



Capital Region Partnership for Regional Invasive Species Management Detection & Monitoring Report

Purpose:

The Invasive Species Survey Report will provide an overview and help identify baseline site composition and guide potential invasive species response actions (control/treatment, post-treatment monitoring, adaptive management, restoration, and research) at a specific site over time.

This form can be found online as "Detect & Monitor Survey Report Template" at <https://www.capitalregionprism.org/reports-and-products.html> or with a request. Please consult the Capital Region PRISM if there are any questions at (518)-885-8995. Please capture and collect data using [iMapInvasives](#). The online software platform and associated mobile application are free and open sourced.

Section 1: Survey Summary

This section provides an overview of the site, contact information, etc. Save the report for your records and to guide potential future management decisions.

To determine site value, we recommend using a [Framework of Response](#). Resources the Capital Region PRISM recommends are the New York Natural Heritage Program (NYNHP) [Prioritization Model](#), the [New York Protected Area Database \(NYPAD\)](#) and the [New York State Department of Environmental Conservation Resource Mapper](#). These models and databases will allow you to assess your site's value based on a few factors. Sites should receive a comprehensive evaluation that includes ecological considerations such as ecosystem health and composition, invasive species present on site, and conservation targets. Other factors to consider are the significance of a site's cultural, social, or recreational value to the public. Although the Capital Region PRISM cannot directly assist with all projects, we can provide consultations to determine how to begin assessing ecosystem health and invasive species present on the property as well as provide best management practices regarding invasive species response.

Section 2: Survey Result Summary

The survey summary section will contain the goals, site description, survey methods, and maps generated from your survey efforts. Please fill out the provided table and insert screen shots of iMapInvasives maps and other relevant maps or documents. This form will serve as a record of your efforts and is intended to guide future management decisions.

Section 3: Summary of Recommendations

The recommendation section contains treatment calendars and post-season summaries. Most sites need to be revisited on a regular basis to document successes/failures, identify any changes needed, and update future treatment calendars.





Section 1: Survey Summary

General Information	
Date Survey Conducted: 8/8/24	Property Owner Name, Title, and Contact: Rebecca Ferry, Environmental Stewardship Biologist, NYS Office of Parks, Recreation and Historic Preservation rebecca.ferry@parks.ny.gov
Site Name: Taconic State Park- Copake Falls Area	
Site Address (if different): 253 Route 344 Copake Falls, NY 12517	Survey Leader Name, and Contact: Riley Willard, rjw278@cornell.edu
Latitude/Longitude: 42.118123, -73.508747	County: Columbia
Total Parcel Size (acres): 3,834 acres	Team Member Name(s): Samantha Schultz, Stephen Root, Joe Simonds, Chris Benincasa
Worksite Size (acres): 137.7 acres	Permit(s)/Permission(s) Acquired? Yes, Scientific Research Permit
Report Author: Christopher Benincasa	Data Recorder & iMapInvasives ID: Samantha Schultz- 9924

*****Remember to obtain proper permissions before completing any detection & monitoring project. Please attach any permits/permissions completed for this project as an appendix.**

Conservation Goal:

- Delineate & assess a conservation value To prevent and protect a conservation value
- Local Eradication Post-Treatment Monitoring Containment
- Suppression Exclusion Restoration

Survey Type:

- Detection Follow-up Monitoring Detection Training eDNA
- Delineation Highly Probable Areas Volunteer Engagement

Site Description: Provide existing conditions of the site, current land use, landscape elements, historical uses, etc. This section should include information such as habitat composition, dominance of native species, list of any known native species on site, any protected properties or larger landscape features that include site, etc.

Taconic State Park is located along 16 miles of the Taconic Mountain Range, sharing a border with Massachusetts and Connecticut. Two developed areas, Copake Falls and [Rudd Pond](#), offer an extensive trail system with terrain that varies from easy to challenging, offering spectacular views.

The extensive campground at Copake Falls has sites to accommodate campers seeking a more rustic experience, as well as those seeking a more "homelike" experience. The campground offers both ground sites and platform sites for tent camping in addition to approximately 30 sites that can accommodate up to a 26-foot camping trailer. The park offers 3 cabin areas that vary in number of cabins, location and size.

