Adirondack Park
Terrestrial Invasive Species Steward

Survey & Management Report

2021

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Photo Credit: Adellia Baker

INVASIVE SPECIES MANAGEMENT
ADIRONDACKS

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Executive Summary

State campgrounds and recreational access points are high priority areas for terrestrial invasive species surveillance and management due to high levels of disturbance from recreational traffic. These areas are often the first location where new invasive species are introduced or detected. Once an invasive species becomes established, they can serve as source populations for spread into backcountry areas of higher conservation value.

During the 2021 field season, the Adirondack Park Invasive Plant Program's (APIPP) invasive species management stewards (stewards) spent approximately 20 weeks surveying and/or managing terrestrial invasive species at several recreational facilities and access points including:

- 38 New York State administered campgrounds
- 138 recreational access points such as trail heads, parking lots, boat launches, etc.

Of the 38 campgrounds surveyed, 35 were found to contain one or more terrestrial invasive species. Infestations of APIPP's target species were mapped using The Nature Conservancy's (TNC) Invasive Plant Mobile Monitoring System (IPMMS). Bush honeysuckle was the most commonly mapped species, present at 68% of surveyed campgrounds. Reed canary grass and garlic mustard were also common, present at 63% and 50% of surveyed campgrounds, respectively. When feasible, priority infestations were managed using mechanical control techniques.

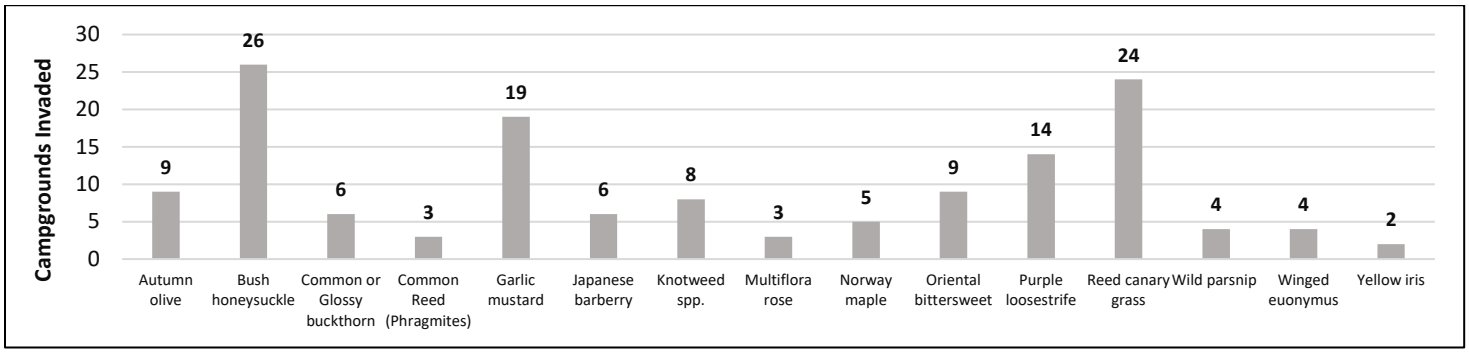


Figure 1. Summary of invasive plant species present at NYSDEC administered campgrounds in 2021.

Three campgrounds were free of all target terrestrial invasive plant species. Ten years of survey and management results indicate there is significant opportunity for successful control and local eradication of many species at Adirondack campgrounds. Since the program's inception, garlic mustard abundance at New York State Department of Environmental Conservation (NYSDEC) campgrounds has declined by approximately 78%, while purple loosestrife has declined by 89%. With continued annual management, there is a high likelihood for many infestations to be significantly reduced in abundance or locally eradicated. However, there are notable exceptions at select campgrounds where particularly large infestations are unlikely to be eradicated, even with sustained allocation of resources. Nevertheless, most infestations can be effectively suppressed to minimize impacts to the environment, economy, and human health.

Many campground employees were unaware that their facility was infested by an invasive plant species and were not familiar with invasive plant identification and management practices. To rectify this challenge, it would be beneficial to offer trainings in invasive species identification and management to campground staff at the beginning of the season. Ideally, this would occur at all campgrounds, but is especially important at those currently invaded or located near heavily infested areas. This is also important for campgrounds that are located adjacent to areas of high conservation value such as the Forest Preserve.

In addition to their work at NYSDEC administered campgrounds, this season's stewards were tasked with the additional surveys as outlined below:

Emerald ash borer (*Agrilus planipennis*) **trapping efforts** were conducted throughout the season (from June until early October). Traps were placed in five locations - Riparius Bridge, Cayuga Camp (15 primitive campsites operated as a part of Scaroon Manor Campground), Amy's Park, Warren County Fish Hatchery, and TNC's Boquet River Nature Preserve. Each trap was equipped with Manuka oil and hexanol lures. Trap contents were collected every two weeks and lures were changed every four weeks. Collection samples were then sent to the NYSDEC Forest Health Diagnostic Lab for species identification. Four positive identifications were found, all of which were collected at Amy's park.

Spotted lanternfly (*Lycorma deliculata*) **and tree-of-heaven** (*Ailanthus altissima*) **surveys** were completed following iMapInvasives survey protocol. Survey grids were chosen in priority areas, then subsequently surveyed for spotted lanternfly and tree-of-heaven throughout the season as time allowed. Surveyed areas include downtown Lake Placid, Lake Colby public beach, Lake Durant campground, South Lake parking lot, Haskell Road parking area, Prospect Mountain, and Hadlock Pond. No new observations of either species were found in the 13 grids surveyed.
https://www.nyimapinvasives.org/slf

Jumping worm *(Amynthas spp. and Metaphire spp.)* **surveys** were completed and presence/absence data was recorded using the iMapInvasives mobile application. The survey protocol involved pouring a mixture of water and mustard seed powder over a 0.25 sq-m area of soil. As the worms emerged from the soil, they were collected, identified, and returned. All invasive jumping worms that emerged were collected and destroyed. Of the 54 sites surveyed by stewards throughout the season, jumping worms were only found at one - the Hague Brook trailhead. We recommend these surveys continue through the 2022 season as jumping worms are becoming a more pervasive problem for landowners across the Adirondack region.

Introduction

Overview

Beginning in the summer of 2006, the NYSDEC supported a seasonal invasive species specialist position to implement annual invasive plant inventories and management at state campgrounds in the Adirondack Park. Since state campgrounds are intensive use areas that receive high levels of recreational traffic, they are more susceptible to the inadvertent introduction of invasive species. Once a campground becomes infested, it can serve as a source for invasive species spread into nearby areas of high conservation value. The spread of invasive plants can result from vegetative growth, seed dispersal, root and stem fragmentation, etc. Movement of contaminated soils or equipment, use of non-native plants in landscaping, and transport of seeds on clothing and equipment are likely vectors of invasive species introduction at state campgrounds. As a result, APIPP and NYSDEC have identified state campgrounds as priority areas for invasive species surveillance and management.

The NYSDEC invasive species specialist performed invasive plant surveys and control each field season from 2006 through 2009. In 2010, funding for the position was unavailable, resulting in a lapse of data collection and management. Progress that had been made in controlling garlic mustard and purple loosestrife was set back as plants regrew and infestations went unmanaged. In 2011, APIPP initiated limited management, collecting data for and controlling several infestations at priority campgrounds. From 2012 through the 2018 field season, APIPP in collaboration with the NYSDEC and the State University of New York College of Environmental Science and Forestry (SUNY ESF), deployed an invasive species campground steward to survey and manage infestations. Over 4,000 acres of DEC-administered lands were surveyed by these stewards, with over 1,000 infestations mapped and 700+ infestations managed.

Beginning in 2019, the campground steward position was incorporated into APIPP's five-year Partnership for Regional Invasive Species Management (PRISM) contract, supported by funding from the Environmental Protection Fund (EPF) as administered by NYSDEC. The restructured invasive species management steward position expanded the program's scope to include surveys at additional New York State administered and private recreational facilities. APIPP was able to bring on an additional steward for the 2021 season, which allowed for the completion of additional forest pest and jumping worm surveys. Each steward provided an exceptional level of plant identification knowledge that helped grow APIPP's invasive plant distribution database.

Supervision and project oversight for the steward was provided by APIPP's terrestrial invasive species project coordinator. In previous years, the steward was assisted by SUNY ESF Interns and several volunteers. However, due to COVID-19 restrictions, the 2021 stewards performed the majority of survey and management work alone, with occasional assistance from a small handful of TNC employees at select facilities while adhering to social distancing guidelines.

The following report summarizes terrestrial invasive species surveillance and management activities performed by the stewards throughout the Adirondack PRISM during the 2021 field season. This report divides the Adirondack PRISM and its state administered campground facilities into working circles, as defined by Wayne G. Blanchard in *Invasive Species Adaptive Management Guiding Document Adirondack Forest Preserve Campgrounds Final Report (2008)*. All remaining trailheads and recreational facilities were grouped together and are listed in the appendix at the end of this report.

Standard Monitoring and Management Procedures for Target Invasive Species

The stewards were equipped with TNC's IPMMS to document the location and extent of terrestrial invasive species infestations located at state campgrounds throughout the PRISM. Data was collected using an iPad and Bluetooth GPS antenna, and uploaded daily to TNC's server for processing and storage. At the end of each season, all invasive species observation data is submitted to New York's Invasive Species Database (iMapInvasives).

Campgrounds are divided into six working circles based upon their location within the region. Each steward, working alone, visited one or more campgrounds per day depending on the size of the facility and number of infestations present. In general, management activities started in the southern portion of the PRISM and progressed northward to coincide with the latitudinal advance of the growing season.

Some species were targeted for management, while others were only surveyed due to logistical constraints. The table below provides a summary of species the steward was trained to detect and their designation as management or survey targets.

Table 1. Target invasive species and their management status.

Species	Scientific Name	Priority
Garlic mustard	*Alliaria petiolata*	Management target
Purple loosestrife	*Lythrum salicaria*	Management target
Wild parsnip	*Pastinaca sativa*	Management target
Yellow iris	*Iris pseudacorus*	Management target
Autumn olive	*Elaeagnus umbellata*	Management target, if isolated
Buckthorn spp.	*Rhamnus cathartica & Frangula alnus*	Management target, if isolated
Bush honeysuckles	*Lonicera spp.*	Management target, if isolated
Japanese barberry	*Berberis thunbergii*	Management target, if isolated
Multiflora rose	*Rosa multiflora*	Management target, if isolated
Oriental bittersweet	*Celastrus orbiculatus*	Management target, if isolated
Winged euonymus	*Euonymus alatus*	Management target, if isolated
Common reed grass (*Phragmites*)	*Phragmites australis*	Survey only
Emerald ash borer	*Agrilus planipennis*	Survey only
Hemlock woolly adelgid	*Adelges tsugae*	Survey only
Knotweed spp.	*Reynoutria spp.*	Survey only
Norway maple	*Acer platanoides*	Survey only
Reed canary grass	*Phalaris arundinacea*	Survey only
Japanese tree lilac	*Syringa reticulata*	Survey only

Garlic mustard – Historically, only second-year plants were pulled up by the root and placed in thick contractor garbage bags as infestations were too extensive to permit management of all life stages in the project time allotted. As historic management efforts have decreased the size and density of infestations, removal of the rosette stage began in 2019 allowing for all life stages to now be managed.

Purple loosestrife – Plants were pulled or dug up to remove as much of the root system as possible. Plants with evidence of damage from the biocontrols *Galerucella spp.* or *Nanophyes marmoratus* were not removed as the biocontrols require purple loosestrife for habitat and food to establish and spread. In some cases, only the flower heads were removed to prevent seed production.

Wild parsnip – Plants were pulled up by the root and placed in thick contractor garbage bags. NOTE: Protective clothing (long sleeves and gloves, at a minimum) was worn when managing this species as the sap of this plant is phototoxic and can cause phytophotodermatitis upon contact with exposed skin.

Yellow iris – Plants were pulled or dug up to remove as much of the root system as possible and placed in thick contractor garbage bags.

For the above species, plant material was bagged and transported to TNC's office in Keene Valley, NY, where bags were solarized until the contents had liquefied and no viable plant material remained. At the end of the season, bags were disposed of at the local transfer station.

Bush honeysuckles, Japanese barberry, multiflora rose, autumn olive, winged euonymus, Oriental bittersweet, common buckthorn, Norway maple – The presence of these invasives was documented, but infestations were managed only when plants were sparsely distributed throughout the campground. These species are a lower priority for management because of their widespread distribution in the Adirondack PRISM and their ability to be transported long distances by birds. Management of infestations was performed only when adequate time remained after management and inventories of other, higher priority species/infestations had been completed. To manage these species, plants were pulled up by the base to remove the entire root system. Medium-sized plants often required the use of a leverage tool. Extracted plants were hung upside down in nearby trees to dry and decompose. Large plants were left in place and noted for potential cut stump herbicide treatment by APIPP.

Knotweed spp., **common reed grass**, and **reed canary grass** are difficult to manage, perennial invasives with extensive rhizome systems. Mechanical treatment of established infestations is difficult or often infeasible. Chemical treatments are most often used to control established infestations. When these species were encountered in a campground, they were mapped but not managed.

Japanese tree lilac is an ornamental large shrub or small tree that can escape cultivation. Only a few infestations are documented in the PRISM and stewards were asked to map this species if it was encountered to help provide information about the regional distribution of this species.

Emerald ash borer and **hemlock woolly adelgid** are forest pests which present unique management challenges. Surveys were conducted for these pests and if they were encountered, they were mapped and reported to the terrestrial invasive species project coordinator.

Herkimer Working Circle

The Herkimer Working Circle contains two campgrounds: Alger Island and Nicks Lake. The following section provides an overview of survey and management activities for these campgrounds. For a comprehensive summary of these campgrounds – see Appendix Table 1. For a comprehensive summary of terrestrial invasive species distribution across trailheads, fishing access sites, parking areas, and boat launches in all working circles – see Appendix Table 7.

Table 2. Herkimer Working Circle invasive species distribution and management summary.

Campground	Invasive Plants Present	Total Plants Removed
Alger Island	None observed	
Nicks Lake	Bush honeysuckle Garlic mustard Reed canary grass Wild parsnip Yellow iris	0 3,584 0 5 60

Alger Island

Invasive Species Distribution and Management Overview:

As in previous years, no target invasive species were observed in 2021. This is likely due to the island's isolated location.

Recommendations:

Annual surveys should continue to take place at this facility. Reed canary grass is present at the boat launch used to access this campground and could potentially be transported to the island via campers.

Photo Credit: Reserve America

Nicks Lake

Invasive Species Distribution and Management Overview:

Bush honeysuckle is widespread throughout campground and was not managed.

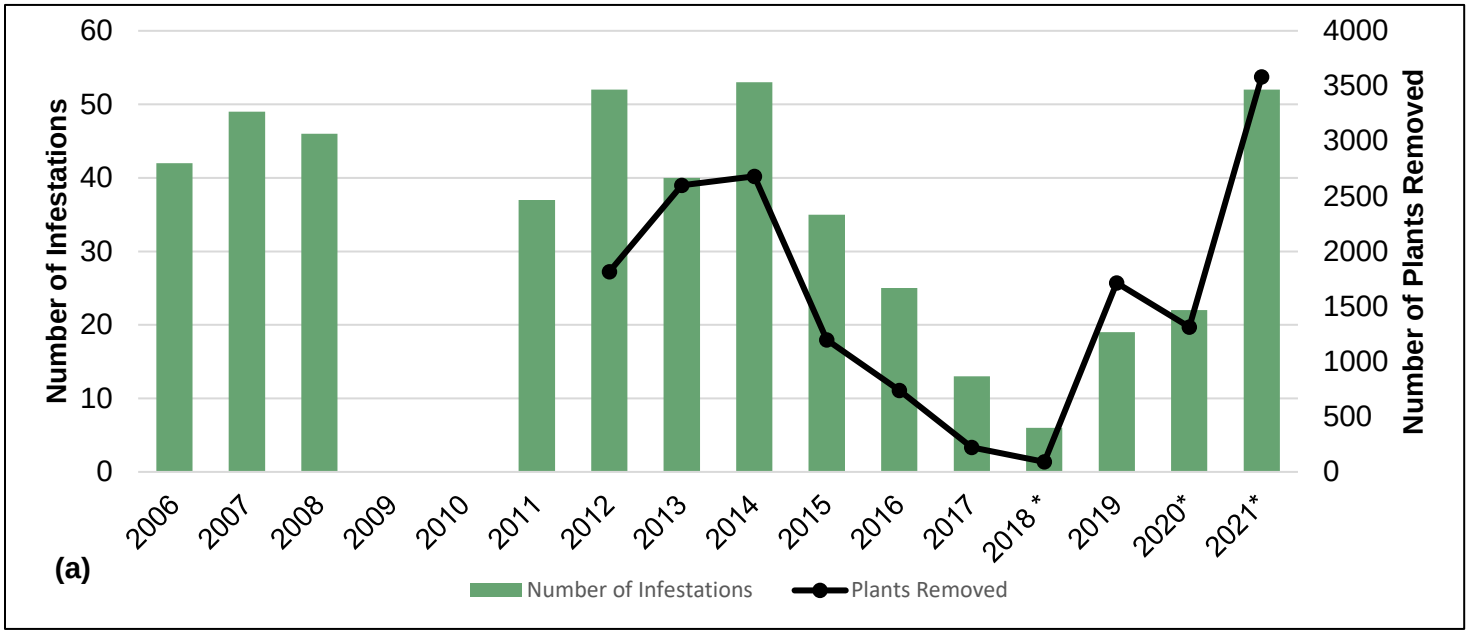
Garlic mustard was mapped and removed from 52 locations. A total of 3,584 plants were removed (Figure 2a).

