



New Policy: Rockwell Park Invasive Weed Management Plan

From: Dr. Joshua Medeiros, Superintendent of Parks, Recreation, Youth and Community Services

To: Policy Committee, Board of Park Commissioners

Approved: 4/15/2026

The Rockwell Park Invasive Weed Management Plan shall serve as a pilot program for invasive species management within the Bristol park system and shall be implemented at other parks depending on its success. The data shall be reviewed annually to assess the success of the pilot program. The plan shall be reviewed every five (5) years to update the plan as needed.

1. INTRODUCTION

A. Description

Rockwell Park was given to the City of Bristol by Albert and Nettie Rockwell in 1911 and is under the jurisdiction of Bristol Parks, Recreation, Youth and Community Services (BPRYCS). Rockwell Park consists of 104 acres, extending from Steele Road in the east to Park Street and Terryville Road in the west. The Pequabuck River bisects the southern portion of the park, running from west to east. The northernmost portions of the park are heavily wooded steep terrain, and are undeveloped except for multi-use recreation trails.

The southern portions are more level, and include two artificial ponds, wetland marsh areas, a large lawn for passive recreation, and a cluster of sports fields and playground.

Due to the high volume of use in this park, there are significant areas of disturbance/erosion that has led to a decline in native habitats. Where native species have declined, flooding and erosion have become issues. Lawn space around the ponds are consistently wet/moist throughout the year and invasive species are filling in most of the riparian buffer areas.

Invasive species in Rockwell Park have the potential to exacerbate our issues with erosion, saturated soils, and the overall beauty and appeal of the park. Public perception is a key factor when it comes to park maintenance and invasive species quickly become unsightly as well as a nuisance for park patrons. Furthermore, invasive species along the Pequabuck river and other wetlands throughout the park have the potential of destroying these delicate ecosystems by crowding out native flora, diminishing food sources for native fauna, and altering soil conditions.

The population of certain species is currently at a level where control and even eradication of certain species may be possible within City means. By tackling this problem now, the park can be preserved as a beautiful native habitat for generations to come.

B. Inventory of Plant Species

Invasive species that have been observed in Rockwell Park are as follows:

Species	Location and Abundance
Japanese Knotweed (<i>Polygonum cuspidatum</i>)	Knotweed is prevalent throughout the park but it mostly along the Pequabuck river. It is particularly abundant in the southwestern section of the park adjacent to Park St.
Tree of Heaven (<i>Ailanthus altissima</i>)	A dense stand is found at the corner of Rockwell Park Rd and Steele Rd, with another large patch that's been cut and treated between the river and the little league fields.
Oriental Bittersweet (<i>Celastrus orbiculatus</i>)	Found throughout the park with some vines reaching several inches in diameter.
Autumn Olive (<i>Elaeagnus umbellata</i>)	A single specimen can be found next to the boardwalk with a few more along the walking trail north of the field.
Black Locust (<i>Robinia pseudoacacia</i>)	Specimens found along the Pequabuck river but near the maintenance building is a large population.
Mugwort (<i>Artemisia vulgaris</i>)	Throughout the park mostly in garden beds. The largest infestation being next to the boardwalk.
Burning Bush (<i>Euonymus alatus</i>)	A single specimen has been spotted off Rockwell Park Rd near Steele Rd.
Japanese Barberry (<i>Berberis thunbergii</i>)	A couple specimens were found near the Burning Bush listed above.
Multiflora Rose (<i>Rosa multiflora</i>)	Mainly found in the boardwalk marsh area.

See *Appendix 2*. Maps for specific locations of invasive populations.

2. OVERVIEW OF WEED MANAGEMENT PLAN

A. General Management Philosophy

Due to their aggressive nature and potential to impact active recreation and native habitats, invasive species control is part of the overall park management program.

BPRYCS' is focused on preserving and encouraging native species and communities in place of invasive species, rather than on simply eliminating species. As such, BPRYCS will implement preventative programs to keep the site free of species that are not yet established there but which are known to be

pests elsewhere in the region. Priorities for the control or elimination of invasive species that have already established on the site will be developed, according to their actual and potential impacts on native species, safety and visibility, park amenities, and overall park aesthetics. Action will only be taken when careful consideration indicates leaving the weed unchecked will result in more damage than controlling it with available methods.