There are plenty of activities for campers, as well as day visitors to enjoy in the oldest State Park in the Taconic Region. Bike or stroll along the Harlem Valley Rail Trail, hike to Bash Bish Falls, just over the Massachusetts border or up Brace Mountain, the highest point in Dutchess County. Stop at the newly created Copake Iron Works Museum to learn about the iron industry at the former site of Copake Iron Works, established in 1845. In addition to the history offered by the Iron Works Museum, visitors can take a ride on the Pomeroy Railroad that offers an immersive interpretive experience that replicates the narrow-gauge





railroad that transported iron ore from the nearby mine (now known as the Ore Pit Swimming Pond) to the blast furnace at the Copake Iron Works during the 19th Century. Copake Falls offers swimming opportunities at a designated swimming area with a dock in Ore Pit Pond and at the adjacent kiddie pool. The small but deep Ore Pit Pond is a popular destination due to its excellent water quality. Swimming is permitted when lifeguards are on duty-- floatation devices are not allowed. Freshwater fishing enthusiasts will delight in hooking brown trout and other fish in the Bash Bish Brook or rainbow trout in the old iron ore mine pit.

The fun doesn't end in wintertime. There are great trails for cross country skiing and snowshoeing, as well as 5 miles of snowmobile trails. In season deer and bear hunting (rifle/shotgun/bow), turkey hunting (bow/shotgun), squirrel, fox and ruffed grouse hunting are permitted. Small game season begins November 1st. A New York State hunting license is required. Please be aware that Taconic State Park property encompasses land in both Columbia and Dutchess Counties. Please adhere to the appropriate regulations set forth by the New York State Department of Environmental Conservation. The use of handguns are not permitted in any state parks. No youth hunts.

The following native species were noted on the property: poison ivy (*Toxicodendron radicans*), white ash (*Fraxinus americana*), striped maple (*Acer pensylvanicum*), sugar maple (*Acer saccharum*), red maple (*Acer rubrum*), several species of wood ferns, jewelweed (*Impatiens capensis*), white avens (*Geum canadense*), white rattlesnake root (*Nabalus albus*), Canada mayflower (*Maianthemum canadense*), star flower (*Trientalis borealis*), hay scented fern (*Dennstaedtia punctilobula*), red eft (*Notophthalmus viridescens*), Eastern hemlock (*Tsuga canadensis*), silver maple (*Acer saccharinum*), silver/red maple hybrid (*Acer x freemanii*), mountain laurel (*Kalmia latifolia*), American chestnut (*Castanea dentata*), high bush blueberry (*Vaccinium corymbosum*), red oak (*Quercus rubra*), white oak (*Quercus alba*), witch hazel (*Hamamelis virginiana*), Eastern wild indigo (*Baptisia tinctoria*), wood rose (*Rosa woodsii*), maple leaf viburnum (*Viburnum acerifolium*), Solomon seal (*Polygonatum spp.*), large leaved aster (*Eurybia macrophylla*), hog peanut (*Amphicarpaea bracteata*), common cinquefoils (*Potentilla simplex*), wild sarsaparilla (*Aralia nudicaulis*), common sassafras (*Sassafras albidum*), chestnut oak (*Quercus prinus*), whorled loosestrife (*Lysimachia quadrifolia*), bracken fern (*Pteridium aquilinum*), sweet birch (*Betula lenta*), pink lady slipper (*Cypripedium acaule*), whorled wood aster (*Oclemena acuminata*), low bush blueberry (*Vaccinium angustifolium*), citronella horse balm (*Collinsonia canadensis*), grey birch (*Betula populifolia*), bass wood (*Tilia americana*), Christmas fern (*Polystichum acrostichoides*), Jack-in-the-pulpit (*Arisaema triphyllum*), trillium (*Trillium spp.*), white baneberry (*Actaea pachypoda*), Indian tobacco (*Lobelia inflata*), wild geranium (*Geranium maculatum*), false Solomon's seal (*Maianthemum racemosum*), tall rattlesnake root (*Nabalus altissimus*), bloodroot (*Sanguinaria canadensis*).