Reed canary grass is widespread throughout the campground and was not managed.

Wild parsnip was mapped and removed south of the canoe launch, between sites 73 & 74, near both the loop B and loop D shower buildings, and near the RV fill station. One plant was removed from each site for a total of five plants (Figure 2b).

Yellow iris was mapped for the first time at this facility in 2021. A total of 60 plants were removed from the entrance to site 43.

SUMMARY STATS: PROGRESS TO DATE		
PEAK INFESTATION	PLANTS REMOVED	CURRENT CONDITION
3,649		3,649



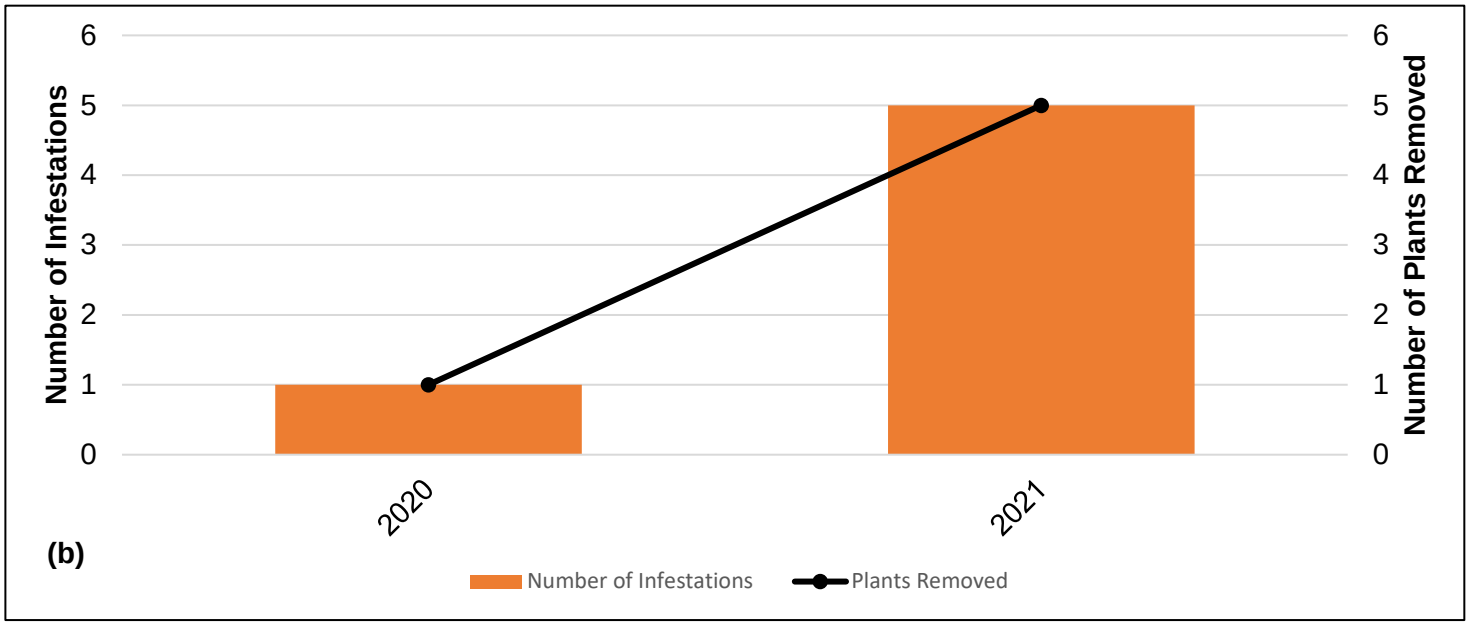


Figure 2 a-b. Garlic mustard (a) and wild parsnip (b) distribution and management progress at Nicks Lake Campground. * indicates years in which control of all known infestations was not completed.

Recommendations:

Early detection for vegetative and flowering wild parsnip should be a priority for 2022 as the species has spread considerable distances from the first identified occurrence. Early detection of yellow iris should also be a priority for 2022 as this specie was first detected this year. Garlic mustard management should remain a priority for this campground, as this species has reached a new peak in 2021. Although bush honeysuckle and reed canary grass are abundant throughout the campground, management is not currently recommended due to their widespread distribution and likely reintroduction.

TNC Conservation Associate Sabine Nix assisted in survey and management efforts at this facility in 2021.

Indian Lake Working Circle

The Indian Lake Working Circle contains eight campgrounds: Brown Tract Pond, Eighth Lake, Forked Lake, Golden Beach, Indian Lake Islands, Lewey Lake, Limekiln Lake, and Tioga Point. The following section provides an overview of survey and management activities for these campgrounds. For a comprehensive summary of these campgrounds – see Appendix Table 2. For a comprehensive summary of terrestrial invasive species distribution across trailheads, fishing access sites, parking areas, and boat launches in all working circles – see Appendix Table 7.

Table 3. Indian Lake Working Circle invasive species distribution and management summary.

Campground	Invasive Plants Present	Total Plants Removed
Brown Tract Pond	Bush honeysuckle Garlic mustard	3 3
Eighth Lake	Garlic mustard Reed canary grass	56 0
Forked Lake	Bush honeysuckle	0
Golden Beach	Bush honeysuckle Garlic mustard	0 278
Indian Lake Islands	Not surveyed in 2021	
Lake Durant	Autumn olive Bush honeysuckle Garlic mustard	0 0 6
Lewey Lake	Bush honeysuckle Garlic mustard Purple loosestrife Reed canary grass	0 181 11 0
Limekiln Lake	Bush honeysuckle Garlic mustard Reed canary grass	0 118 0
Tioga Point	Not surveyed in 2021	
Moose River Plains Wild Forest	Not surveyed in 2021	

Brown Tract Pond

Invasive Species Distribution and Management Overview:

Bush honeysuckle is widespread throughout the campground. Three small plants were removed from site 21.

Garlic mustard was mapped and removed from site 48. In total, three plants were removed (Figure 3). This marks a significant drop from 2019 when basal rosettes were first included in management. A park employee mentioned they remove garlic mustard from the facility every spring, so this may partially account for the general downward trend.

SUMMARY STATS: PROGRESS TO DATE		
PEAK INFESTATION		CURRENT CONDITION
1,103	PLANTS REMOVED	3

Reed canary grass was not observed in 2021 and was possibly misidentified in previous years.

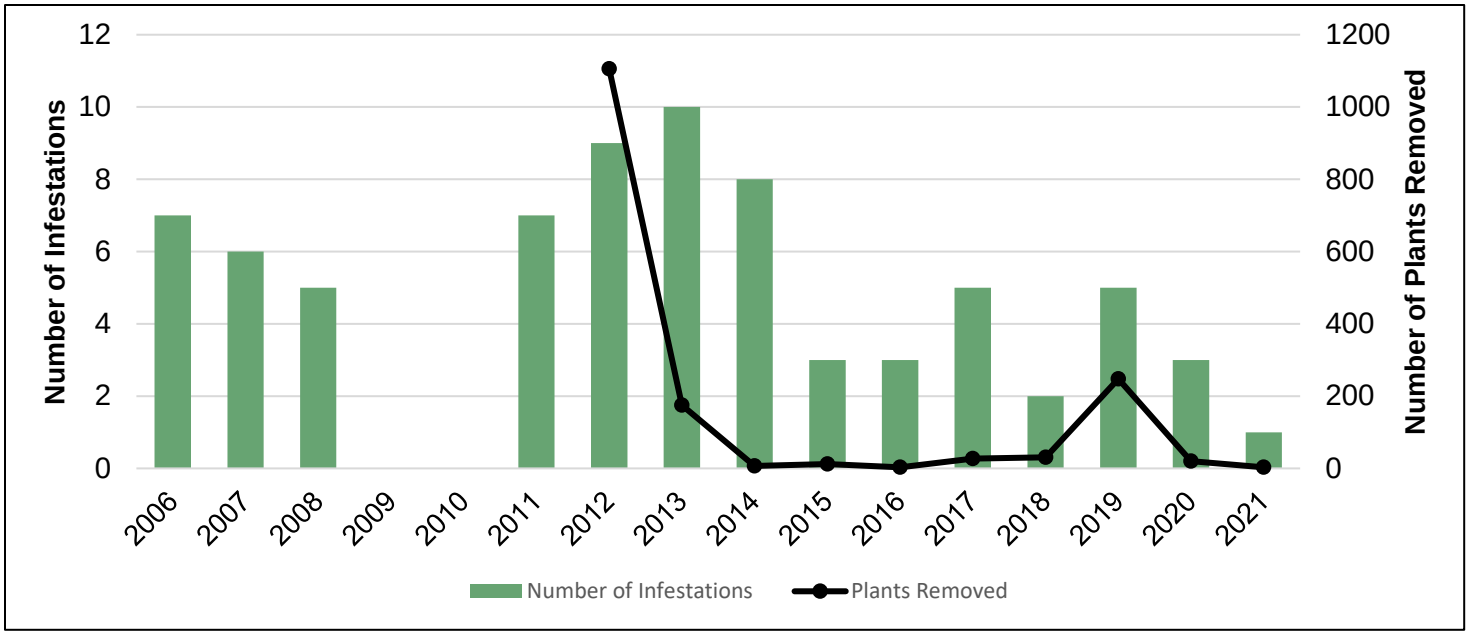


Figure 3. Garlic mustard distribution and management progress at Brown Tract Pond Campground.

Recommendations:

Garlic mustard should remain a priority at this facility. With the inclusion of basal rosettes in management efforts, local eradication seems likely. Bush honeysuckle is found throughout the campground and should be addressed once management of higher priority species has been completed. Reed canary grass should continue to be included in future surveys.

Eighth Lake

Invasive Species Distribution and Management Overview:

Garlic mustard was mapped and managed in sites 37, 65, 75, 80, 97, 107, and the along the trail to Bug Lake. In total, 56 plants were removed from seven locations (Figure 4).

Reed canary grass was mapped around the maintenance garage but was not managed.

SUMMARY STATS: PROGRESS TO DATE		
PEAK INFESTATION	PLANTS REMOVED	CURRENT CONDITION
3,450		56

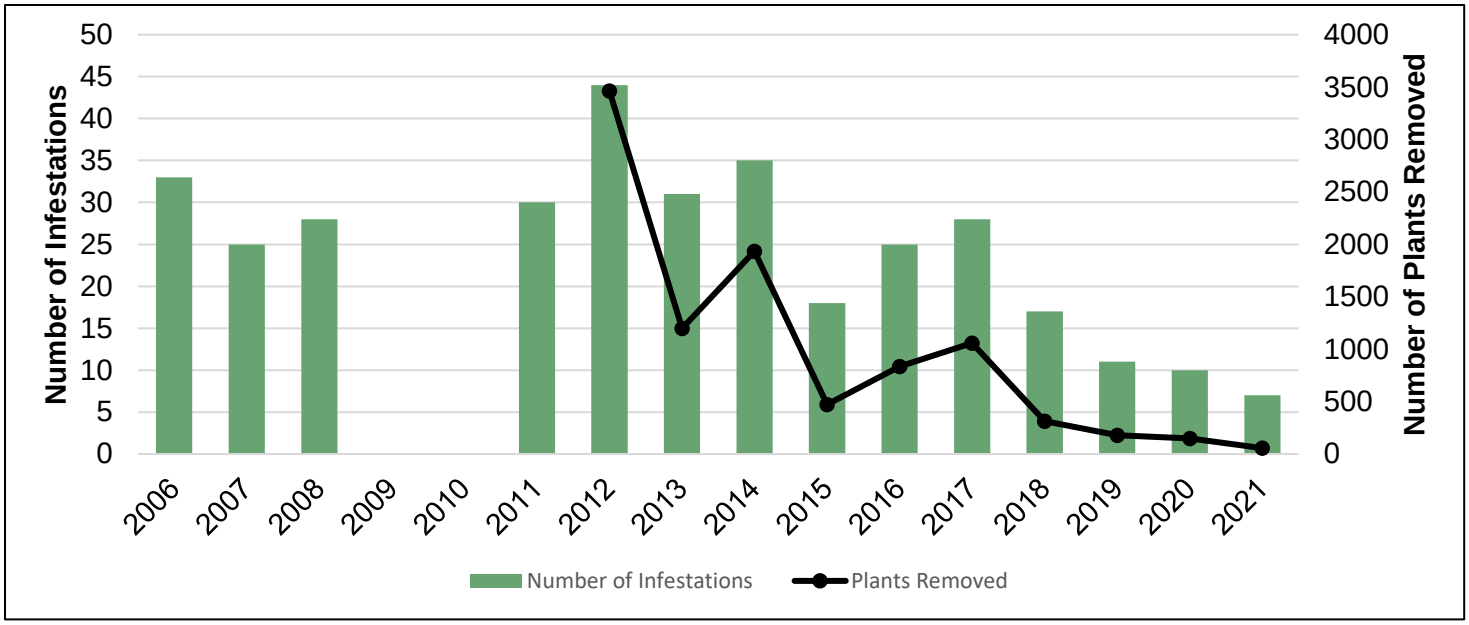


Figure 4. Garlic mustard distribution and management progress at Eighth Lake Campground.

Recommendations:

Garlic mustard should remain a high priority for management. Local eradication is likely through efforts by campground and APIPP staff. Reed canary grass is well established at this facility and management is not recommended at this time.

Forked Lake

Invasive Species Distribution and Management Overview:

Bush honeysuckle is found throughout the main campground area and was not managed.

SUMMARY STATS: PROGRESS TO DATE		
PEAK INFESTATION		CURRENT CONDITION
3	PLANTS REMOVED	0

Recommendations:

Water access sites were surveyed for the first time in 2021 and were not found to contain any target invasive species. Surveys for new target invasive species should continue at this campground while also monitoring for changes in abundance of bush honeysuckle. Management of bush honeysuckle should be considered if resources are available, however, reintroduction via bird dispersed seed is likely.

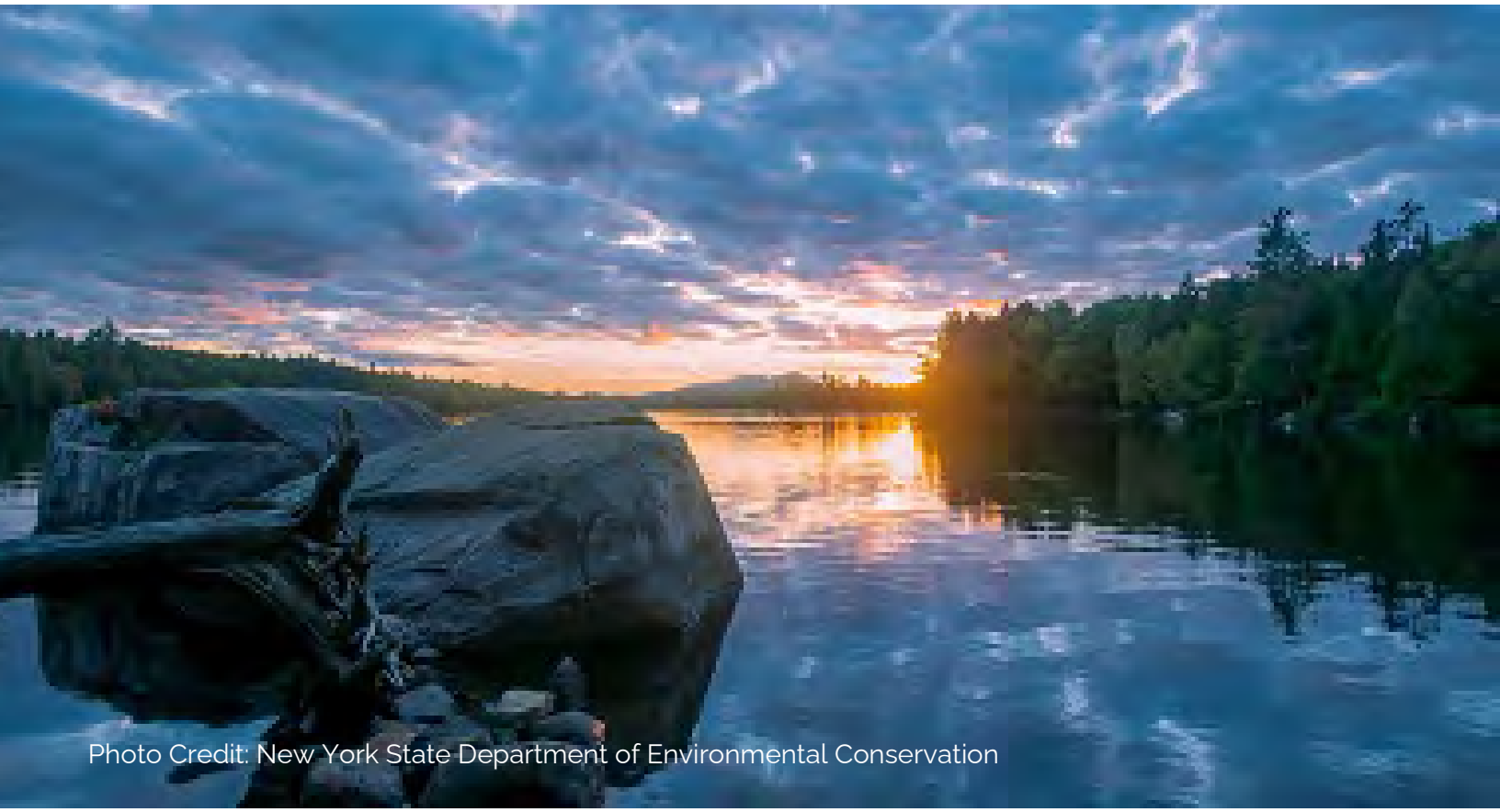


Photo Credit: New York State Department of Environmental Conservation

Golden Beach

Invasive Species Distribution and Management Overview:

Bush honeysuckle is widespread throughout the campground and was not managed.

