



## Charlottesville Parks and Recreation Department

### Integrated Pest Management Report for 2025

#### **IPM Committee Members**

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## **Introduction**

Integrated Pest Management (IPM) is a methodology that establishes an effective and environmentally sensitive response to pests (insects, weeds, diseases, other vertebrates) that damage trees, shrubs, and turfgrass. IPM establishes a sustainable approach to managing pests by combining biological, cultural, mechanical, and if necessary, chemical tools in a way that minimizes health and environmental risks. This report is a summary of the activities of the City of Charlottesville's landscape Integrated Pest Management (IPM) program adopted by City Council in 2015.

*"Integrated Pest Management (IPM) is a strategy used to manage pests in the landscape by using economically and environmentally sustainable practices ... The goal of IPM is not necessarily to eradicate or eliminate pests, but to strengthen and stabilize the landscape so that conditions are favorable for plants but unfavorable for pests."*

<https://landscapeipm.tamu.edu/> (Texas A&M Extension)

An IPM approach to landscape management involves many different methods to ensure the success of landscape plants, but they all begin with inspections and assessments. The City encourages homeowners and residents to practice IPM at home, and to only use pesticides when necessary. These are the strategies that Charlottesville Parks & Recreation incorporate into the management of City landscapes, which include over 1,100 acres of grass, flower beds, urban woodlands, and street trees. An effective IPM program requires analysis, planning, and revision. The following summary of activities and initiatives from January – December 2025 will help highlight some of these strategies in detail.

## **Summary of Initiatives in 2025:**

### **Landscape Maintenance Practices:**

- Increasing native plants: Native plants were installed in Market Street Park in the spring of 2025. And in November, a non-native grass area of the Meadowcreek Golf Course was renovated and re-planted with native grass and perennials to help increase pollinator habitat. Introducing more native plants is an example of biological and cultural IPM practices because it will help restore the natural balance of predators and prey. Native plants support local ecosystems by providing wildlife food and shelter, conserving water through drought tolerance, preventing soil erosion with deep root systems, and attracting pollinators like bees and butterflies.
- To promote the benefits of native plants, Parks' staff changed two entryway garden beds from non-native annuals to native perennial plants. Native plants support local ecosystems by providing wildlife food and shelter, conserving water through drought tolerance, preventing soil erosion with deep root systems, and attracting pollinators like bees and butterflies. There are several garden beds throughout the City located at the major entryways, and staff removed the old plants, redesigned the beds, and installed native plants on the entry beds on 5<sup>th</sup> St. and Monticello Ave. The focus on using native plants has the benefit of increasing habitat for pollinating insects, but it also has the benefit of being less dependent on watering, which would be done by hand.
- Reducing the size of mulched garden beds: By transitioning several underperforming, difficult landscape areas from mulch to turfgrass, we eliminated areas that no longer need weed control. It

also allows for resources to be directed toward installation and maintenance of other projects focusing on native plants. (See figures 1 and 2)

- Use of arborist wood chips: Chips produced by tree companies' woodchippers are known to provide more benefits to soil microbes and tree roots than bark mulch. Arborist wood chips were installed around several large trees at Meade Park and Washington Park, and the new tree planting contract for 2026 specifically calls for the use of this type of wood chip instead of bark mulch. We will continue to expand the use of wood chips in less formal landscape beds.

**Citizen Participation and Partnerships with Non-Profit Groups** – There are several local organizations that are enthusiastic and cooperative partners in the support of IPM principles. Rivanna Conservation Alliance (RCA), Blue Ridge PRISM, ReLeaf Cville, Piedmont Botanical Garden, and Charlottesville Area Tree Stewards (CATS) are often involved in maintenance or plant installation work on City property. They serve as good opportunities for the public to learn and engage to help build a resilient and healthy landscape. The Charlottesville Invasive Plant Partnership (“CHIPP”) encourages and educates community members on invasive plant removal and helps train members of the community on how to identify and remove unwanted plants. With City support from Urban Forester and Office of Sustainability, this organization encourages and educates community members on invasive plant removal. The neighborhood-based workdays often included cutting and/or hand removal of invasive plants. In 2025, approximately 550 individual trees had invasive vines cut or removed by community members. In February, the City of Charlottesville and CHIPP helped celebrate National Invasive Species Awareness Week, to raise awareness and promote accessible solutions to combat invasive species. Links to these organizations below:

CHIPP: <https://linktr.ee/cvillechipp>

RCA: <https://www.rivannariver.org/>

Blue Ridge PRISM: <https://blueridgeprism.org/>

ReLeaf: <https://www.releafcville.org/>

CATS: <https://charlottesvilleareatreestewards.org/>

Piedmont Botanical Garden: <https://piedmontgarden.org/>

### **Bee City USA**

Charlottesville was designated a Bee City USA by the Xerces Society, which promotes awareness and improvement in pollinator habitat. This designation celebrates Charlottesville's dedication to sustainability, biodiversity, and keeping our community a healthy, vibrant place for people and pollinators.

### **Invasive Plant Control:**

Parks staff and contractors continued work on suppressing and controlling invasive plants, including many different vines, shrubs, and trees. To date, over 45 acres of land have been included in the invasive plant control initiative, including 9 acres added in 2025. Several different methods of pest control were utilized, including mechanical, cultural, and chemical. After areas were cleared, ground covers and grass were planted. In addition, 70 small tree saplings were planted in the Butterfly Greenway management area.

### **Spotted Lanternfly:**

This insect has fully invaded the Charlottesville area, causing tree decline and aesthetic damage through the production of sooty mold. This fungus grows on the exudate of the nymphs, which feed on tree sap. After careful consideration of all the pros and cons of treatment, Charlottesville Parks staff have

concluded that insecticide treatment is not a useful option due to the uncertainty of success and unnecessary pesticide use. Tree health will be monitored on a case-by-case basis, with thresholds for treatment based on tree health, location, and species.

SLF information: <https://www.charlottesville.gov/1745/Invasive-Species-Control-and-Forest-Rest>

### **Urban Forest Management Plan:**

A new urban forest management plan is currently being developed with an urban forestry consulting firm. Data collected in the spring of 2025 provided valuable information regarding the health of the urban forest, including tree health ratings and invasive species assessments. The fully completed report (still being written) will help inform the Urban Forester and Parks division staff on the management of the forest. This could include recommendations for tree inspections, maintenance cycles, and other information to help guide management of City trees.

### **Biophilic Cities Network:**

In October, Charlottesville was accepted into the Biophilic Cities Network, a collaborative group of cities who recognize the importance of the connection between humans and the natural world. Becoming part of the Biophilic Cities Network supports Charlottesville in strengthening its natural environment by prioritizing environmental conservation, and sustainable urban design. Biophilic strategies such as urban forestry and green infrastructure help the city become more resilient to climate change and environmental challenges. These efforts contribute to maintaining ecological balance while reducing pollution and supporting native species.

### **Staff Training and Continuing Education:**

Six Parks division employees attended day-long training and recertification classes hosted by the Virginia Tech Cooperative Extension. These important training sessions fulfill the state requirements to maintain pesticide licenses, educate staff on new pests, new products, or regulatory changes.

### **Deer Management:**

As in previous years, the City contracted professional sharpshooters to cull the deer population. City Council approved this program in response to numerous and sustained complaints about hazardous driving conditions, health concerns about Lyme disease, landscape damage by deer, and the health of the local herd. In February 2025, the contractors culled 62 deer, resulting in 2,200 lbs. of venison being donated to Hunters for the Hungry.