Survey Techniques: Provide a clear and concise description of the work to be conducted; target species; and any survey methods used (i.e. Highly probable area search, rake toss, transect, etc.).

A highly probable area and delineation survey was performed by walking the Gray Birch Trail, connecting with part of the South Taconic Trail and surveying along the Cedar Brook Trail. Data was recorded of all invasives observed and when invasives were of low density and of a manageable size with the tools brought, they were removed via pulling/digging physical treatment methods.





Site Significance: Some recommended resources to identify high priority sites include: the [CR-PRISM Framework of Response](#), the [NYNHP Prioritization Model](#), the [NYS DEC Environmental Resource Mapper](#)? Please provide screenshots of any maps and/or models used to determine the site is a priority and describe why they show the site is a priority. What other reason is present for conducting the survey (rare, threatened, endangered species, partner property, significant habitat present, etc.)?

Taonic State Park is a highly significant area not only scoring high on the NYNHP Prioritization Model but additionally, contains a variety of significant natural areas including hemlock-northern hardwood forest (high quality occurrence of uncommon community type) at Cedar Mountain, Appalachian oak-hickory forest (high quality occurrence) at Alander Mountain, pitch-pine oak-heath rocky summit, chestnut oak forest (high quality occurrence) at Alander Mountain. Rare plants and animals are located on or near the property as well.

The maps are colored based on a gradient, meaning the darker the primary color in the image, the higher that area scores for significance.

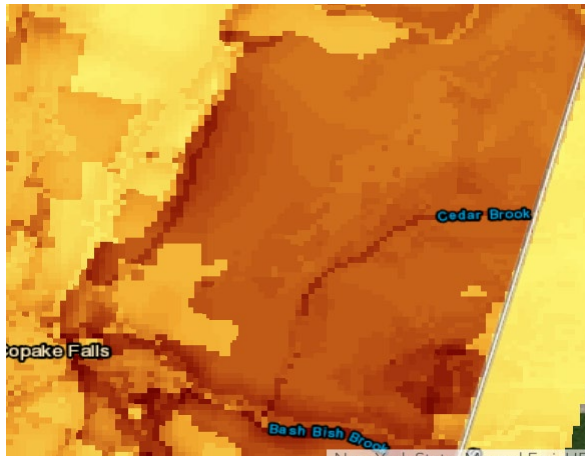


Figure 1: Comprehensive Score (NYNHP Prioritization Mapper)

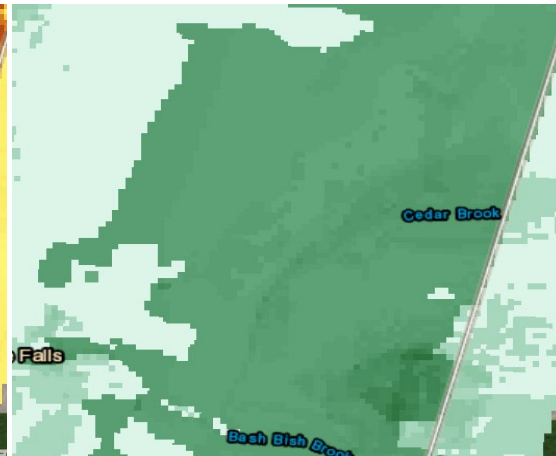


Figure 2: Ecological Score (NYNHP Prioritization Mapper)