Garlic mustard was mapped and removed from sites 80, 82, 87, 93, 95, 130, 132, 171, 172, 177, and the bathroom near site 119. In total 278 plants were removed from 11 locations (Figure 5).

Winged euonymus was not observed in 2021, likely due to the removal of the single plant found in 2019.

SUMMARY STATS: PROGRESS TO DATE

PEAK INFESTATION		CURRENT CONDITION
9,000	PLANTS REMOVED	278

Reed canary grass was not observed in 2021 and was possibly misidentified in previous years.

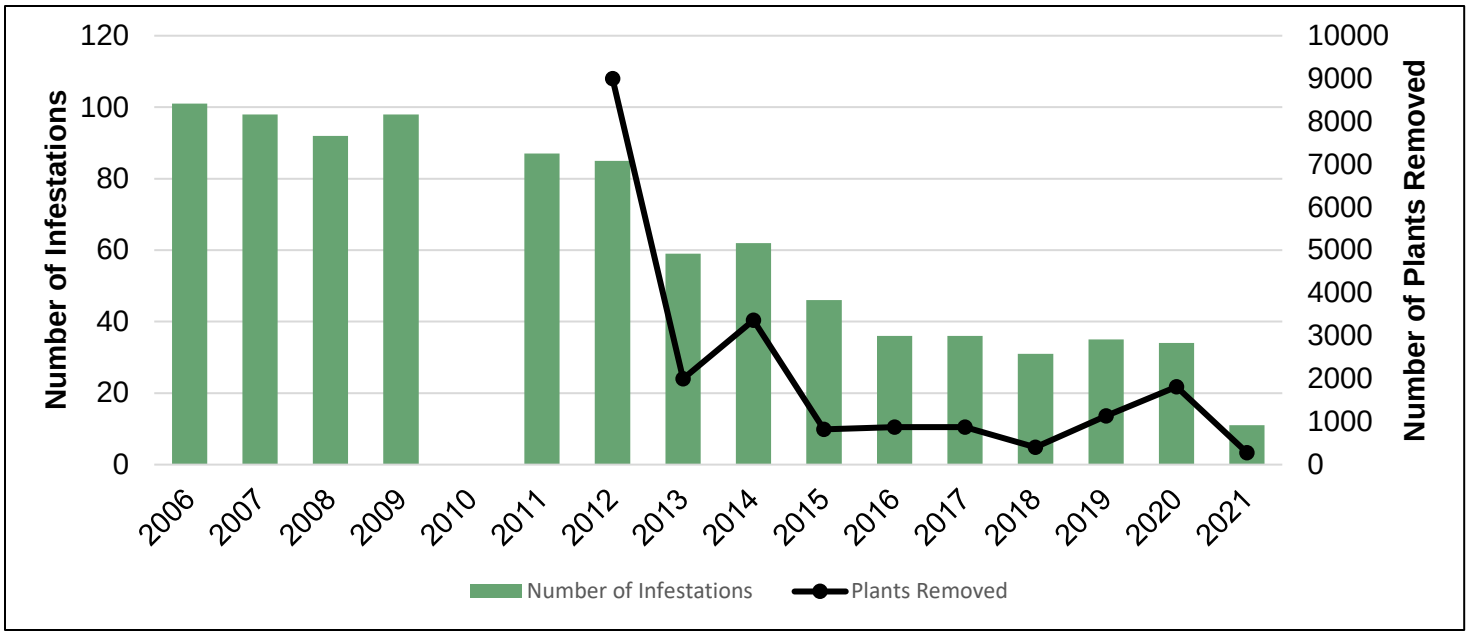


Figure 5. Garlic mustard distribution and management progress at Golden Beach Campground.

Recommendations:

Garlic mustard management should remain the top priority as the number of plants removed has fluctuated since 2018. Winged euonymus should continue to be a survey priority to ensure early management. Bush honeysuckle is abundant throughout the campground and management is not recommended at this time as reintroduction is likely.

Indian Lake Islands

Invasive Species Distribution and Management Overview:

This facility was not surveyed in 2021 due to limited motorboat availability which is required to access the facility. The first survey was performed in 2015 with assistance from a student conservation association (SCA) crew. Purple loosestrife was found in a small bay near site 29. If motorboat resources are available, a survey should be performed in 2022.

Lake Durant

Invasive Species Distribution and Management Overview:

Autumn olive was observed at site 8 but was not removed due to size**.**

Bush honeysuckle is widespread throughout the campground and was not managed.

Garlic mustard was mapped and removed from site 58. In total, six plants were removed from one location (Figure 6a).

Wild parsnip was not observed in 2021.

SUMMARY STATS: PROGRESS TO DATE		
PEAK INFESTATION		CURRENT CONDITION
300	PLANTS REMOVED	6

Photo credit: Reserve America

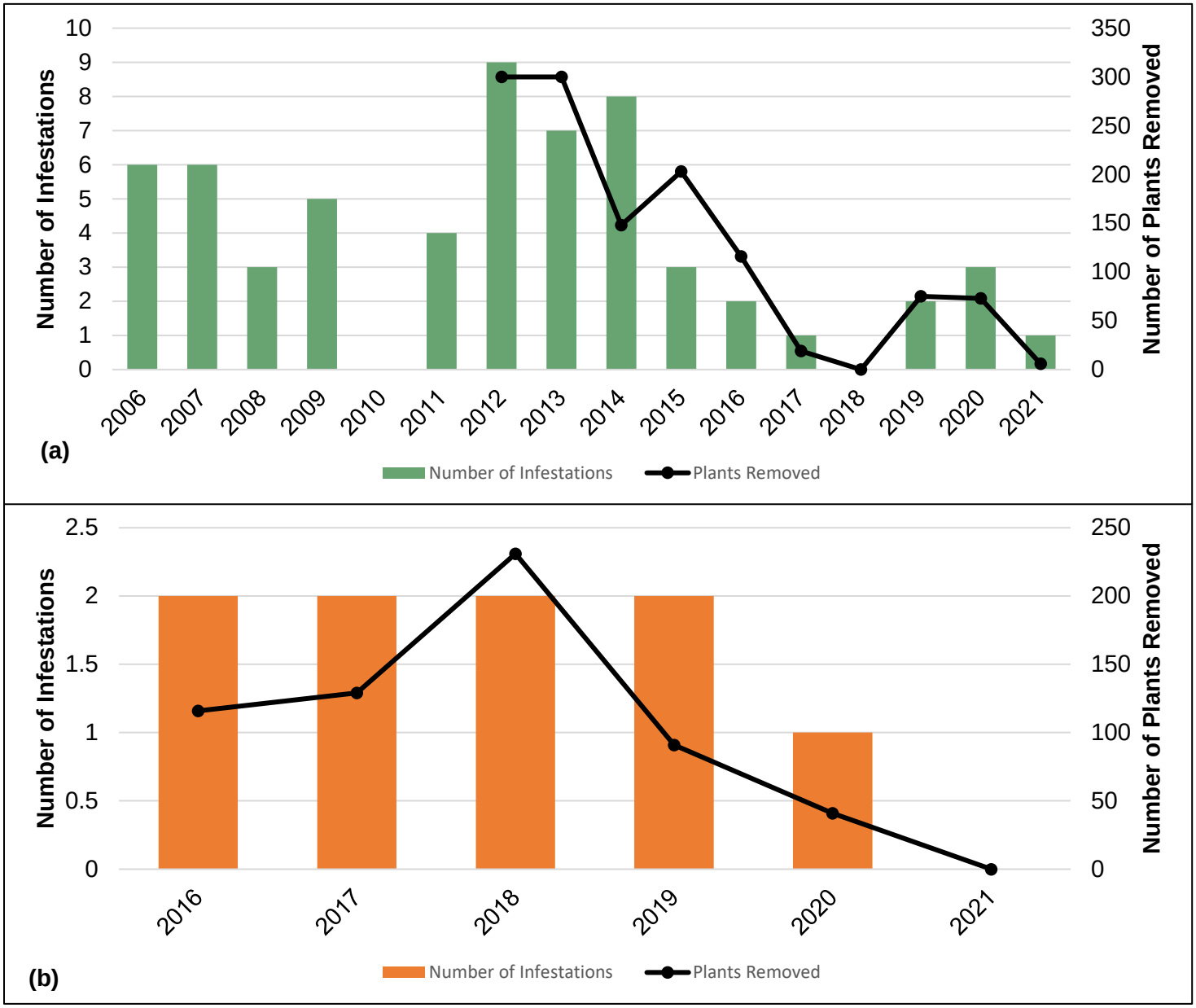


Figure 6 a-b. Garlic mustard (a) and wild parsnip (b) distribution and management progress at Lake Durant Campground.

Recommendations:

Given the reemergence of garlic mustard in 2019, this species should remain a top priority at this facility. Wild parsnip was not observed for the first time in 2021, likely from a combination of manual removal and mowing. Wild parsnip surveys should remain a top priority. Bush honeysuckle is widespread throughout the campground and should be addressed once higher priority species have been managed.

Lewey Lake

Invasive Species Distribution and Management Overview:

Autumn olive was not observed in 2021. Past reports mention the plant near the assistant caretaker's cabin had been mowed.

Bush honeysuckle is scattered throughout campground and was not managed due to size and time constraints.

Garlic mustard was mapped and removed from sites 47, 59, 101, 142, and 149. A total of 181 plants were removed from six locations (Figure 7a).

SUMMARY STATS: PROGRESS TO DATE		
PEAK INFESTATION	PLANTS REMOVED	CURRENT CONDITION
300		192

Purple loosestrife was mapped at sites 18 and 78. In total, 11 plants were removed from site 78. Biocontrol was present in low numbers near site 18 so management was not performed at that site (Figure 7b).

Reed canary grass is widespread throughout the campground and was not managed.

Photo Credit: Reserve America

Figure 7 a-b. Garlic mustard (a) and purple loosestrife (b) distribution and management progress at Lewey Lake Campground. * indicates years in which control of all known infestations was not completed.

Recommendations:

Garlic mustard management should remain a top priority as the number of plants removed at this facility has fluctuated throughout the years. With the presence of *Galerucella* biocontrol noted, purple loosestrife populations should continue to be monitored, and flowerheads should be removed in areas with biocontrol present. The area near sites 18-24 may benefit from biocontrol release in the future to boost current levels of *Galerucella*. Monitoring for autumn olive should continue although repeated mowing will likely be effective management. Bush honeysuckle and reed canary grass are widespread throughout the campground and management is not recommended at this time as reintroduction is likely.

Limekiln Lake

Invasive Species Distribution and Management Overview:

Autumn olive was not observed in 2021.

Bush honeysuckle is scattered throughout the campground and was not managed.

Garlic mustard was mapped and removed from sites 11, 26, 36, and 193. A total of 118 plants were removed from four locations (Figure 8).

Reed canary grass is widespread throughout the campground and was not managed.

SUMMARY STATS: PROGRESS TO DATE

PEAK INFESTATION		CURRENT CONDITION
3,112	PLANTS REMOVED	118

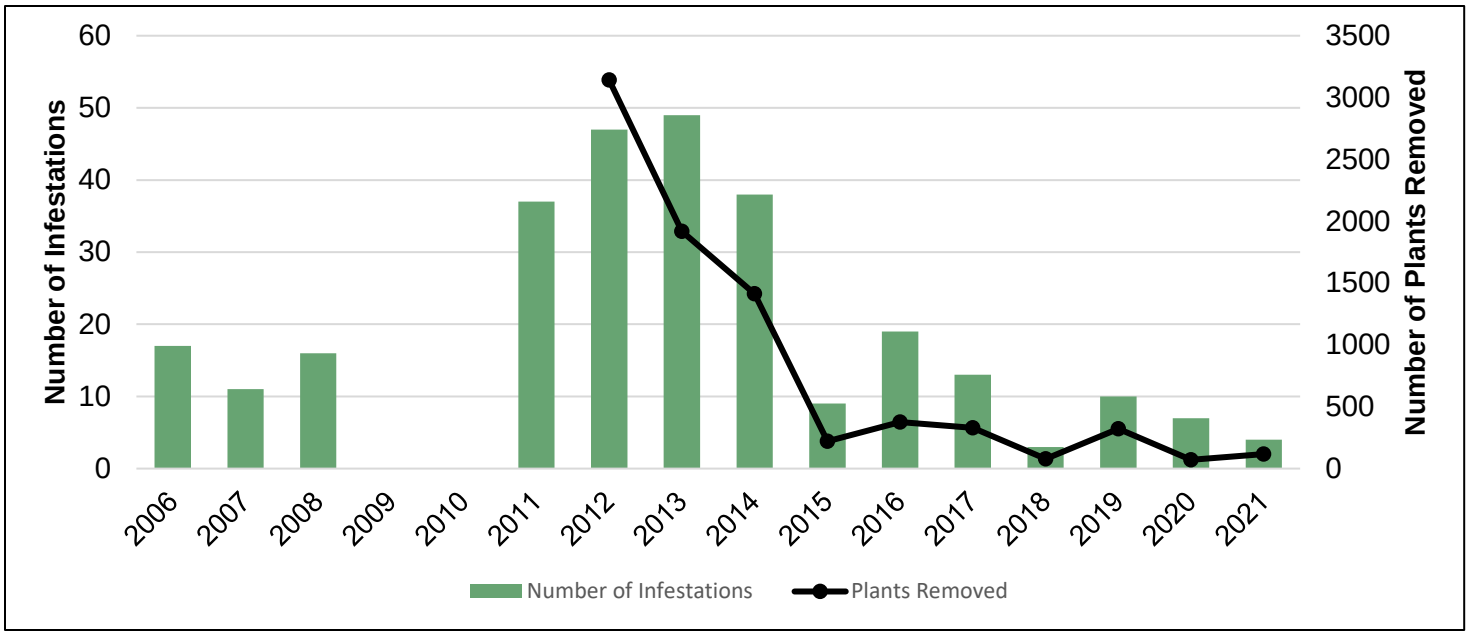


Figure 8. Garlic mustard distribution and management progress at Limekiln Lake Campground.

Recommendations:

Garlic mustard management should continue to be a top priority as the number of plants removed has trended downward but has fluctuated over the years. Autumn olive should continue to be surveyed with management focused on small plants. Bush honeysuckle and reed canary grass are widespread throughout the campground and management is not recommended at this time as reintroduction is likely.

Tioga Point

Invasive Species Distribution and Management Overview:

This facility was not surveyed for terrestrial invasive species in 2021 due to limited motorboat availability which is required to access the facility. The first survey was performed in 2015 and no target invasive species were found. The risk of invasive species introduction is presumed low due to the campground's isolated location. If motorboat resources are available, a survey should be performed in 2022.

Moose River Plains – Primitive Campsites

Invasive Species Distribution and Management Overview:

This facility was not prioritized for survey of terrestrial invasive species in 2021. However, previous surveys show bush honeysuckle, garlic mustard, purple loosestrife, and wild parsnip are present at the facility. Given that top priority invasive species have previously been observed, this facility should be monitored in 2022 if resources are available.

Photo credit: Reserve America

Northville Working Circle

The Northville Working Circle contains six campgrounds: Caroga Lake, Little Sand Point, Moffitt Beach, Northampton Beach, Point Comfort, and Sacandaga. Poplar Point is no longer administered as a campground; however, it is open and accessible as a boat launch. Numbers for this facility are not included in the campground totals but are summarized in this section. This section contains individual reports for each of the campgrounds. For a comprehensive summary of these campgrounds – see Appendix Table 3. For a comprehensive summary of terrestrial invasive species distribution across trailheads, fishing access sites, parking areas, and boat launches in all working circles – see Appendix Table 7.

Table 4. Northville Working Circle distribution and management summary.

Campground	Invasive Plants Present	Total Plants Removed
Caroga Lake	Autumn olive	2
	Bush honeysuckle	0
	Common reed grass	0
	Garlic mustard	31
	Japanese barberry	0
	Japanese knotweed	0
	Multiflora rose	0
	Purple loosestrife	11
	Reed canary grass	0
	Yellow iris	19
Little Sand Point	Bush honeysuckle	0
	Garlic mustard	7
	Japanese knotweed	0
	Reed canary grass	0
Moffitt Beach	Bush honeysuckle	0
	Common reed grass	0
	Garlic mustard	385
	Purple loosestrife	0
	Reed canary grass	0
Northampton Beach	Autumn olive	0
	Bush honeysuckle	0
	Common buckthorn	0
	Norway maple	0
	Oriental bittersweet	0
Point Comfort	Norway maple	0
Poplar Point	Japanese barberry	0
	Oriental bittersweet	0
	Reed canary grass	0
Sacandaga	Autumn olive	0
	Japanese knotweed	0
	Reed canary grass	0

Campground	Invasive Plants Present	Total Plants Removed
Mason Lake Primitive Campsites & Perkins Clearing Tract Conservation Easement	Not surveyed in 2021	

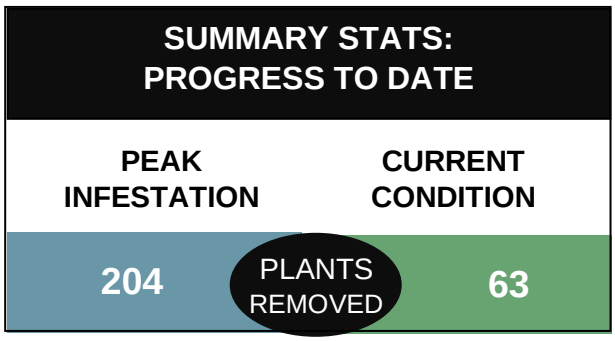
Caroga Lake

Invasive Species Distribution and Management Overview:

Autumn olive was mapped in three locations and two plants were removed near the picnic area.