BPRYCS will utilize the following adaptive management strategy.

1. Goals for the site will be established and recorded.
2. Species that block us from reaching these goals will be identified and assigned priorities based on the severity of their impacts.
3. Methods will be considered for controlling them or otherwise diminishing their impacts and, if necessary, priorities will be re-ordered based on likely impacts on target and non-target species.
4. Species control plans will be developed based on this information.
5. The plan is implemented and the results of the management actions are monitored.
6. BPRYCS will evaluate the effectiveness of the methods in light of the site goals, and use this information to modify and improve control priorities, methods, and plans.
7. The cycle will be started again by establishing new/modified goals.

Priorities are set in the hope of minimizing the total, long-term workload. Therefore, the department acts to prevent new infestations and assigns highest priority to existing infestations that are the fastest growing, most disruptive, and affect the most highly valued areas of the site. Also considered is the difficulty of control, giving higher priority to infestations most likely to be controlled with available technology and resources.

Therefore, the following criteria is used to prioritize invasive species management in our parks:

1. Current extent of the species on or near the park.
2. Current and potential impacts of the species.
3. Value of the habitats/areas that the species infests or may infest.
4. Difficulty of control.

B. Summary of Actions Planned

Early Detection, Rapid Response

Invasive plants will likely continue to be introduced and/or persist in this natural community. In order to prevent the further spread of existing invasive plants into uninfested areas, and to manage the likely introduction of new species, it will be important to regularly monitor the site for new invasions.

Specifically, newly disturbed sites and areas experiencing erosion should be monitored for invasive propagules.

Active Control

Beginning in Spring 2026, BPRYCS will begin the control and treatment of certain problem species and locations in Rockwell Park. The main species being targeted are tree of heaven, oriental bittersweet, mugwort, and knotweed due to their aggressive nature and the desire to prevent large scale infestations. The priority areas will be along walking paths, active recreation areas, and the boardwalk because of their high visibility and high impact on park recreation.

Easy to control or single specimen woody invasives will be treated at the appropriate time using prescribed methods when possible. Most herbicide treatments will occur late summer/early fall to maximize effectiveness and reduce total herbicide usage.

As certain species require specific treatment regimens, treatment plans for specified species will be followed as described later in this plan (See section 3 for Specific Treatment Plans).

Before the establishment of this plan, there has already been action taken to control certain invasive species in Rockwell Park. Most of this work has been cutting populations of oriental bittersweet and select woody invasive species to preserve native species in those areas. As a result, these areas will be monitored and treated in accordance with this plan to mitigate regrowth and encourage native succession.

Site Remediation

When invasive species have been successfully controlled in a specific location, native or naturalized species will be reintroduced through seeding and planting and will be continuously monitored to prevent future re-infestation.

Note: Care should be taken not to disturb the soil at newly exposed sites as tilling or deep digging destroys soil structure and could cause weed seeds to germinate prolifically.

Bare soil should be covered by vegetation or woodchips. Aggressive natives are an excellent option for excluding invasive species (*Symphotrichum lanceolatum*, *Viola spp.*, *Asarum canadensis*, etc.).

C. Species Priorities

Species	Priority	Reasoning
Japanese Knotweed (<i>Polygonum cuspidatum</i>)	Medium	Containment is essential, but due to its difficulty to control and abundance, elimination cannot be expected, unless an aggressive multi-property approach is adopted.
Tree of Heaven (<i>Ailanthus altissima</i>)	High	Difficult to control, however only a couple of stands have been identified, making it possible to eradicate. Failure to address may result in a population being established.
Oriental Bittersweet (<i>Celastrus orbiculatus</i>)	Medium	Difficult to eradicate due to large population. Must be monitored and controlled to prevent damaging trees and shrubs.
Autumn Olive (<i>Elaeagnus umbellata</i>)	High	Only a few specimens have been identified, making it possible to eradicate.
Black Locust (<i>Robinia pseudoacacia</i>)	Low	Most specimens are rather large along the river making them difficult to treat without causing bank erosion. Removing them may open space for more noxious weeds such as knotweed. Park shall be monitored for saplings to limit spread.
Mugwort (<i>Artemisia vulgaris</i>)	Medium	Extremely difficult to control due to the fact that the existing population is widespread. Populations invading delicate ecosystems such as the marsh should be prioritized.
Burning Bush (<i>Euonymus alatus</i>)	High	Only a single specimen has been identified. Treatment and eradication are possible. Continued monitoring, especially around park edges that abut residential properties, is essential.
Japanese Barberry (<i>Berberis thunbergii</i>)	High	Only a cluster of specimens have been identified. Can be treated and eradicated.
Multiflora Rose (<i>Rosa multiflora</i>)	Medium	Limited populations, found mostly in the marsh. Can be treated and monitored.