### **Pesticide Applications, Data, and Recordkeeping:**

Despite the proactive approaches taken to reduce pests, there is sometimes a need to apply pesticides to help reduce the problem. Annual and perennial weeds, and invasive plants routinely cause the biggest problem with City landscapes and cannot be fully managed by mulching or hand pulling alone. When unwanted weeds need treatment, licensed staff perform herbicide applications to reduce the problem. Charlottesville Parks division manages over 1100 acres of land within the City, including parks, schools, cemeteries, rights-of-way, and other parcels. The amounts of herbicide concentrate are summarized by location in Chart 1. The total amount of herbicide concentrate used decreased by 5.5% from 2024 to 2025. Data from 2024 and 2025 show a significant increase in the number of acres treated, but a decrease in staff hours (Chart 2). It is difficult to draw conclusions on the variability of the usage

and treatments from this dataset, but through continued proactive methods (e.g. mulching, mowing) the goal is to reduce the overall usage of pesticides. Records also indicate that no insecticides were applied in 2025. According to City policy and state law, detailed records are kept for each application.

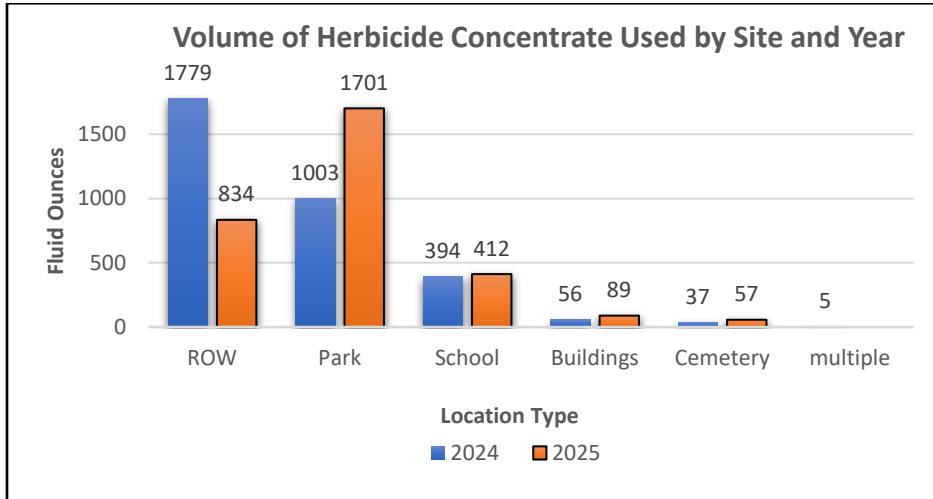


Chart 1: Usage of herbicide concentrate by location type from 2024 and 2025

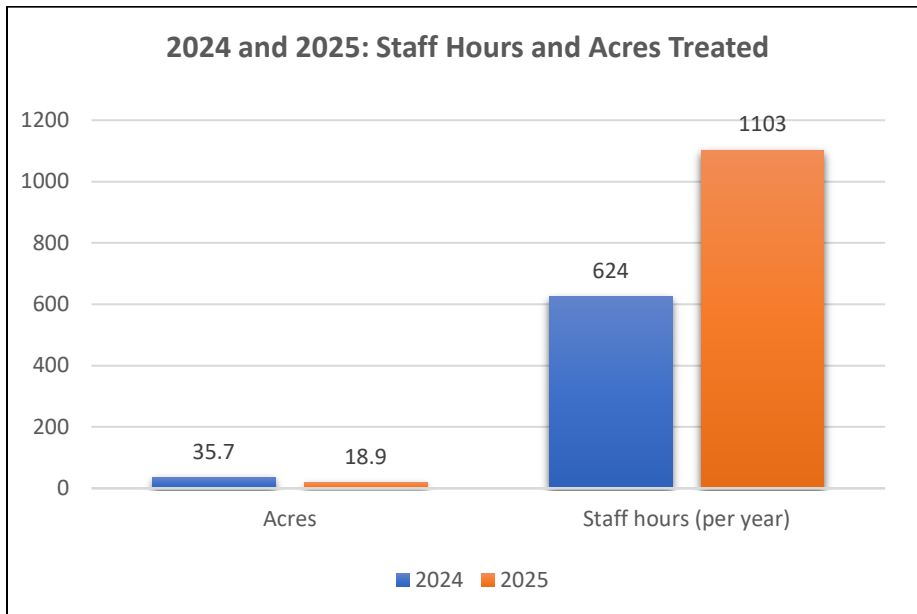


Chart 2: Number of staff hours applying or mixing pesticides, and acres treated for 2024 and 2025