Bush honeysuckle is widespread throughout the campground and was not managed.

Common reed grass (*Phragmites*) was mapped near a culvert outflow near the beach, a culvert near the boat launch, and near a fire pit dumpsite. Common reed grass was not managed.



Garlic mustard was mapped in sites 28, 30, and 39, with a total of 31 plants removed (Figure 9a).

Japanese barberry was mapped in site 73 and was not managed due to size.

Japanese knotweed was mapped behind sites 155 and 156 and was not managed. This population extends onto adjacent private property.

Multiflora rose was mapped between sites 73 and 81, behind site 85, and near spoils pit. It was not managed due to size and time constraints.

Purple loosestrife was mapped and removed at the mouth of a small inlet near the beach area and near site 85. A total of 11 plants were removed but a large portion of plants had evidence of biocontrol and were left to provide habitat (Figure 9b).

Reed canary grass was mapped in sites 104 and 62 and was not managed.

Yellow iris was mapped and removed along the lake shore near the boat launch, near the swimming area, and near the parking spot for site 85. A total of 19 plants were removed from three locations (Figure 9c).

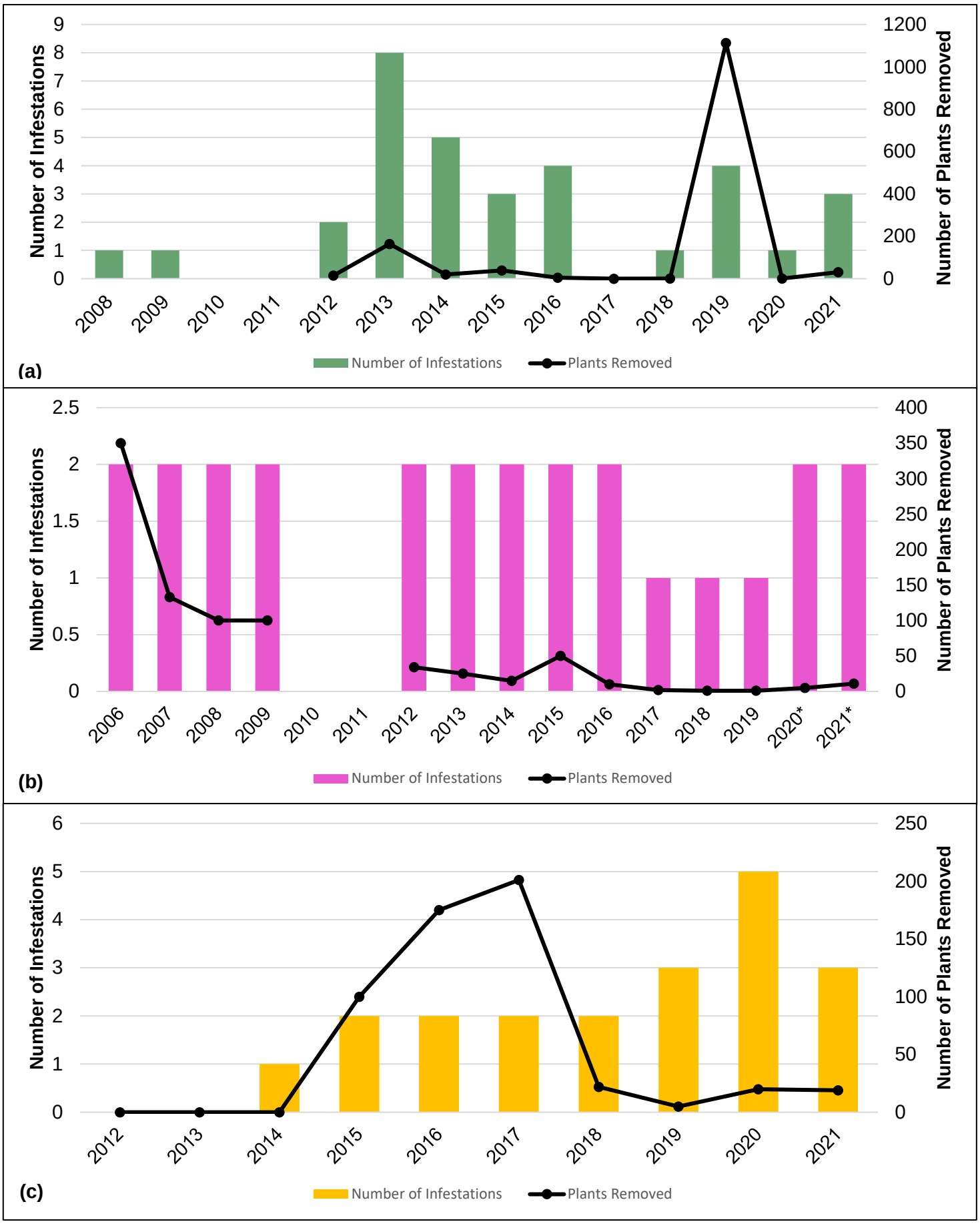


Figure 9 a-c. Garlic mustard (a), purple loosestrife (b) and yellow iris (c) distribution and management progress at Caroga Lake Campground. * indicates years in which control of all known infestations was not completed.

Recommendations:

Garlic mustard management should remain a top priority for this facility in 2022. Yellow iris should also continue to be a top priority as the number of infestations has fluctuated in recent years. Purple loosestrife populations should continue to be monitored, but the presence of *Galerucella* biocontrol should limit management to removing flowerheads and isolated plants when necessary. Common reed grass and knotweed should be prioritized for chemical treatment in 2022. The remaining woody species and reed canary grass are not high priority and are not recommended for management at this time.

Photo credit: New York State Department of Environmental Conservation

Little Sand Point

Invasive Species Distribution and Management Overview:

Bush honeysuckle is widespread throughout the campground and was not managed.

Garlic mustard was mapped at site 23. A total of seven plants were removed from this site.

Japanese barberry has not been observed at this facility since 2018.

Japanese knotweed was mapped in sites 5 and 6. This infestation has been greatly reduced from previous years due to chemical application.

Reed canary grass was mapped near sites 31-38 and was not managed.

SUMMARY STATS: PROGRESS TO DATE		
PEAK INFESTATION	PLANTS REMOVED	CURRENT CONDITION
229		7

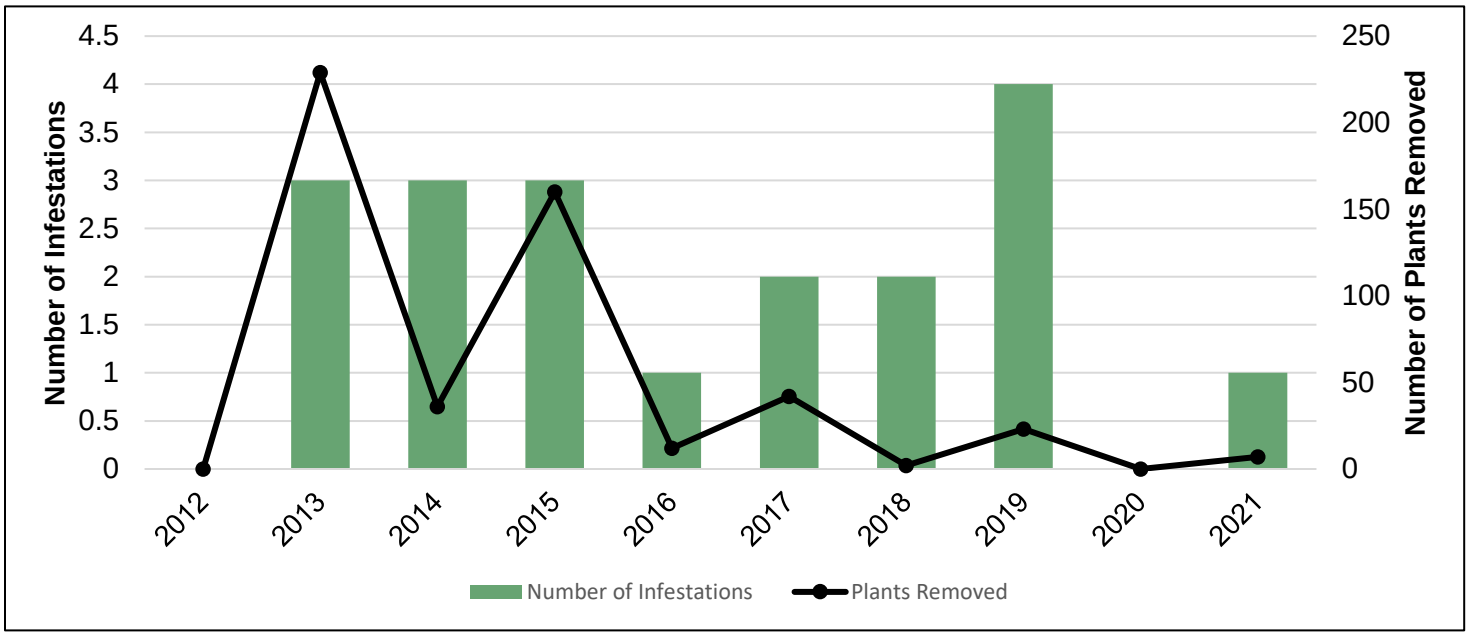


Figure 10. Garlic mustard distribution and management progress at Little Sand Point Campground.

Recommendations:

Garlic mustard surveys should remain a top priority at this facility to ensure reemerging plants are not overlooked. Previous chemical treatment of knotweed has greatly reduced infestations and should continue in order to facilitate local eradication. Japanese barberry surveys should continue in 2022 to ensure local eradication. Bush honeysuckle and reed canary grass are abundant throughout the campground and management is not currently recommended.

Moffitt Beach

Invasive Species Distribution and Management Overview:

Autumn olive was not found in 2021 and was potentially misidentified in previous years.

Bush honeysuckle is found sporadically throughout campground.

Common reed grass (*Phragmites*) was mapped near site 106 along the beach.

Garlic mustard was mapped and removed from sites 178, 180, 182, between sites 208 & 209, 214, 224, and 258-259. A total of 385 plants were removed from eight locations (Figure 11a).

SUMMARY STATS: PROGRESS TO DATE		
PEAK INFESTATION	PLANTS REMOVED	CURRENT CONDITION
2,112		385

Purple loosestrife was mapped along the lakeshore across from site 32, near the waste area, within the waste area, and in a wet area along sites 102-105. Management was not performed in 2021 due to the presence of biocontrol (Figure 11b).

Reed canary grass is widespread throughout campground and was not managed.

Wild parsnip was not observed for a third consecutive year and is now considered locally eradicated. (Figure 11c).

Photo credit: New York State Department of Environmental Conservation

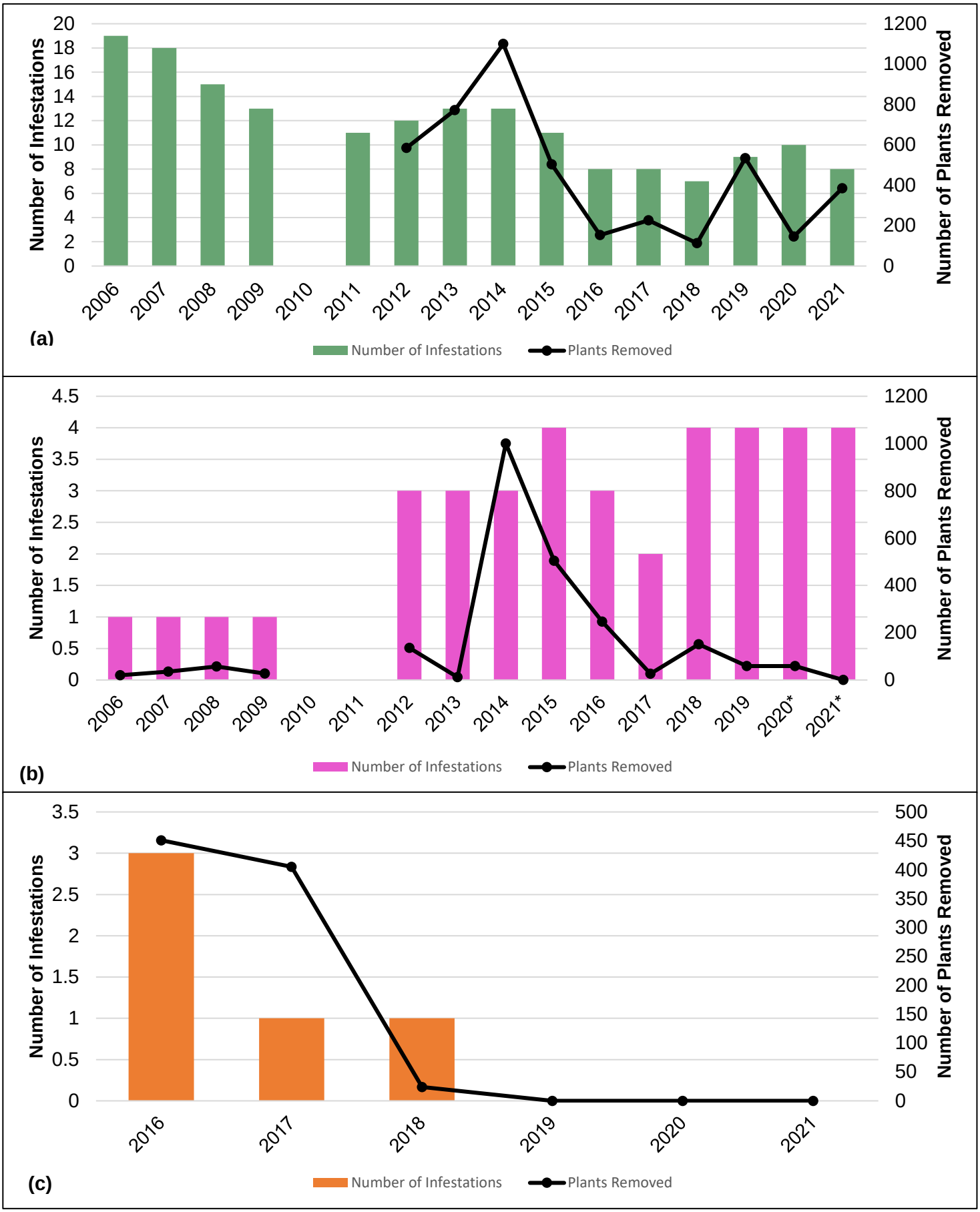


Figure 11 a-c. Garlic mustard (a), purple loosestrife (b), and wild parsnip (C) distribution and management progress at Moffit Beach Campground. * indicates years in which control of all known infestations was not completed.

Recommendations:

Garlic mustard management remains the top priority at this facility as the number of infestations has fluctuated since 2018. With the presence of *Galerucella* biocontrol, purple loosestrife monitoring should continue to be a top priority with management limited to removing flower heads and isolated plants when necessary. Populations of *Galerucella* should continue to be monitored as a potential source for future collections.

APIPP Manager Tammara Van Ryn and APIPP Terrestrial Invasive Species Project Coordinator Rebecca Bernacki assisted with biocontrol insect collection at this facility in 2021. The collected *Galerucella* were then released at Lake Harris Campground and the Town of Newcomb Boat Launch.

Photo credit: APIPP staff

Northampton Beach

Invasive Species Distribution and Management Overview:

Autumn olive is found sporadically throughout the campground and was not managed.

Bush honeysuckle is widespread throughout the campground and was not managed.

Common buckthorn is widespread throughout the campground and was not managed.

Garlic mustard was not observed in 2021. A single plant was removed in 2019 (Figure 12).

SUMMARY STATS: PROGRESS TO DATE		
PEAK INFESTATION	PLANTS REMOVED	CURRENT CONDITION
38		0

Japanese barberry was last observed in 2015 and is presumed to be locally eradicated.

Norway maple was mapped near site 203 and was not managed due to size.

Oriental bittersweet is found sporadically throughout the campground and was not managed.