D. Treatment Schedule

Treatment Schedule				
	Mow/Cut	Foliar Spray	Cut Stump	Hack + Squirt
Species	Cutting the plant using a mower or weedwhacker, typically completed prior to producing seed.	Using a sprayer to coat the leaves of specific targeted plants with herbicide.	Cutting a woody plant to a stump and applying herbicide to the stump to prevent growth.	Cutting into the bark of a tree using a hatchet and spraying herbicides into the sapwood.
<i>Alianthus altissima</i>				July-Oct
<i>Polygonatum cuspidatum</i>	Late June	Aug-Sept		
<i>Celastrus orbiculatus</i>			July-Oct	
<i>Elaeagnus umbellata</i>			Mar-Nov	
<i>Robina psuedoacacia</i>				July-Oct
<i>Artemisia vulgaris</i>		June + Sept		
<i>Euonymus alatus</i>			July-Oct	
<i>Berberis thunbergii</i>			May-Oct	
<i>Rosa multiflora</i>			July-Sept	

51 High Street Bristol, CT 06010 | 860-584-6160 | Parksandrecreation@bristolct.gov

3. SPECIFIC CONTROL PLANS

A. **Scientific name:** *Polygonum cuspidatum* **Common name:** Japanese Knotweed

i. **Priority:** Low

ii. **Description**

Japanese knotweed is an herbaceous perennial which forms dense clumps 1-3 meters (3-10 feet) high. Its broad leaves are somewhat triangular and pointed at the tip. Clusters of tiny greenish-white flowers are borne during August and September. Knotweed reproduces via seed and by vegetative growth through stout, aggressive rhizomes.



Photo by Alyssa Siegel-Miles.

iii. **Current Distribution on the Site**

(Refer to maps, Appendix 1)

iv. **Damage & Threats**

It spreads rapidly to form dense thickets that can alter natural ecosystems or interfere with landscaping. Japanese knotweed can tolerate a variety of adverse conditions including full shade, high temperatures, high salinity, and drought. It poses a significant threat to riparian areas, where it can survive severe floods.

v. **Goals**

Prevent the spread of Japanese knotweed, particularly along the Pequabuck river where it could impact the native ecosystem of the river.

vi. **Objectives**

Reduce the coverage of Japanese knotweed by 50% (from 66,877 ft² 33,438 ft²) to over the next 5 years, with an emphasis on populations along the riverbank.

vii. Management Options

Viable control options are:

- a. Glyphosate foliar treatment
- b. Mowing/Cutting

The best course of action for infestations at Rockwell Park would be to mow/cut the knotweed in late June, allow it to grow back, then spray with glyphosate starting in August. Cutting early in summer will reduce the plant size and prevent flowering.

viii. Actions Planned

Identified patches of knotweeds that have high potential of spreading in active areas of the park, as well as, easy to eliminate smaller patches, will be cut and properly disposed of at Reworld in early summer followed by foliar treatment in August/September. Where it is eliminated, the following season we will prep and seed to reintroduce lawn/native habitat.

B. Scientific name: *Ailanthus altissima* **Common name:** *Tree of Heaven*

i. **Priority:** High

ii. **Description:**

Ailanthus grows quickly and can reach a height of 8 ft in its first year; ultimately these trees can grow 80-100 feet tall. It flowers in late May through early June and may produce several hundred flowers each year, each of which forms clusters containing hundreds of seeds. Trees also reproduce readily via root sprouts that can emerge up to 50 ft from the nearest trunk. It is a ready colonizer of disturbed sites both in urban and natural areas but is intolerant of full shade. Once established, its primary mode of reproduction is through root suckers. The compound leaves of tree-of-heaven resemble those of staghorn sumac, but tree-of-heaven can be distinguished by its foul-smelling leaves. Species should be confirmed prior to treatment.