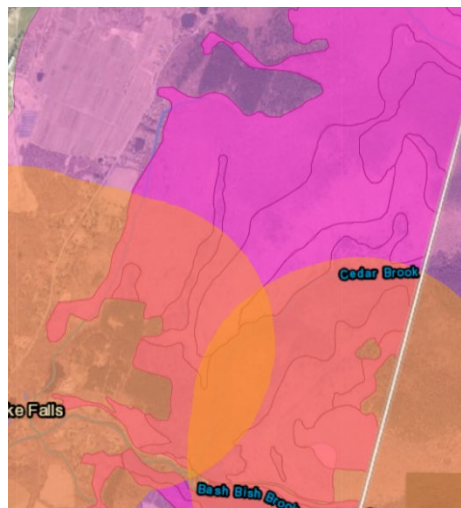


Figure 3: NYS DEC Environmental Resource Mapper



Section 2: Survey Result Summary

Common Name & Scientific Name	Tier Rank	Threat Ranking	Growth Form	Phenology/ Life stage	Percent Cover (%)	Distribution/ Abundance	Area Infested (acres/miles if linear)	For Highly Probable Areas Area Treated (acres/miles if linear)
Norway maple (<i>Acer platanoides</i>)	4	Very High	Tree	Vegetative	26-50%	Sparse	0.038 acres	0.011 acres
Privet spp. (<i>Ligustrum spp</i>)	3	Low	Shrub	Vegetative	26-50%	Sparse	1.674 acres	0 acres
Japanese barberry (<i>Berberis thunbergii</i>)	4	Very High	Shrub	Vegetative	26-50%	Trace	3.497 acres	0.0187 acres
Oriental bittersweet (<i>Celastrus orbiculatus</i>)	4	Very High	Vine	Vegetative	26-50%	Sparse	3.154 acres	0.119 acres
Burning bush (<i>Euonymus alatus</i>)	4	Very High	Shrub	Vegetative	5-25%	Sparse	3.69 acres	0.469 acres
Garlic mustard (<i>Alliaria petiolata</i>)	4	Very High	Herbaceous	Vegetative	5-25%	Sparse	2.074 acres	0 acres
Multiflora rose (<i>Rosa multiflora</i>)	4	Very High	Shrub	Vegetative	26-50%	Dense plants/ clumps	3.67 acres	0 acres
Black locust (<i>Robinia pseudoacacia</i>)	4	Very High	Tree	Vegetative	5-25%	Sparse	0.5197 acres	0.0052 acres
Wineberry (<i>Rubus phoenicolasius</i>)	3	Very High	Shrub	Vegetative	26-50%	Dense plants/ clumps	0.157 acres	0 acres
Japanese stiltgrass (<i>Microstegium vimineum</i>)	4	Very High	Herbaceous	Vegetative	5-25%	Dense plants/ clumps	0.02 acres	0 acres