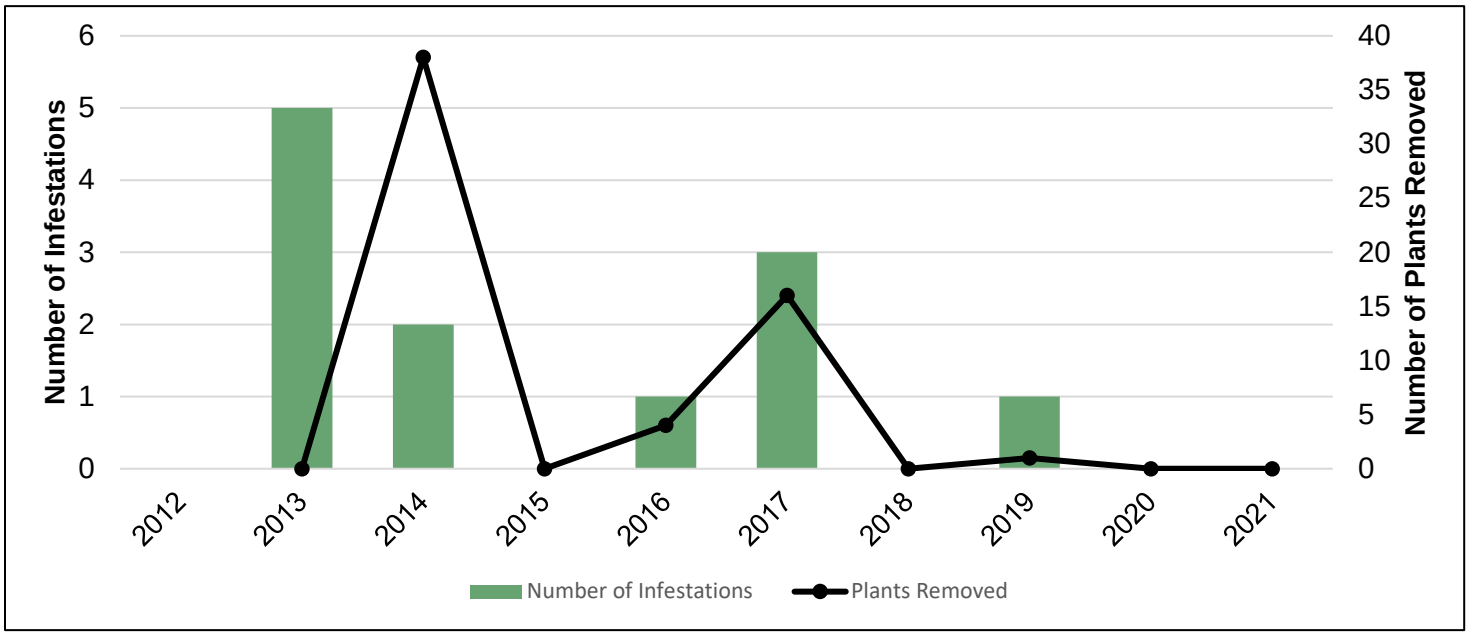


Figure 12. Garlic mustard distribution and management progress at Northampton Beach Campground.

Recommendations:

Garlic mustard surveillance should remain a top priority at this facility, as local eradication is likely with sustained efforts. It is recommended that the Oriental bittersweet be chemically treated via cut stem to help prevent it from becoming widespread throughout the campground. The remaining woody species are not high priority and are not recommended for management at this time.

Point Comfort

Invasive Species Distribution and Management Overview:

Bush honeysuckle has been mapped historically but was not observed in 2021 for the second consecutive year.

Garlic mustard was not observed in 2021. A single plant was removed in 2019 (Figure 13).

Norway maple was first observed this year near the bathroom buildings across from site 57 and was not managed due to size.

SUMMARY STATS: PROGRESS TO DATE		
PEAK INFESTATION		CURRENT CONDITION
16	PLANTS REMOVED	0

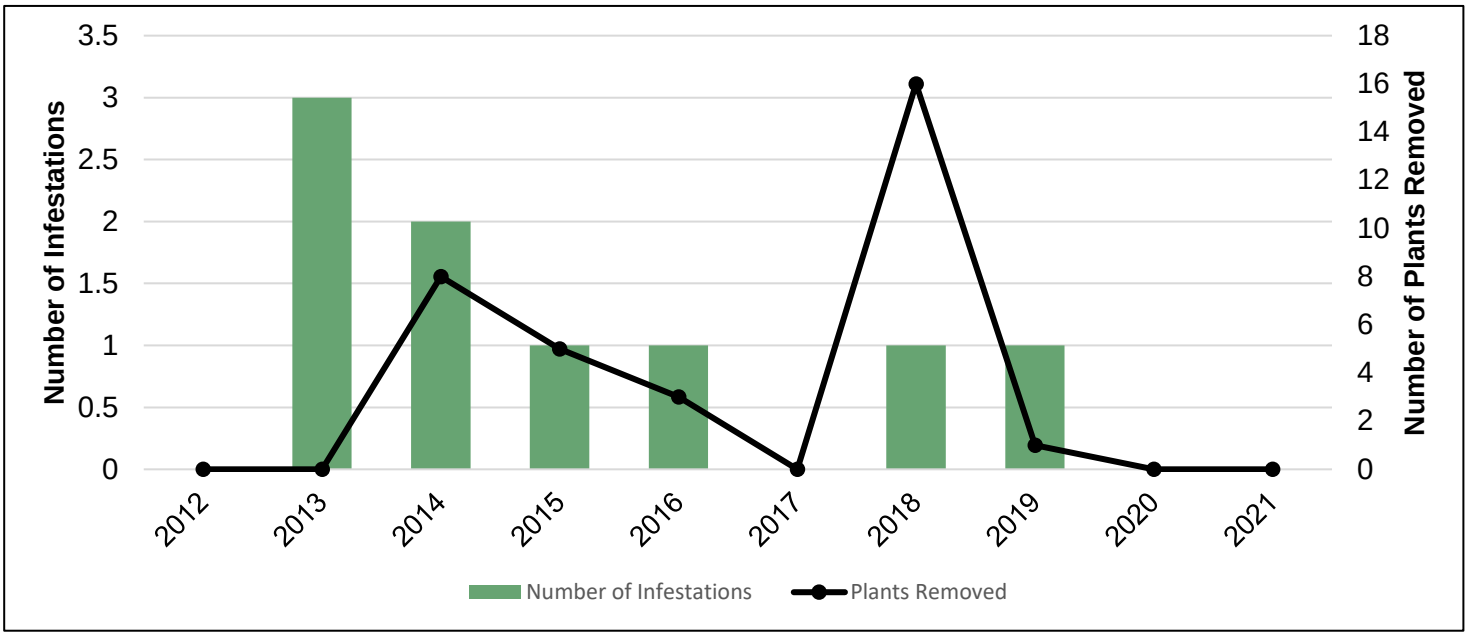


Figure 13. Garlic mustard distribution and management progress at Point Comfort Campground.

Recommendations:

Garlic mustard surveillance should remain a top priority at this facility as local eradication is likely with sustained efforts. Early detection surveys for other target invasive species should be continued in the future. Management of Norway maple is not recommended as the population is well established.

Poplar Point

*This facility is no longer administered as a campground; however, it is open and accessible as a boat launch. Numbers for this facility are not included in the campground totals.

Invasive Species Distribution and Management Overview:

Garlic mustard was not observed in 2021. Three plants were removed in 2020 (Figure 14a).

Japanese barberry was mapped in site 21 and was not managed due to size.

Japanese knotweed has not been observed at the facility since 2016 and is presumed locally eradicated.

SUMMARY STATS: PROGRESS TO DATE		
PEAK INFESTATION		CURRENT CONDITION
21	PLANTS REMOVED	0

Oriental bittersweet was found in a dense patch near the boat steward shed at the boat launch and was not managed due to size and time constraints.

Purple loosestrife was not observed in 2021 for the fourth consecutive year and is presumed to be locally eradicated (Figure 14b).

Reed canary grass was mapped along the main campground road and was not managed.

Photo credit: See Swim

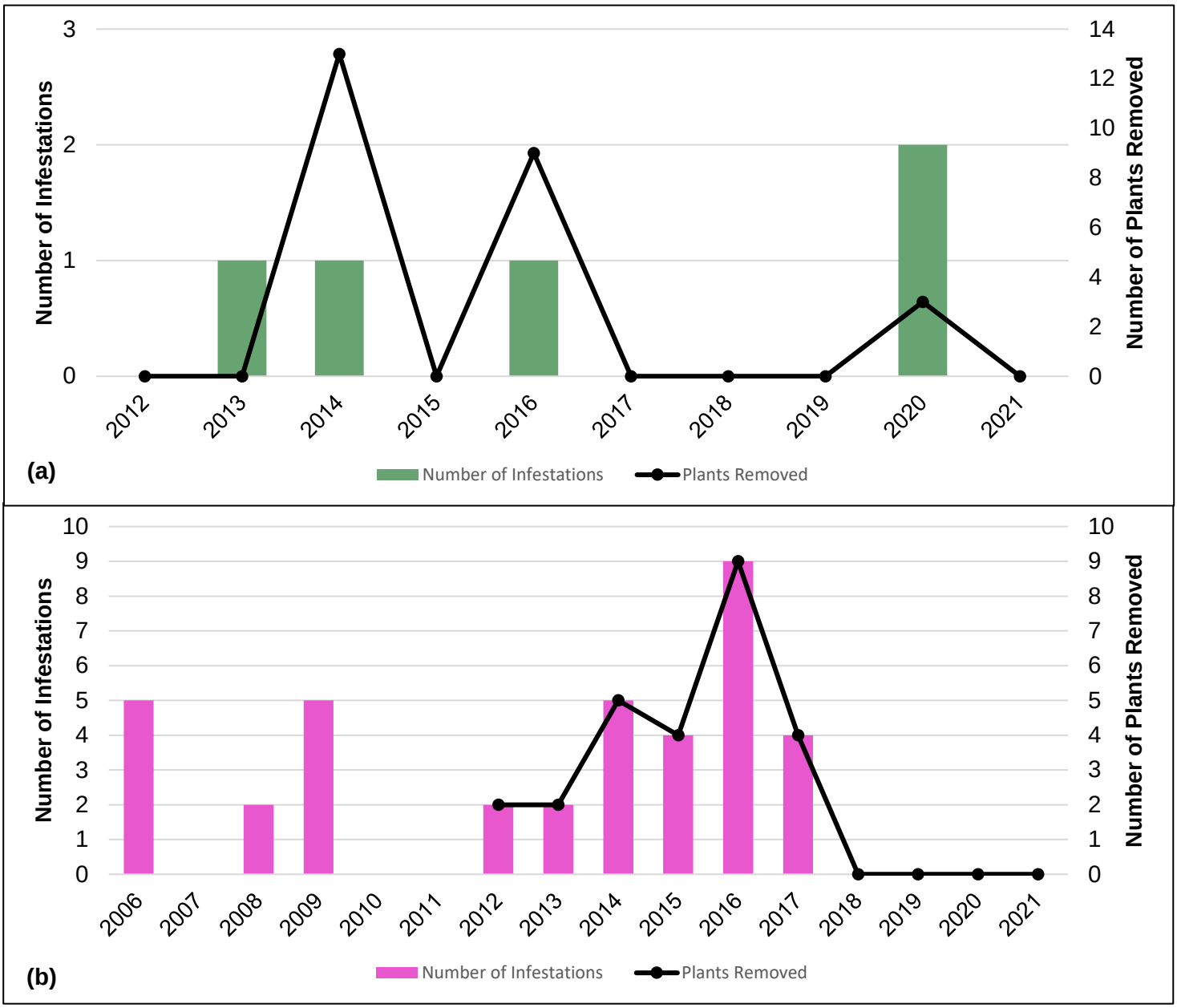


Figure 14 a-b. Garlic mustard (a) and purple loosestrife (b) distribution and management progress at Poplar Point Campground.

Recommendations:

Garlic mustard management should remain a top priority at this facility as sustained efforts will likely lead to local eradication. Purple loosestrife should also be a top monitoring priority to ensure infestations do not reemerge. It is recommended to cut any larger Japanese barberry to prevent their spread once higher priority species are addressed. Chemical treatment of the Oriental bittersweet using a cut-stump method is recommended. As the reed canary grass is well established and reintroduction is likely, management is not recommended at this time.

Sacandaga

Invasive Species Distribution and Management Overview:

Autumn olive was mapped along the road to the trailer dump station and was not managed due to size.

Bush honeysuckle was not observed at this facility in 2021 after management in 2020.

Garlic mustard was last observed in 2013 and is deemed locally eradicated (Figure 15).

Japanese knotweed was mapped at sites 30, 32, and 34. Infestation size was greatly reduced due to chemical treatments.

Reed canary grass is growing along the river at sites 142-143 and was not managed.

SUMMARY STATS: PROGRESS TO DATE		
PEAK INFESTATION	PLANTS REMOVED	CURRENT CONDITION
2		0

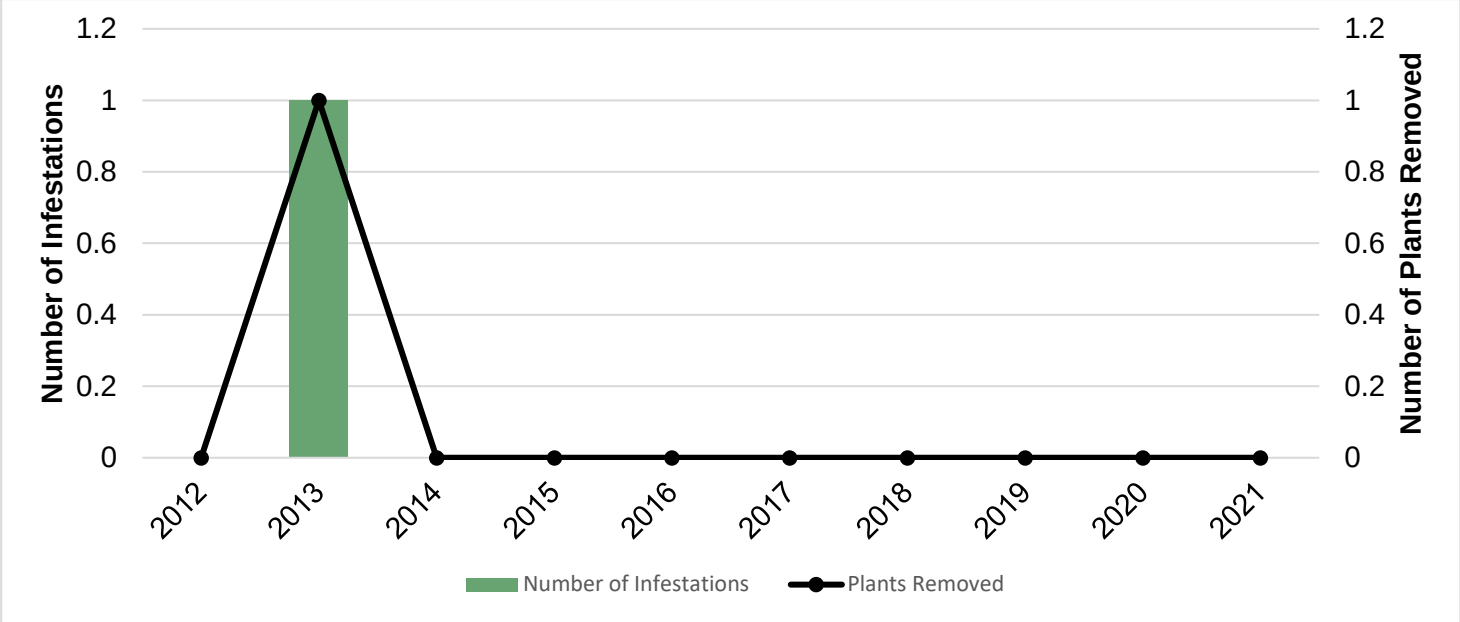


Figure 15. Garlic mustard distribution and management progress at Sacandaga Campground.

Recommendations:

Japanese tree lilac was observed just upstream from this facility in 2021 and should be monitored along the river in future years. Although garlic mustard is deemed locally eradicated, survey efforts should continue to quickly address any reemergence. It is recommended that the knotweed herbicide treatments continue as the area of the infestation is greatly reduced. Bush honeysuckle monitoring should continue with management of isolated individuals.

Mason Lake Primitive Campsites & Perkins Clearing Tract Conservation Easement

Invasive Species Distribution and Management Overview:

This facility was not prioritized for survey 2021. The area was most recently surveyed in 2019. This facility should be surveyed in 2022 if resources are available. Garlic mustard, purple loosestrife, and wild parsnip have been mapped previously.

Photo credit: AndyArthur.org

Potsdam Working Circle

The Potsdam Working Circle contains one campground, Cranberry Lake. This section contains the individual report for the campground. For a comprehensive summary of the campground – see Appendix Table 4. For a comprehensive summary of terrestrial invasive species distribution across trailheads, fishing access sites, parking areas, and boat launches in all working circles – see Appendix Table 7.

Table 5. Potsdam Working Circle distribution and management summary.

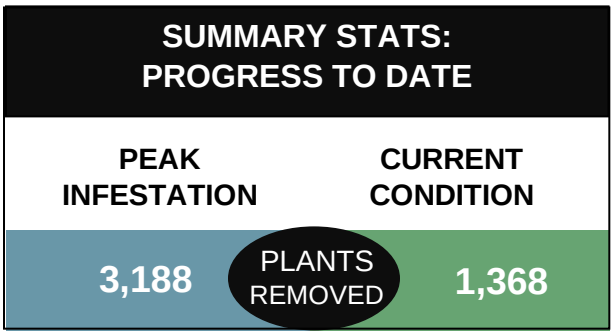
Campground	Invasive Plants Present	Total Plants Removed
Cranberry Lake	Common buckthorn Garlic mustard Japanese knotweed Reed canary grass	0 1,367 1 0

Cranberry Lake

Invasive Species Distribution and Management Overview:

Bush honeysuckle was not observed in 2021.

Common buckthorn was mapped at site 55 and was not managed due to size.



Garlic mustard was mapped and removed from sites 24, 99, 136, 141, 148, near the amphitheater parking lot, near the peninsula loop bathroom, and near the bathroom closest to site 21. One infestation in the maintenance parking lot was not managed as the plants had already set seed. A total of 1,367 plants were removed from eight sites (Figure 16).