Photos by Alyssa Siegel-Mile

iii. **Current Distribution on the Site**

(Refer to maps, Appendix 1)

iv. **Damage & Threats**

Because of its aggressive growth rate and suckering root system, Tree of Heaven can quickly out-compete natives. Its roots are also allelopathic, allowing this plant to form dense monocultures.

v. **Goals**

Populations of Tree of Heaven are limited in Rockwell Park, making it possible to eradicate it from this property.

vi. **Objectives**

By spring 2027, Tree of Heaven infestations will be reduced by 50% and within 5 years, Tree of Heaven will be eradicated from Rockwell Park.

vii. Management Options

Viable control options are:

- a. Hack and Squirt
- b. Foliar Spray
- c. Cut Stump

viii. Actions Planned

In fall 2025, a stand of Tree of Heaven was cut and glyphosate was applied to cut stumps. This area will be monitored and foliar spray will be applied to any sprouts.

Late summer 2026, identified stands of Tree of Heaven will be treated using the hack and squirt method with triclopyr. During the winter, these treated areas will be removed. The following spring these locations will be monitored for re-sprouting and be treated with a foliar spray as needed. Where it is eliminated, the following season we will prep and seed to reintroduce lawn/native habitat.

C. Scientific name: *Artemisia Vulgaris* **Common name:** Mugwort

i. **Priority:** Medium

ii. **Description:**

Mugwort grows 2 to 4 feet tall and spreads by rhizomes but rarely produces viable seeds in temperate areas. It prefers full sun, well-drained soil and alkaline soils. The panicle of greenish-yellow or reddish-brown flowers appears in mid-summer to early fall above the lobed green leaves with woolly undersides. The plant has a long history of herbal use.



Photos by Alyssa Siegel-Miles.

iii. **Current Distribution on the Site**

(Refer to maps, Appendix 1)

iv. **Damage & Threats**

Mugwort spreads aggressively through rhizomes. Even a small piece of root fragment can colonize large patches of disturbed soils displacing native species.

v. **Goals**

Eliminate mugwort that has invaded planting beds and managed natural areas.

vi. **Objectives**

Mugwort will be eliminated from the Rockwell boardwalk area and replaced by native species within 2 years. Mugwort will be prevented from establishing in new disturbed soils. Any sprouts of mugwort will be pulled or treated.

vii. Management Options

Viable control options are:

- a. Foliar Treatment
- b. Mechanical Pulling
- c. Exclusion

viii. Actions Planned

The primary location to be treated is the Rockwell boardwalk. This will be done by applying Milestone (aminopyralid) in early summer and following up with a second treatment as needed in late fall. This will be followed by native plant seeding/planting.

Rockwell skate park will also be treated in this way to eliminate mugwort before future renovations occur at the surrounding playground.

Aggressive perennials such as *Symphotrichum lanceolatum* can be used to crowd out and exclude mugwort populations.

D. Scientific name: *Celastrus orbiculatus* **Common name:** Oriental Bittersweet

i. **Priority:** High

ii. **Description:**

Bittersweet leaves are round with toothed edges, alternately arranged along the stem. In late summer the leaves turn yellow, usually before native plants gain their fall color, making this vine easy to spot from a distance. Yellow-skinned fruit first appear in late summer in clusters at each leaf axil. In fall the yellow skin splits to reveal a bright red center. Young stem growth is bright green; larger stems have red-brown bark that has a cracked, fish-netted texture. The smooth stems climb by twining or winding themselves around host plants eventually strangling the host.