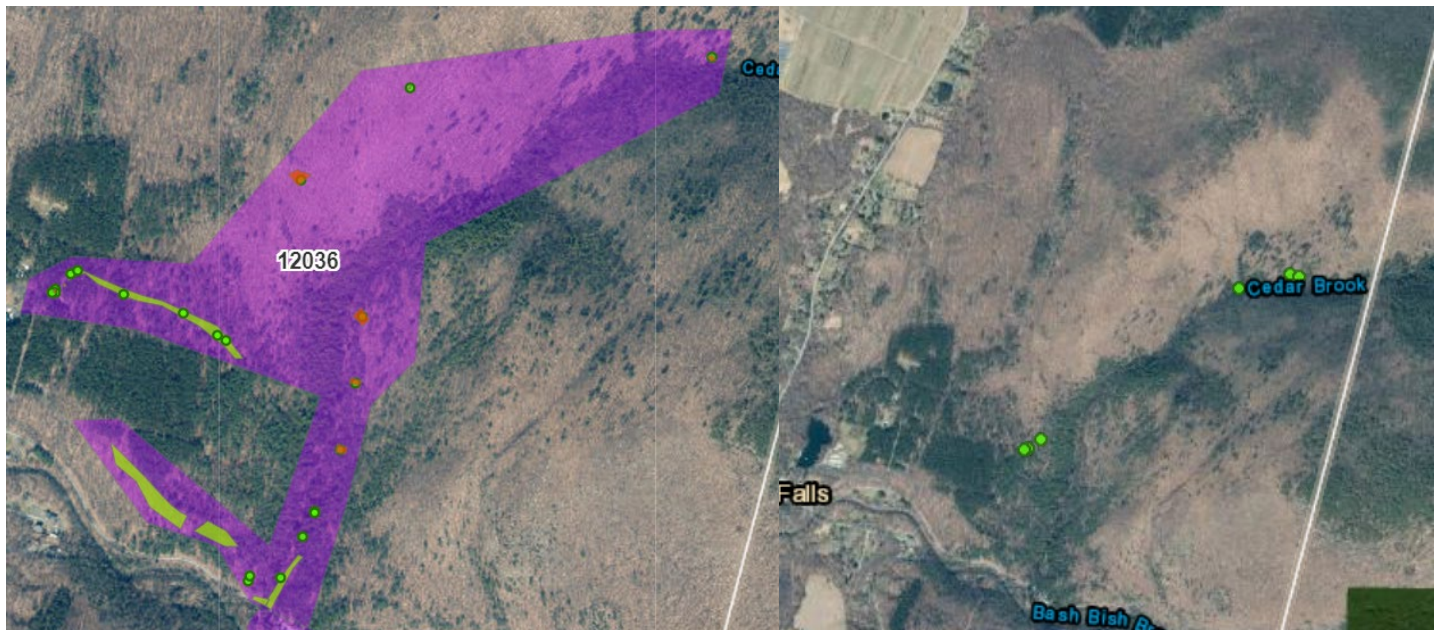




Map: Develop a map of the survey area that has the searched area, any iMapInvasives points, polygons and/or lines for presence or non-detection. Multiple maps may be added for multiple species or locations. All searched areas, detection and non-detection data should be uploaded to the CR-PRISM SharePoint Tracker and iMapInvasives.

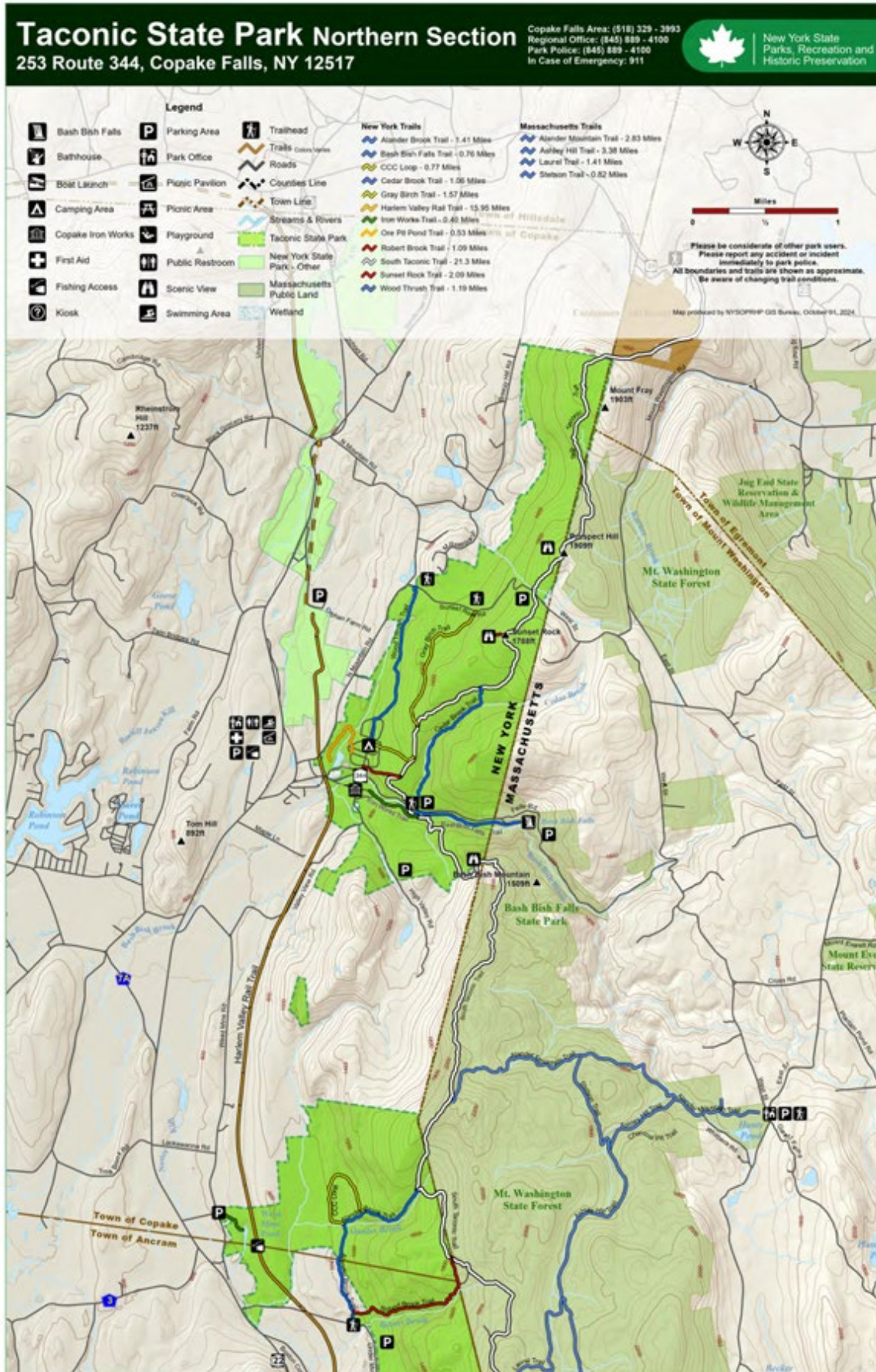
The screenshot below is taken from ArcGIS Online, the purple polygon indicates the area that was searched, the green polygons/points indicate presence of invasive species, and the red polygons indicate where the invasives were treated using physical pull/dig methods. The map shows the impact of highly probable areas, showing the trailheads having the most invasives present while the rest of the trail is largely uninvaded. Demonstrating why highly probable area searches and removals are so important.