Japanese knotweed was mapped for the first time at this facility in 2021. One single plant was removed near the bathroom closest to site 21.

Reed canary grass is growing sporadically throughout the campground and was not managed

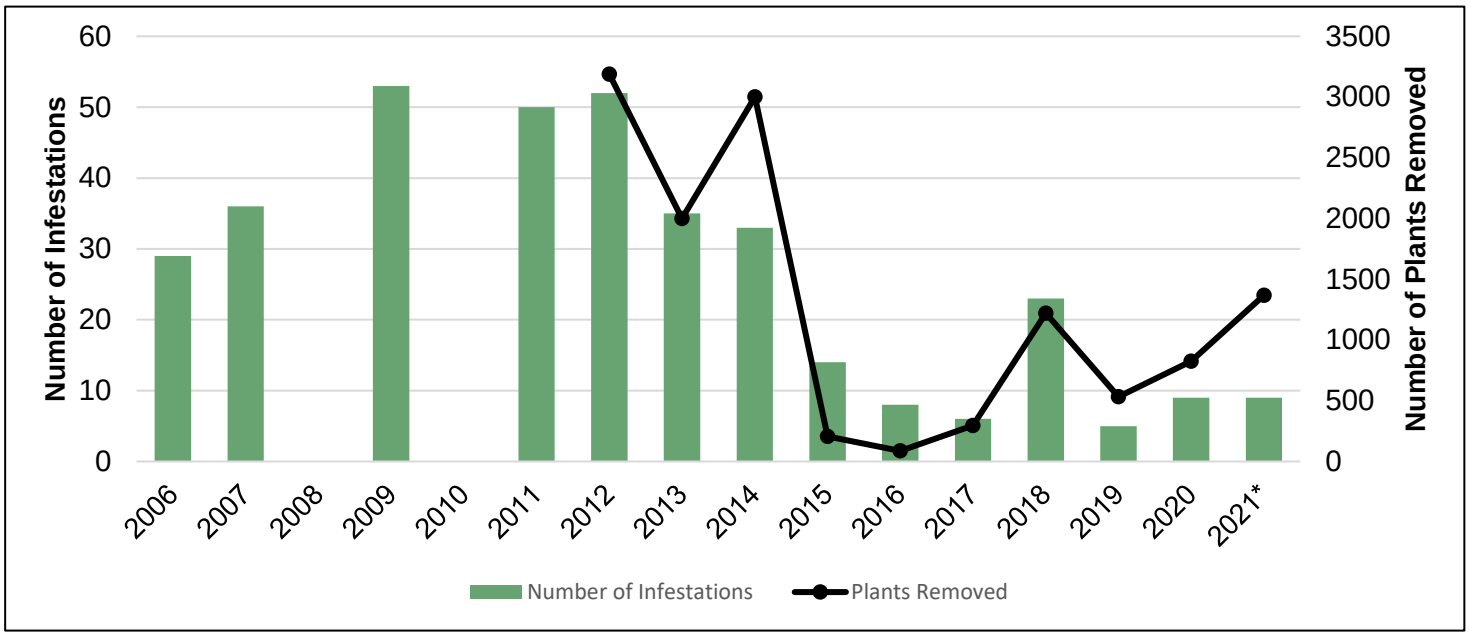


Figure 16. Garlic mustard distribution and management progress at Cranberry Lake Campground. * indicates years in which control of all known infestations was not completed.

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Recommendations:

While garlic mustard remains below peak infestation levels, the number of plants removed has increased in recent years and management should remain a top priority at this facility. Local eradication may be possible with ongoing efforts. With the introduction of Japanese knotweed, surveying for this species should be a top priority for early detection. Management of woody shrubs and reed canary grass is not recommended at this time given the likelihood of reintroduction.

APIPP Aquatic Invasive Species Coordinator Brian Greene assisted in survey and management efforts at this facility in 2021.

Ray Brook Working Circle

The Ray Brook Working Circle contains 16 campgrounds: Ausable Point, Buck Pond, Crown Point, Fish Creek Pond, Lake Eaton, Lake Harris, Lincoln Pond, Meacham Lake, Meadowbrook, Paradox Lake, Putnam Pond, Rollins Pond, Saranac Lake Islands, Sharp Bridge, Taylor Pond, and Wilmington Notch. Poke-O-Moonshine is no longer administered as a campground; however, it is open and accessible as a day use facility. Numbers for this facility are not included in the campground totals but are summarized in this section. This section contains the individual reports for each of the campgrounds. For a comprehensive summary of these campgrounds – see Appendix Table 5. For a comprehensive summary of terrestrial invasive species distribution across trailheads, fishing access sites, parking areas, and boat launches in all working circles – see Appendix Table 7.

Table 6. Ray Brook Working Circle distribution and management summary.

Campground	Invasive Plants Present	Total Plants Removed
Ausable Point	Bush honeysuckle	0
	Common buckthorn	0
	Glossy buckthorn	0
	Japanese barberry	0
	Oriental bittersweet	0
	Purple loosestrife	1
	Reed canary grass	0
	Wild Parsnip	1
Buck Pond	None observed in 2021	
Crown Point	Autumn olive	0
	Bush honeysuckle	0
	Common buckthorn	0
	Common reed grass	0
	Garlic mustard	0
	Oriental bittersweet	0
	Purple loosestrife	80
	Reed canary grass	0
	Wild parsnip	78
Fish Creek Pond	Bush honeysuckle	0
	Norway maple	0
	Reed canary grass	0
Frontier Town	Bush honeysuckle	0
	Purple loosestrife	2
	Reed canary grass	0
Lake Eaton	Garlic mustard	4
	Reed canary grass	0
Lake Harris	Bush honeysuckle	0
	Purple loosestrife	212
	Reed canary grass	0
Lincoln Pond	Bush honeysuckle	0
	Oriental bittersweet	0
	Purple loosestrife	109
	Reed canary grass	0

Campground	Invasive Plants Present	Total Plants Removed
Meacham Lake	Japanese knotweed Purple loosestrife Reed canary grass Wild parsnip	0 7 0 7
Meadowbrook	Autumn olive Bush honeysuckle	0 0
Paradox Lake	Bush honeysuckle Garlic mustard Purple loosestrife Reed canary grass	0 314 15 0
Poke-O-Moonshine	Common buckthorn Oriental bittersweet	0 0
Putnam Pond	Garlic mustard Multiflora rose Reed canary grass	21 0 0
Rollins Pond	Bush honeysuckle Winged euonymus	0 0
Saranac Lake Islands	Not surveyed in 2021	
Sharp Bridge	Bush honeysuckle Purple loosestrife Reed canary grass	0 0 0
Taylor Pond	Purple loosestrife Reed canary grass	133 0
Wilmington Notch	None observed in 2021	

Ausable Point

Invasive Species Distribution and Management Overview:

Bush honeysuckle is widespread throughout the campground and was not managed.

Common buckthorn is widespread throughout the campground and was not managed.

Glossy buckthorn was observed for a second year in one site near the beach area and was not managed.

Japanese barberry was mapped in site 31 and was not managed due to size.

SUMMARY STATS: PROGRESS TO DATE		
PEAK INFESTATION	PLANTS REMOVED	CURRENT CONDITION
1000		2

Oriental bittersweet is widespread throughout the campground and was not managed.

Purple loosestrife was mapped along the campground entrance road, as well as in sites 99 and 101. A total of one plant was removed within the main campground (Figure 17). Plants were largely left unmanaged due to biocontrol presence, and some areas requiring a canoe or kayak were not accessed this year.

Reed canary grass was mapped near the campground entrance and was not managed.

Wild parsnip was observed for the first time at this campground, with one plant being removed near the day use parking lot entrance.

Photo credit: Reserve America

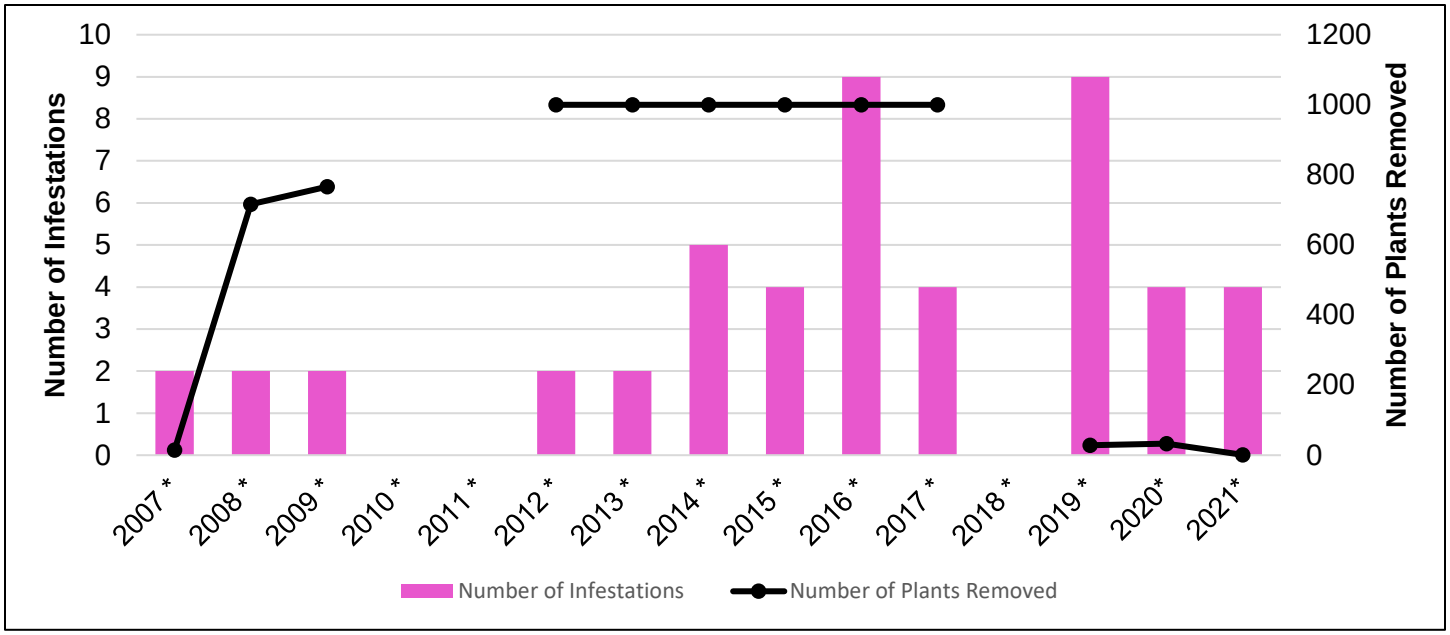


Figure 17. Purple loosestrife distribution and management progress at Ausable Point Campground. * indicates years in which control of all known infestations was not completed.

Recommendations:

As a new observation of wild parsnip was recorded at this campground in 2021, management of wild parsnip should be a top priority in 2022. Monitoring of purple loosestrife and levels of *Galerucella* presence should continue to be another top priority at this facility. Given the historic management data, it is recommended that current low levels of remaining loosestrife be left to provide habitat for *Galerucella*. Given that Oriental bittersweet, reed canary grass, and the woody shrub species are widely distributed, management of these species is not recommended at this time.

Buck Pond

Invasive Species Distribution and Management Overview:

No target invasive species were observed at this campground in 2021 for the tenth consecutive year. Surveys should continue to ensure early detection and rapid response for new infestations.

Crown Point

Invasive Species Distribution and Management Overview:

Autumn olive was mapped between sites 57 and 58 and was not managed due to size.

Bush honeysuckle is found growing sporadically throughout the facility but was not managed.

Common buckthorn was mapped near the lighthouse and was not managed.

Common reed grass (*Phragmites*) was mapped in a ditch along Bridge Road.

SUMMARY STATS: PROGRESS TO DATE		
PEAK INFESTATION		CURRENT CONDITION
1,860	PLANTS REMOVED	158

Garlic mustard was mapped in sites 14 and 16 but it was too late in the season for management as the plants had already begun to senesce (Figure 18a).

Japanese barberry was observed in 2020 but could not be located in 2021.

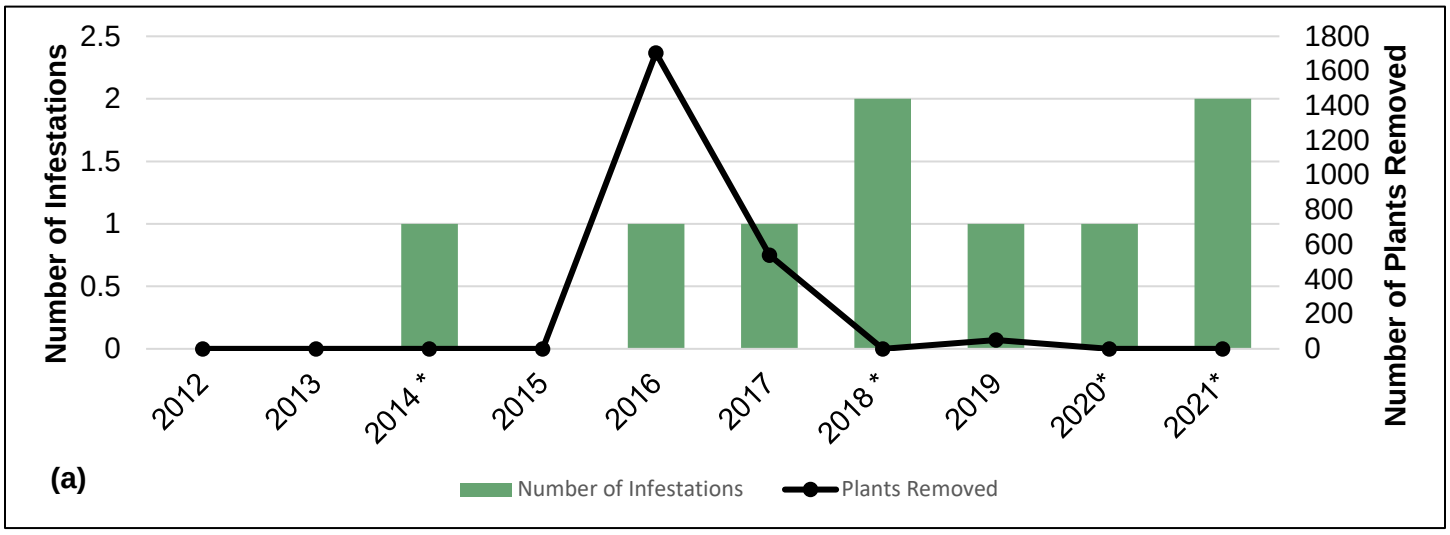
Oriental bittersweet was mapped near the lean-to and was not managed due to size.

Purple loosestrife was mapped and removed in site 58, in the field next to the lighthouse, downhill from the lighthouse and brick building along the shore, near the maintenance area bathroom, down the stairs from site 35, and near the boat dock (biocontrol present). A total of 80 plants were removed from six sites (Figure 18b).

Reed canary grass is widespread throughout the campground and was not managed.

Wild parsnip was mapped and removed from the road to the boat launch, sites 3, 6, 9, 15, downhill from the lighthouse, and at the maintenance center. A total of 78 plants were removed from seven locations.

Yellow iris was not observed in 2021 (Figure 18d).



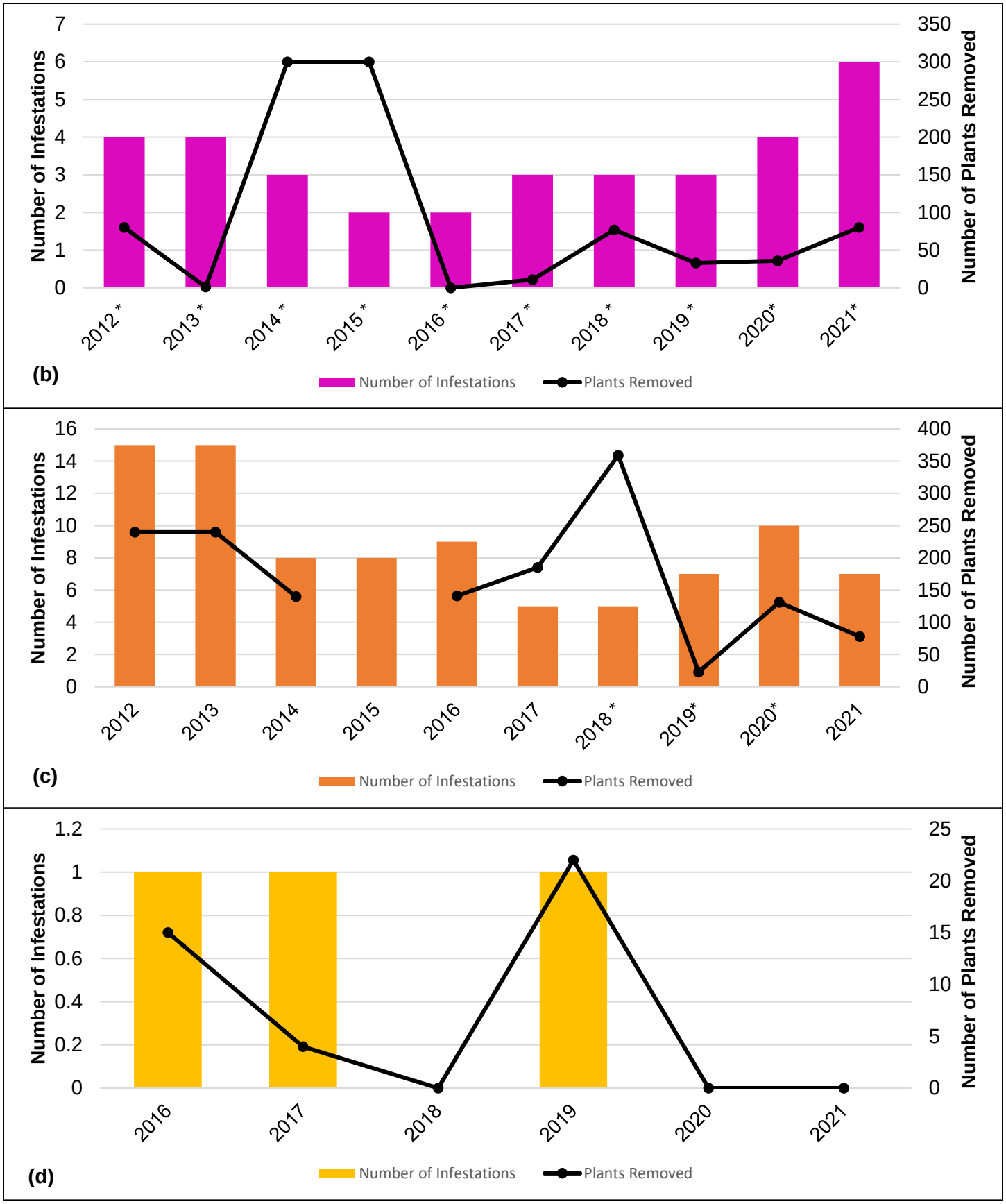


Figure 18 a-d. Garlic mustard (a), purple loosestrife (b), wild parsnip (c) and yellow iris (d) distribution and managemen progress at Crown Point Campground. * indicates years in which control of all known infestations was not completed.