Photos by Alyssa Siegel-Miles

iii. **Current Distribution on the Site**

(Refer to maps, Appendix 1)

iv. **Damage & Threats**

Vines quickly envelop native trees and shrubs. This will both starve the trees by enveloping the canopy and choking the trees and causing premature death. Heavy vines can also cause weakened trees to be uprooted and/or break.

v. **Goals**

Reduce population of oriental bittersweet and prevent the envelopment of native trees and shrubs.

vi. **Objectives**

There will be no vines exceeding 2" in diameter wrapping around trees by the end of 2 years. Bittersweet will annually managed and prevented from bearing fruit by the end of 2 years.

vii. Management Options

Viable control options are:

- a. Cut and treat stumps of mature vines
- b. Foliar Treatments
- c. Cut/Pull

viii. Actions Planned

Winter 2025/2026 most large bittersweet vines were cut, freeing the trees from entanglement. These vines will be monitored, re-cut and treated with glyphosate during the summer.

Vines that haven't been cut and of appropriate diameter will be cut and treated during the summer.

Large patches of smaller vines can be pulled or cut and foliar treatments can be used where there is no threat to native species.

REFERENCES

National Invasive Species Information Center

<https://www.invasivespeciesinfo.gov/>

Connecticut Invasive Plants Working Group

<https://cipwg.uconn.edu/>

Site Weed Management Plan Template - The Nature Conservancy

<https://www.invasive.org/gist/products/plans/WeedTemp.pdf>

UConn Extension

<https://extension.uconn.edu/>

Herbicide Guidelines - The Nature Conservancy

<https://www.invasive.org/gist/products/handbook/07.herbicideguidelines.pdf>

APPENDICES

Appendix 1. Maps



Yellow - *Alianthus altissima*

Red - *Celastrus orbiculatus*

Blue - *Artemisia vulgaris*

Orange - *Polygonum cuspidatum*

Green - *Robina psuedoacacia*

Purple - *Eleaenus umbellata*

Appendix 3. HERBICIDE USE PROTOCOLS

- a. Follow all federal, state and local regulations regarding herbicide use. Product labels MUST be read and followed. It is a violation of federal law to use an herbicide in a manner inconsistent with its label. THE LABEL IS THE LAW.
- b. All herbicide treatments will be applied in compliance with the chemical label, state and federal law, licensing requirements, and municipal ordinances.
- c. Herbicides may be applied only by City of Bristol employees or contractors who have all certificates and licenses required by state and/or federal law. Volunteers and seasonal employees may NOT apply herbicides unless they are properly licensed AND have signed a consent & release form.
- d. Applicators MUST wear all protective gear required on the label of the herbicide they are using. BPRYCS shall provide all safety and protective gear as recommended on the label. The health and safety of the applicator are of foremost concern.
- e. Herbicides will be appropriately labeled and stored only in designated storage areas as assigned by department supervisors, in compliance with product recommended storage and local, state, and federal laws.
- f. Small spills will be cleaned up using appropriate drying agents or by digging and disposing of contaminated soils in plastic garbage bags. Larger spills should be reported to department supervisors immediately.
- g. Disposal of herbicide shall be conducted according to the label.

Common Herbicides

Triclopyr is a human-made herbicide used to control both broadleaf and woody plants. Grasses tend to be less sensitive to triclopyr than other weeds. It affects actively growing plants by mimicking a specific type of plant growth hormone, known as an auxin. Plants rapidly take in triclopyr through leaves and roots. It causes uncontrolled plant growth and plant death. After absorbing the herbicide, plants die slowly (within weeks). Triclopyr is recommended for the management of Tree of Heaven. (National Pesticide Information Center, 2026).

Glyphosate is an herbicide. It is applied to the leaves of plants to kill both broadleaf plants and grasses. Glyphosate is a non-selective herbicide, meaning it will kill most plants. Glyphosate stops a specific enzyme pathway, from making proteins needed for plant growth. Glyphosate binds tightly to soil. It can persist in soil for up to 6 months depending on the climate and the type of soil it is in. Glyphosate is broken down by bacteria in the soil. Glyphosate is recommended for the management of Japanese Knotweed and Oriental Bittersweet. (National Pesticide Information Center, 2026).

Aminopyralid is an herbicide intended for use in natural and recreational areas to control target species of broadleaf plants. Aminopyralid is absorbed by the leaves and roots and interferes with plant growth metabolic pathways, affecting the growth process of the plant, via uneven cell division and growth. Aminopyralid is often sold under the tradename Milestone and is recommended for use controlling Mugwort (EPA, 2026).