The treated areas primarily are single stems of burning bush or oriental bittersweet. Within the campgrounds, some Norway maple, Japanese barberry and privet were managed but will likely resprout and will need continued monitoring.



Map 1: Field Maps data of invasive species points and polygons. Presence points and polygons are shown in green; treatment polygons are shown in red and searched areas are shown in purple.

Map 2: iMapInvasives points showing detections of hemlock woolly adelgid shown in green.





Section 3: Summary of Recommendations

This section provides recommendations of any response methods, monitoring methods, and restoration efforts based on the survey.

Additional Notes: Provide any additional information that is not included above regarding species surveyed for or about the survey itself. Were there any barriers or issues that arose before or during the survey? Provide any advice that could limit barriers or issues in the future.

There is a high density of invasive plants in the highly probable areas of the state forest (campgrounds, parking lots, trail heads, etc.). It was noted there were burning bush plants ornamentally near the entrance of the park and likely contributed to the high presence throughout the park. Wineberry is most likely underrepresented in the data, most commonly found immediately near roadsides and in the campgrounds, which is an invasive that has a high density of thorns, but luckily it has not invaded the trails too heavily as of the time of this survey. Wineberry spreads vegetatively through the canes and through birds and other wildlife feeding on the seeds.

Response: Briefly describe any recommendations for future response methods, why they are recommended, and any alternatives to consider. Please use abundance and site-specific factors in your recommendation. If conducting a highly probable area survey, please list any response actions taken while on-site. Optional: Attach or reference BMP guidance document. Consider state and local permitting requirements.

Treatment of the Japanese stiltgrass is highly recommended along the Cedar Brook trail as this is a very high threat annual grass. Seeds can easily be transported via pets and shoes from hikers. Japanese stiltgrass is shade tolerant and will create monocultures, outcompeting other understory plants. Additionally, treatment of all invasive species is recommended along the highly probable areas of the trailheads and surrounding the campgrounds due to these being highly trafficked areas with the potential to spread.

There is a large diversity of native species (as seen from the list above) that should be protected and preserved once past the first 0.5 miles on the trails. To remove the source population of burning bush, it is highly recommended to remove the burning bush hedges at the park entrance to mitigate further introductions into more remote areas of the park.

Post-Survey Monitoring: Briefly describe the monitoring procedure, when it will occur, and who will complete it. Consider the phenology of species when suggesting timelines. If a response goal such as eradication, suppression, containment and/or exclusion is selected, will a management plan be drafted? If a plan is needed, please contact the CR-PRISM office for a template of our Invasive Species Management Plan.

The Capital Region PRISM team will continue to collaborate with NYS OPRHP and will continue to survey other areas of the park as well as manage any small populations of invasive plants detected. As larger work areas are identified the OPRHP staff will be notified to elevate those populations for management.