Recommendations:

Garlic mustard management efforts should be prioritized earlier in the season before plants set seed. Purple loosestrife management should remain a priority in areas without *Galerucella* presence. As wild parsnip numbers dropped in 2021, management should remain a priority to ensure numbers continue to go down. Yellow iris monitoring along the shore should continue as well. Management of the woody species is not recommended at this time. Mechanical treatment of common reed grass is ineffective and should be prioritized for chemical control in 2022.

Photo credit: New York State Department of Environmental Conservation

Fish Creek Pond

Invasive Species Distribution and Management Overview:

Bush honeysuckle was mapped near the boat launch bridge and in site 137 and was not managed due to size.

Norway maple was mapped near the boat launch and was too large for management.

Purple loosestrife was not observed in 2021 for the second consecutive year (Figure 19).

Reed canary grass is growing along the bike path near State Rte. 30 and was not managed.

SUMMARY STATS: PROGRESS TO DATE		
PEAK INFESTATION	PLANTS REMOVED	CURRENT CONDITION
8		0

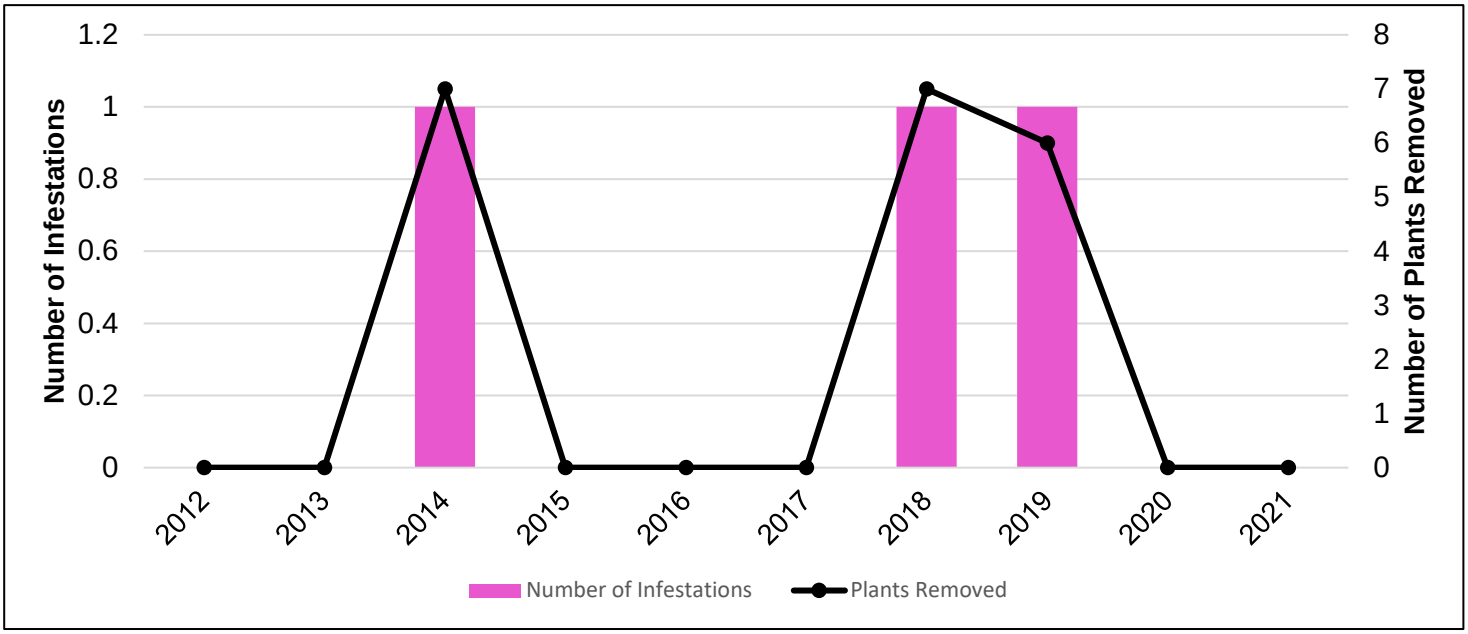


Figure 19. Purple loosestrife distribution and management progress at Fish Creek Pond Campground.

Recommendations:

Purple loosestrife should remain the top survey and management priority at this facility. Local eradication is likely possible with sustained efforts as numbers have been historically low. The woody species should become the focus once purple loosestrife is eradicated, but management is not recommended at this time.

TNC Office Manager Bethany Pelkey assisted in survey and management efforts at this facility in 2021.

Frontier Town

Invasive Species Distribution and Management Overview:

Bush honeysuckle is growing near the bathrooms in the day use area and was not managed due to size.

Purple loosestrife was observed near maintenance building 22. A total of two plants were removed from this one location (Figure 20).

Reed canary grass is widespread throughout campground and was not managed.

SUMMARY STATS: PROGRESS TO DATE		
PEAK INFESTATION	PLANTS REMOVED	CURRENT CONDITION
3		2

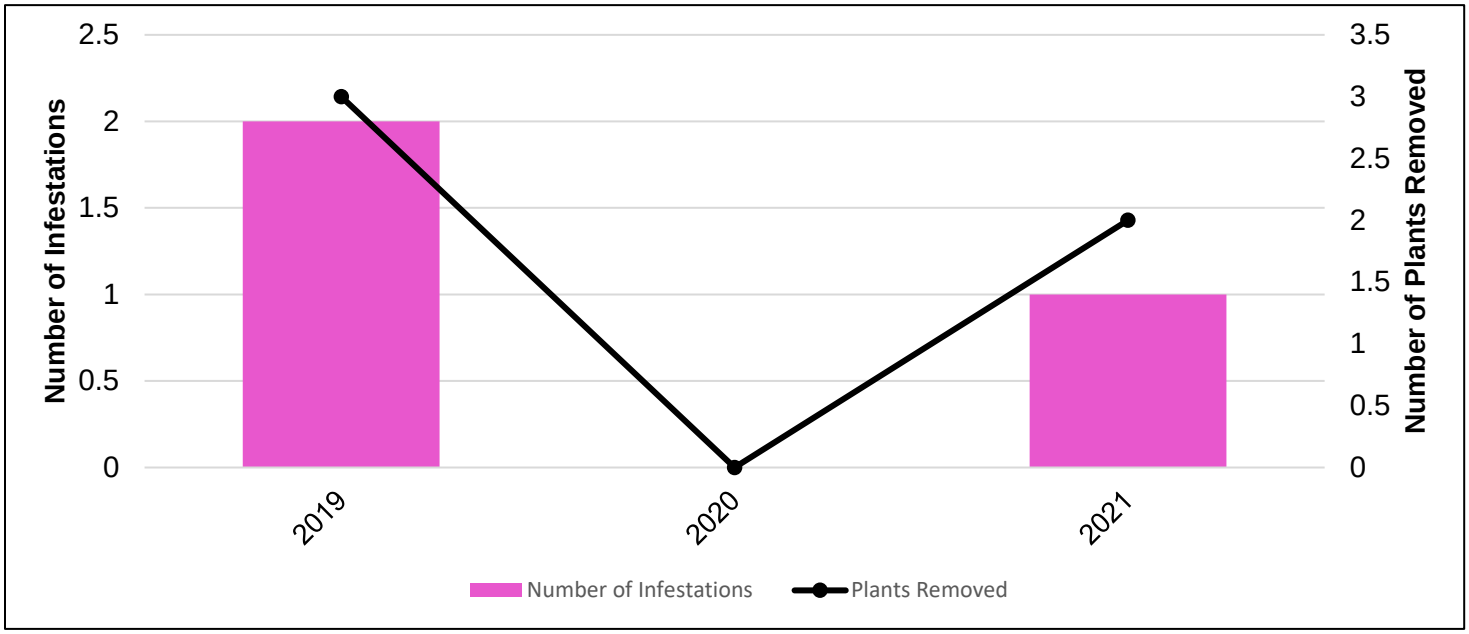


Figure 20. Purple loosestrife distribution and management progress at Frontier Town Campground.

Recommendations:

The first survey of this facility took place in 2019 after it initially opened to the public. As purple loosestrife was observed in 2019 and again in 2021, it should remain a top priority to ensure quick management of reemerging plants. Early detection of new invasive species is important at this facility as construction and increased visitor use serve as likely sources of invasive plant material.

Lake Eaton

Invasive Species Distribution and Management Overview:

Bush honeysuckle was not observed for the fourth consecutive year and is presumed to be locally eradicated.

Garlic mustard was observed for the first time in six years. Four plants were pulled from site 27 (Figure 21).

Reed canary grass was observed between sites 78 and 79, and between site 7 and the boat launch parking.

SUMMARY STATS: PROGRESS TO DATE		
PEAK INFESTATION	PLANTS REMOVED	CURRENT CONDITION
250		4

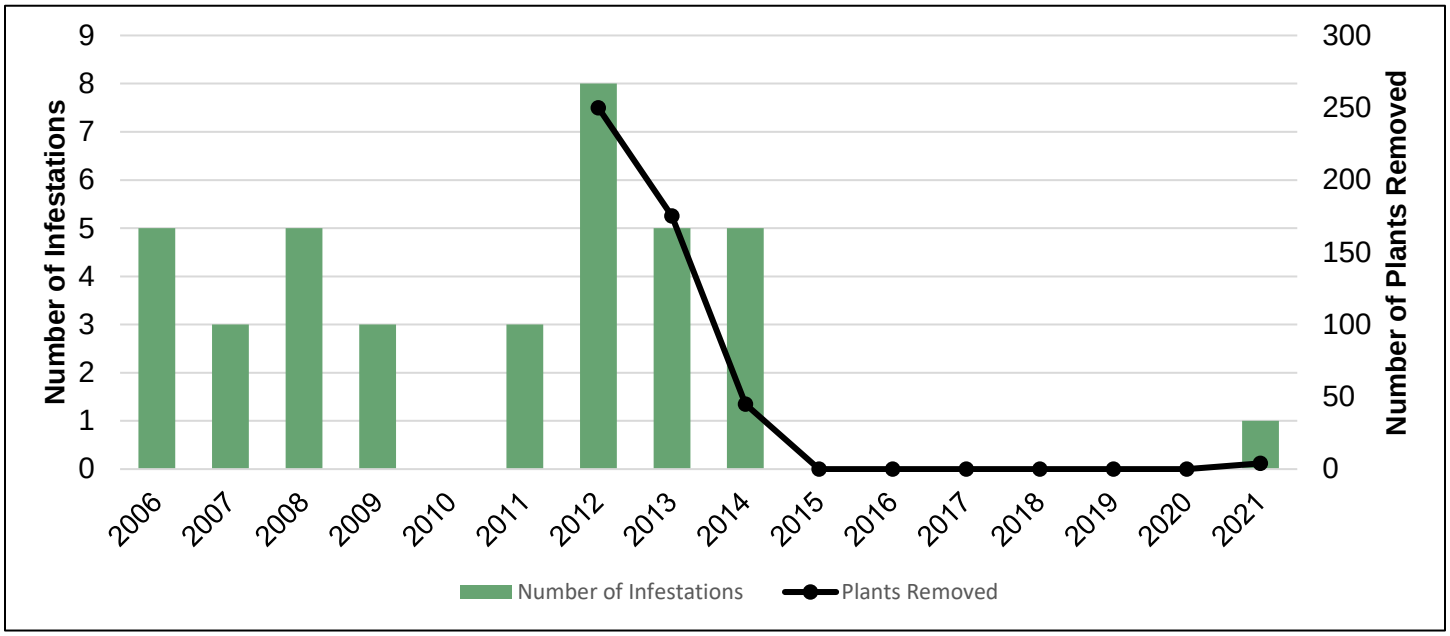


Figure 21. Garlic mustard distribution and management progress at Lake Eaton Campground.

Recommendations:

Garlic mustard surveillance should remain a priority at this campground to ensure quick management of any reemerging plants. Early detection surveys should continue for new species. Management of reed canary grass is not recommended at this time as reintroduction is likely.

Lake Harris

Invasive Species Distribution and Management Overview:

Bush honeysuckle is scattered throughout the campground and was not managed.

Purple loosestrife was mapped along the lakeshore between sites 12-20, at site 9, and near a small boat launch on the eastern shore. A total of 212 plants were removed near the boat launch (Figure 22). Flower heads were removed in areas with biocontrol presence.

Reed canary grass was mapped near the former lifeguard cabin and was not managed.

SUMMARY STATS: PROGRESS TO DATE		
PEAK INFESTATION	PLANTS REMOVED	CURRENT CONDITION
1,155		212

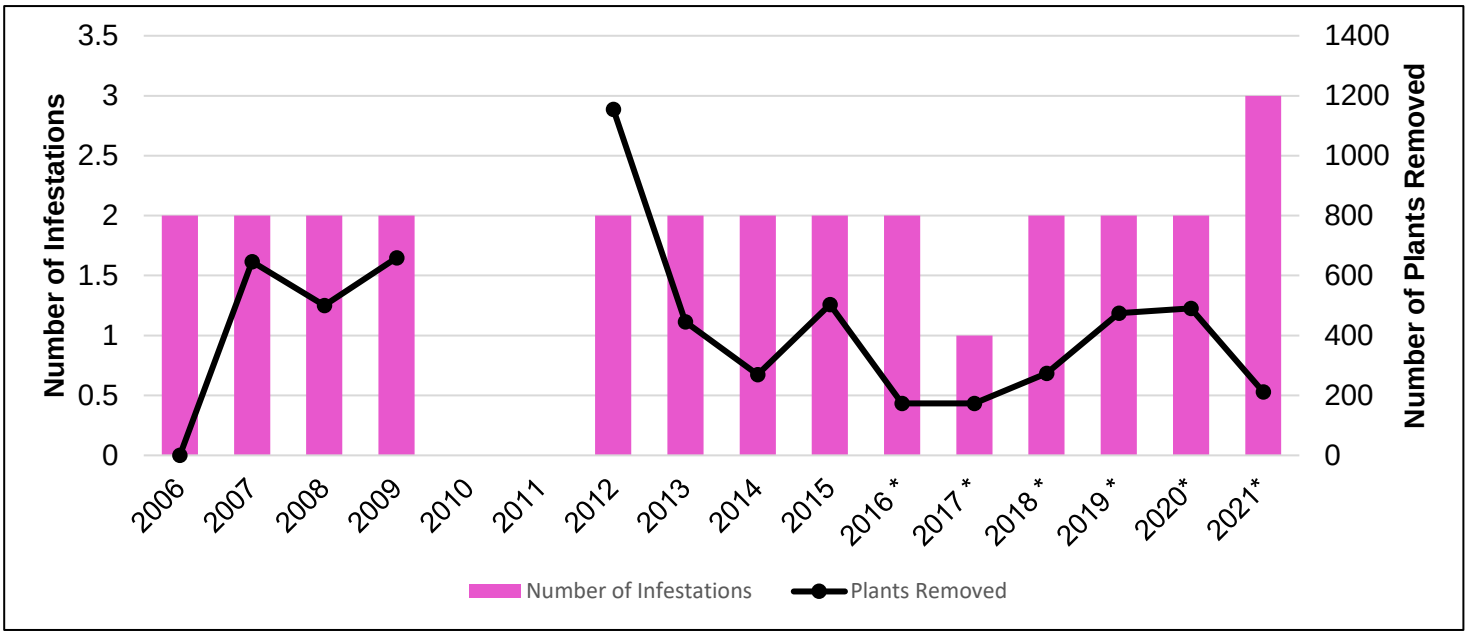


Figure 22. Purple loosestrife distribution and management progress at Lake Harris Campground. * indicates years in which control of all known infestations was not completed.

