late April to June and lay flat against the leaves. The fruits, which appear from September to October, are reddish capsules that split to reveal orange fleshy seeds.



Cut stems/trunks with loppers or a saw and then daub the cut stems with a 10% to 20% solution of glyphosate. No surfactant is needed when applying herbicide to cut stems/stumps.



For **Callery pear** (*Pyrus calleryana*), and other non-native, invasive trees, the cut-and-treat method described above can be used. However, for large infestations or for large trees, basal bark and hack & squirt methods are recommended.

**Basal bark method:** For tree trunks/main stems less than 6 inches in diameter, mix 1 to 5 gallons of 4 to 5% triclopyr (Garlon® 4 - ester formula - is recommended) in enough bark oil to make 100 gallons of spray mixture. Apply with a backpack sprayer or power spraying equipment

using low pressure (20 to 40 psi). Spray the basal parts of brush and tree trunks to a height of 12 to 15 inches from the ground, thoroughly wetting the indicated area, but stopping before runoff occurs. Old trees or trees with rough bark require more spray than smooth, young bark. Avoid spraying near water or with snow on the ground.

**Hack-and-squirt method:** For tree trunks/main stems greater than 6 inches in diameter, use a hatchet deep enough to get into the cambium layer and make one hack per 3 to 4 inches of tree diameter. Squirt herbicide into the cut: a mix of at least 50% triclopyr (Garlon® 3A - amine formulation - is recommended) in water. The more hacks, the greater the probability of killing the tree. Stop squirting before runoff occurs.

**Himalayan blackberry** (*Rubus armeniacus*) is a perennial shrub native to Eurasia. Stems (canes) grow to 15 feet before arching and trailing the ground for up to 40 feet. The leaves of the prima cane (first-year shoots) are 2.8 to 7.9 inches long and are palmately compound with 5 leaflets. In the second year, several side shoots are produced (flora canes) having smaller leaves with 3 leaflets. The





leaflets are oval and toothed with thorns along the underside of the mid-rib. No flowers are produced in this plant's first year of life. Flowering occurs in late spring to early summer—white to pale pink flowers develop on the flora canes. Flowers have five petals, numerous stamens, and are 0.8 to 1 inch in diameter. Fruits are an aggregate of drupelets that are black, when mature, and 0.5 to 0.8 inches in diameter.

Unlike most native blackberries, as Himalayan blackberry canes grow, bend, and touch the ground, they root at the nodes forming new plants. Himalayan blackberries have leaves with 5 leaflets (on first-year canes) and 3 (on second-year side shoots), whereas native blackberries tend to have leaves with only 3 leaflets.

Himalayan blackberry leaves also tend to stay green longer into the fall than native blackberries. Himalayan blackberry can be controlled by spraying the leaves (while green) with a 1.5% solution of triclopyr. Stop spraying before runoff occurs. Depending on the weather, the leaves should remain green through most of November.

*State of Invasives* aims to:

- **Provide useful information** to you/the leaders of your organization, agency, or business to help you recognize and control invasive plants and reduce their negative impacts, introduce you to our work, explain the challenges of invasive plants, and make the case for bold action and how this will benefit Missouri and Missourians.
- **Share talking points** that you can use when communicating about invasive plant detection and control within your agency, business, or organization, and to your customers or stakeholders.
- **Empower you and your audiences** to recognize invasive plants and take action—around your office building, behind your parking lot, on your back 40, right of way, back yard, around your crop field, or on any other land you or your group owns or manages. Our [MolP Video: A Landowner Tour](#) is one of MolP's many useful resources at [moinvasives.org](http://moinvasives.org).

We hope the information in this enewsletter is helpful, and we'd like to hear from you. What questions or ideas do you have? Would you like to share the invasive plant action you or your organization or business are taking with us? If so, contact us at [info@moinvasives.org](mailto:info@moinvasives.org).

In 2015, [Grow Native!](#), the native plant education and marketing program of the [Missouri Prairie Foundation](#), spearheaded the formation of MolP—a multi-agency, multi-industry networking and advocacy group to bolster statewide efforts to identify and control the invasive plant species that severely impact several sectors of the Missouri economy and native biodiversity. The purpose of MolP—working as a united, supportive front—is to review, discuss, and recommend educational and regulatory action related to managing known and potential non-native invasive plants. Representatives from the fields of conservation, agriculture, botanical science, ecological restoration, transportation, horticulture, landscape services and design, and forestry make up the [council](#) membership, volunteering their time at quarterly meetings and small work groups. MolP [associates](#) help disseminate MolP information to various groups. Emily Render works on contract to coordinate MolP activities.

In 2022, MolP completed a framework for our work for the next five years—the [MolP Strategic Plan for 2022-2026](#) guides MolP's current work.

Learn more about MolP and find many invasive plant ID and control resources at [moinvasives.org](http://moinvasives.org).

Newsletter content ownership: Missouri Prairie Foundation.

You are receiving this message because you are a subscriber to this enewsletter, which provides news and information about invasives in Missouri and the actions the Missouri Invasive Plant Council and our partners around the state are taking to control and reduce the impact of invasive plants. You can play an important role in statewide efforts to control invasive plants by reading, learning, and sharing the information within this enewsletter with others who deal with vegetation management.

E-mail us at [info@moinvasives.org](mailto:info@moinvasives.org), call us at 1-888-843-6739, or visit us at [www.moinvasives.org](http://www.moinvasives.org). If you do not wish to receive these periodic messages, please unsubscribe below.

Carol Davit  
MoIP Chair & Missouri Prairie Foundation Executive Director



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## Missouri Prairie Foundation

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