### **Summary:**

The City of Charlottesville strives to continue to practice integrated pest management through a variety of landscape management techniques. Charlottesville is committed to maintain healthy, attractive, and ecologically productive landscapes in an environmentally responsible way. Parks staff strive to be proactive rather than reactive in the implementation of IPM methods. This report demonstrates that the City's commitment to maintaining healthy, attractive, and productive landscapes is done in an environmentally responsible manner. We look forward to improving our program each year through education, collaboration, and training. Included below are both a status report from last year's report, and objectives and plans for 2026.

### **Status Report from 2024 IPM Report:**

*The following items were proposed as items to focus on in 2025, and the updates are noted in italics:*

- Maintain well-educated, trained, and informed staff (e.g. professional development, continuing education). Goal for 2025: have more staff members achieve "Commercial Pesticide Applicator" license. *UPDATE: No new Commercial Applicators certified in 2025. Parks & Recreation currently has three Certified Applicators, and eight Registered Technicians.*
- Watering, mulching, and practicing "right plant, right place." The best defense against pests is keeping our plants healthy. *UPDATE: In progress and ongoing.*
- Converting more annual flower beds to perennial beds. This will help reduce the amount of watering needed and it also presents an opportunity to introduce more native plants. An important side benefit of this is that less hand watering also reduces the staff exposure in high automobile traffic areas. *UPDATE: In progress and ongoing*
- Other insects or diseases to look out for:
  - Beech leaf disease: This is disease, found mostly in the northeast U.S, is a complex of a disease and nematode (microscopic worm) that begins by infecting beech leaves, which slowly progresses into leaf mortality. It is still not widely known what the potential effects of this disease are. *UPDATE: Not yet seen in our area.*
  - Boxwood: box tree moth, boxwood blight. *UPDATE: Not yet seen in our area.*

### **Looking ahead to 2026:**

- More use of arborist wood chips -- The use of arborist wood chips will continue to increase. Double-ground mulch will continue to be used in more formal garden beds, but arborist chips may be used in less formally landscaped areas.
- Bee City USA – Further commitment to the mission, and supporting efforts in cooperation with Office of Sustainability, and local Garden Clubs. Several street signs will be installed along the road at select entry corridors announcing Charlottesville is a "Bee City USA".
- Spotted Lanternfly – This insect increased greatly in the Charlottesville area in 2025; and expectations are that it will continue to increase in 2026. At this time, the City does not expect to make any treatments, which would involve heavy, and likely unsuccessful use of pesticides.
- Expanding native grass and perennial plantings on a larger scale -- Areas cleared through invasive plant removal offer a good planting ground for site-specific grass and perennial plantings. Staff are also exploring installing large native plant meadows McIntire Park, at the site of the former

McIntire Golf Course. The native planter bed on the Downtown Mall (near the Omni Hotel) will continue to be enhanced, and it is hoped that it can become a flourishing example of a native plant garden in an urban environment.

- Expand messaging and communication with public about IPM objectives and activities -- Sharing and publishing information on current projects and educating staff and the public about IPM will help improve our program as a whole.

### 2025 in Pictures:



Figure 1) November 2025 pollinator bed installed at Meadowcreek Golf Course. Large amounts of lesser-used space on the golf course may be good sites for native grasses and perennials. (cultural IPM practice)



Figure 2) Eliminating difficult to manage beds and transitioning to turf to reduce need to keep area weed free. (Azalea Park)



Figure 3) Replanting a bed with native plants and shrubs. (Market St. Park)



Figures 4 and 5) Sanitizing pots before transplanting to reduce chance of root rot and removing dead and diseased sections of rhizomes before planting. (cultural IPM practice)



Figure 6) Bee City USA proclamation



Figure 7) Forestry mulcher at Riverview Park. December 2025. (mechanical IPM practice)