Recommendations:

Purple loosestrife management should remain a top priority at this facility with the consideration for biocontrol release in the future. Management of bush honeysuckle and reed canary grass is not recommended at this time as reintroduction is likely.

APIPP Terrestrial Invasive Species Project Coordinator Rebecca Bernacki assisted with release of *Galerucella* at this facility in 2021.

Lincoln Pond

Invasive Species Distribution and Management Overview:

Bush honeysuckle was mapped at sites 8 and 23 and was not managed due to size.

Common buckthorn was not observed this year. This species was possibly misidentified in 2019.

Garlic mustard was not observed for the fifth consecutive year and is considered locally eradicated (Figure 23a).

Oriental bittersweet was mapped near site 17 and was not managed due to size.

SUMMARY STATS: PROGRESS TO DATE		
PEAK INFESTATION		CURRENT CONDITION
172	PLANTS REMOVED	109

Purple loosestrife was mapped and removed near the canoe/kayak rental area. Purple loosestrife was also observed and managed for the first time between sites R26 and R27, on the lakeshore north of R27, and at site R31. A total of 109 plants were removed from four locations (Figure 23b).

Reed canary grass is growing sporadically throughout the campground and was not managed.

Photo credit: See/Swim

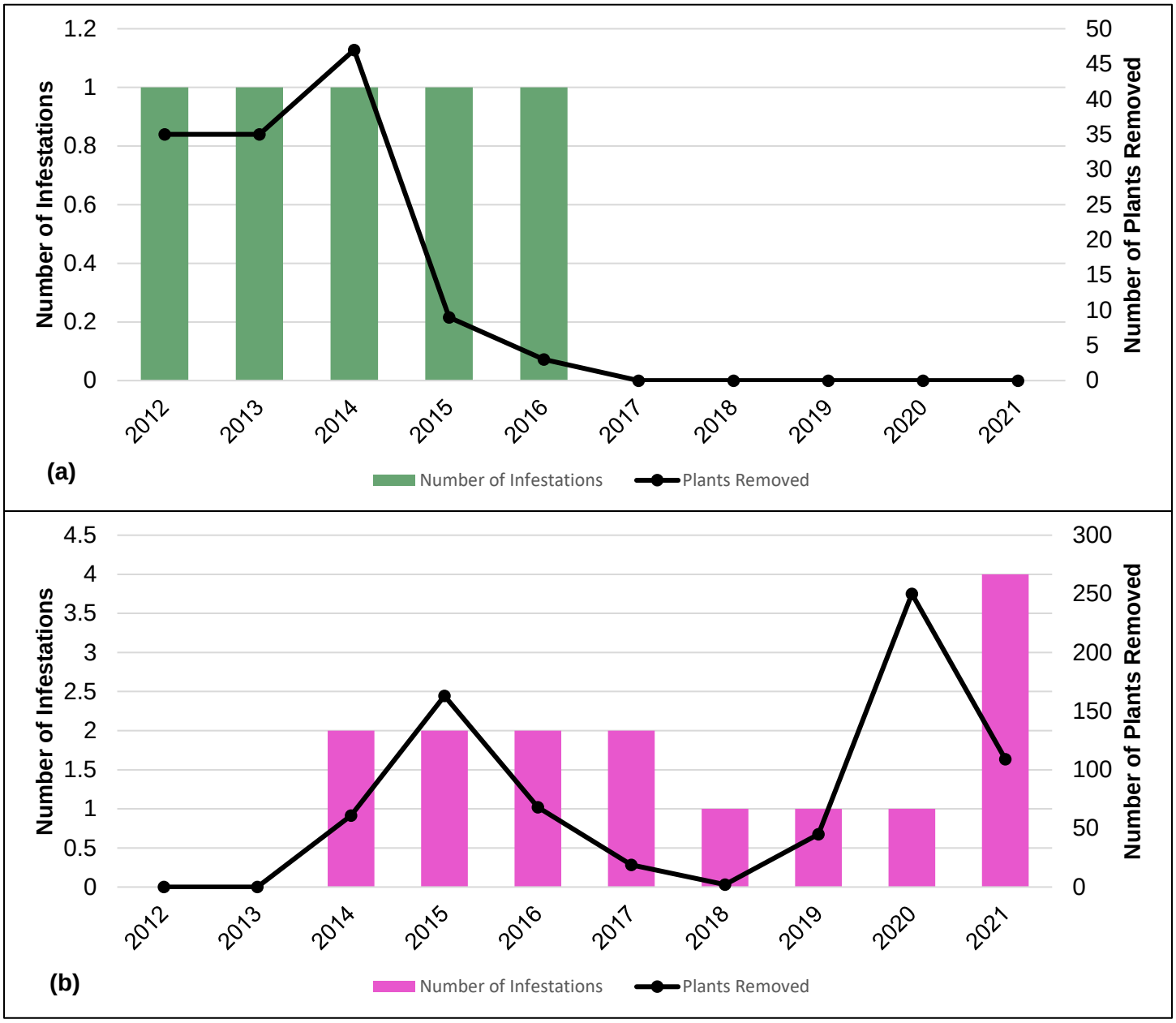


Figure 23 a-b. Garlic mustard (a) and purple loosestrife (b) distribution and management progress at Lincoln Pond Campground.

Recommendations:

Purple loosestrife should remain the top management priority at this facility. It is recommended that remote site boat surveys continue in 2022 due to three new observations near remote sites in 2021. It is also recommended that a release of biocontrol beetles is conducted at this facility in the future. Although garlic mustard is now considered locally eradicated, survey measures should continue.

Meacham Lake

Invasive Species Distribution and Management Overview:

Garlic mustard was mapped and managed in 2006 but has not been observed since and is considered locally eradicated (Figure 24a).

Japanese knotweed was mapped behind a sand pile near the parking lot across from the swimming area.

Purple loosestrife was mapped and removed around the main boat launch parking area. A total of seven plants were removed from two sites (Figure 24b).

SUMMARY STATS: PROGRESS TO DATE		
PEAK INFESTATION	PLANTS REMOVED	CURRENT CONDITION
15+		14

Reed canary grass is present in a spoils pit near a parking lot and was not managed.

Wild parsnip was mapped in six sites. Due to size and phenology, plants were only removed from one site, with a total of seven plants removed (Figure 24c). A combination of digging and seed head removal was performed.

**All invasive plant infestations are located within the main campground of Meacham Lake. Meacham Lake West was also surveyed where no invasive plants were observed.

Photo credit: New York State Department of Environmental Conservation

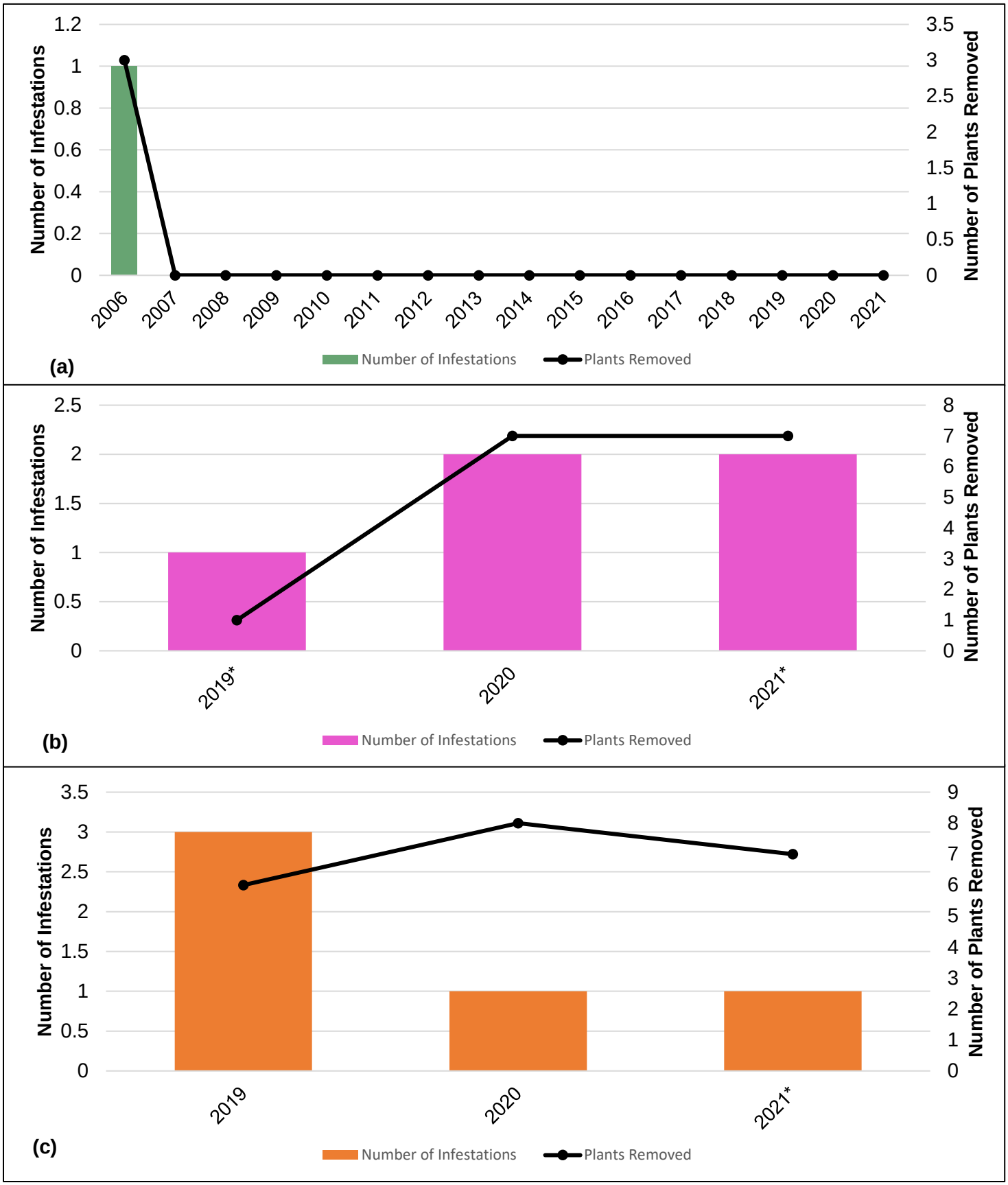


Figure 24 a-c. Garlic mustard (a), purple loosestrife (b), and wild parsnip (c) distribution and management progress at Meacham Lake Campground. * indicates years in which control of all known infestations was not completed.

Recommendations:

As garlic mustard reemergence is unlikely, focus should be shifted to prioritize the management of purple loosestrife and wild parsnip. The boat launch area is heavily infested with wild parsnip and should be surveyed early in the season before plants grow too large for mechanical management. A steep hillside presents a barrier to manual management of purple loosestrife, making this facility a potential release site for *Galerucella,* although loosestrife populations are relatively low. The knotweed infestation should be prioritized for chemical treatment in 2022, if resources allow.

Photo credit: New York State Department of Environmental Conservation

Meadowbrook

Invasive Species Distribution and Management Overview:

Autumn olive is present near the entrance but is too large for mechanical removal.

Bush honeysuckle was mapped near the trail to the Scarface Mountain trailhead and was not managed.

Garlic mustard was not observed for the eighth consecutive year and is considered locally eradicated (Figure 25).

Japanese barberry was not observed for the sixth consecutive year and is considered locally eradicated.

Reed canary grass has been mapped historically but was found to be misidentified.

SUMMARY STATS: PROGRESS TO DATE		
PEAK INFESTATION	PLANTS REMOVED	CURRENT CONDITION
70		0

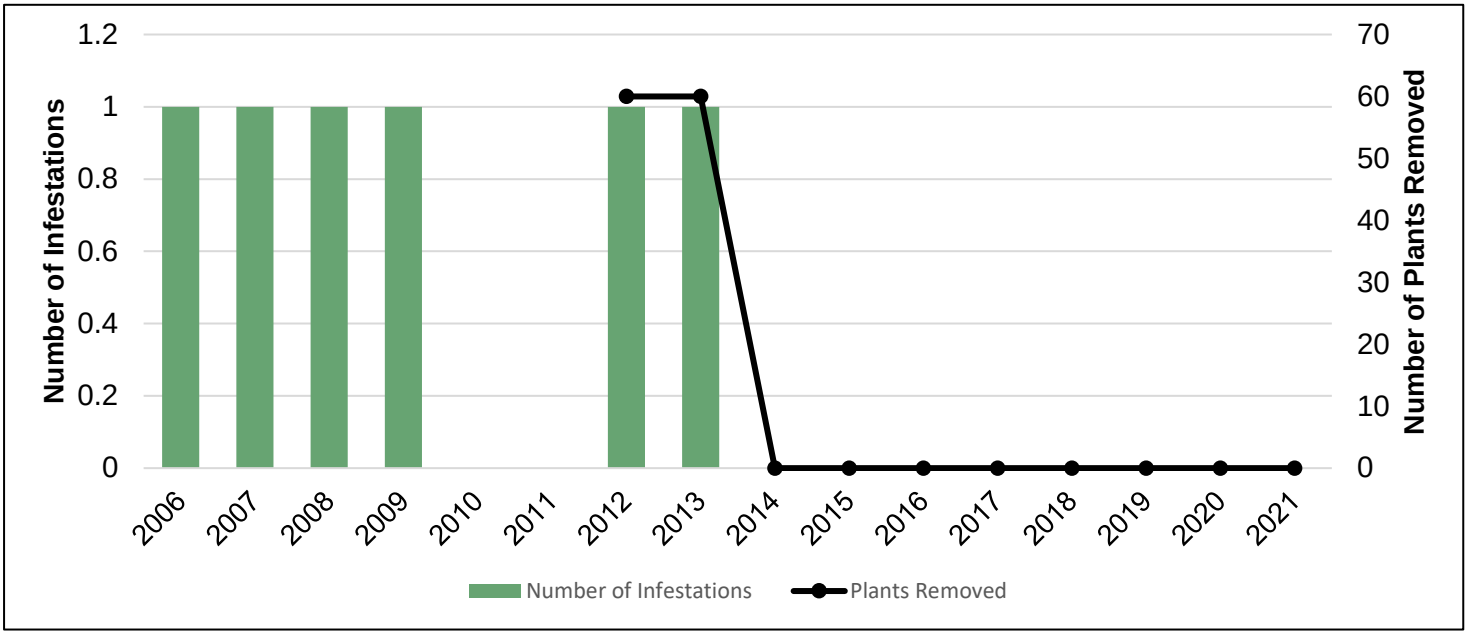


Figure 25. Garlic mustard distribution and management progress at Meadowbrook Campground.

Recommendations:

As garlic mustard reemergence is unlikely, efforts can be shifted to managing infestations of bush honeysuckle. Autumn olive should continue to be monitored for spread throughout the campground.

Paradox Lake

Invasive Species Distribution and Management Overview:

Bush honeysuckle is growing sporadically throughout campground and was not managed.

Garlic mustard was mapped and removed from sites 14, 27, 50, and across from site 47. A total of 314 plants were removed (Figure 26a).

Purple loosestrife was mapped along the shoreline north of the boat launch, south of the boat launch, and north of the swimming area. Fifteen plants were removed from two locations (Figure 26b). The population south of the boat launch was not managed due to low plant density and abundance of biocontrol damage.

Reed canary grass is widespread throughout the campground and was not managed.

SUMMARY STATS: PROGRESS TO DATE		
PEAK INFESTATION	PLANTS REMOVED	CURRENT CONDITION
2,380		329

Photo credit: New York State Department of Environmental Conservation

Figure 26 a-b. Garlic mustard (a) and purple loosestrife (b) distribution and management progress at Paradox Lake Campground. * indicates years in which control of all known infestations was not completed.

Recommendations:

With the increased occurrence of garlic mustard, this species should remain a top priority for survey and management. As the purple loosestrife infestations had presence of biocontrol, management efforts should focus on removing flowerheads and new emergences. This facility may serve as a potential site for biocontrol collection or release in the future, depending on levels of *Galerucella* presence. Management of bush honeysuckle and reed canary grass is not recommended at this time as reintroduction is likely.

Poke-O-Moonshine

**This facility is no longer administered as a public campground. However, it is open and frequently visited as a day use facility by land-based outdoor recreationalists. Numbers for this facility are not included in the campground totals.

Invasive Species Distribution and Management Overview:

Common buckthorn is growing sporadically throughout the facility and was not managed.

Oriental bittersweet was found growing in an old campsite and towards the ranger trail and was not managed due to size.

Reed canary grass was not observed, as it was found to have been previously misidentified.

Recommendations:

Although this is no longer used as a campground, the popular facility remains open for day use and should continue to be monitored for the introduction of new invasive species.

APIPP Education and Outreach Coordinator Emily-Bell Dinan assisted in survey and management efforts at this facility in 2021.

Photo credit: Adrian of Climb and Punishment Blog

Putnam Pond

Invasive Species Distribution and Management Overview:

Autumn olive was not observed. The 2019 observation may have been misidentified.

Garlic mustard was observed for the first time since 2016 at site 21. A total of 21 plants were removed from this one location (Figure 27a).

Multiflora rose was mapped in one location and was not managed due to size.

Purple loosestrife was not observed in 2021 and is considered locally eradicated (Figure 27b).

Reed canary grass is scattered throughout the campground and was not managed.

SUMMARY STATS: PROGRESS TO DATE		
PEAK INFESTATION		CURRENT CONDITION
331	PLANTS REMOVED	21

Photo credit: New York State Department of Environmental Conservation

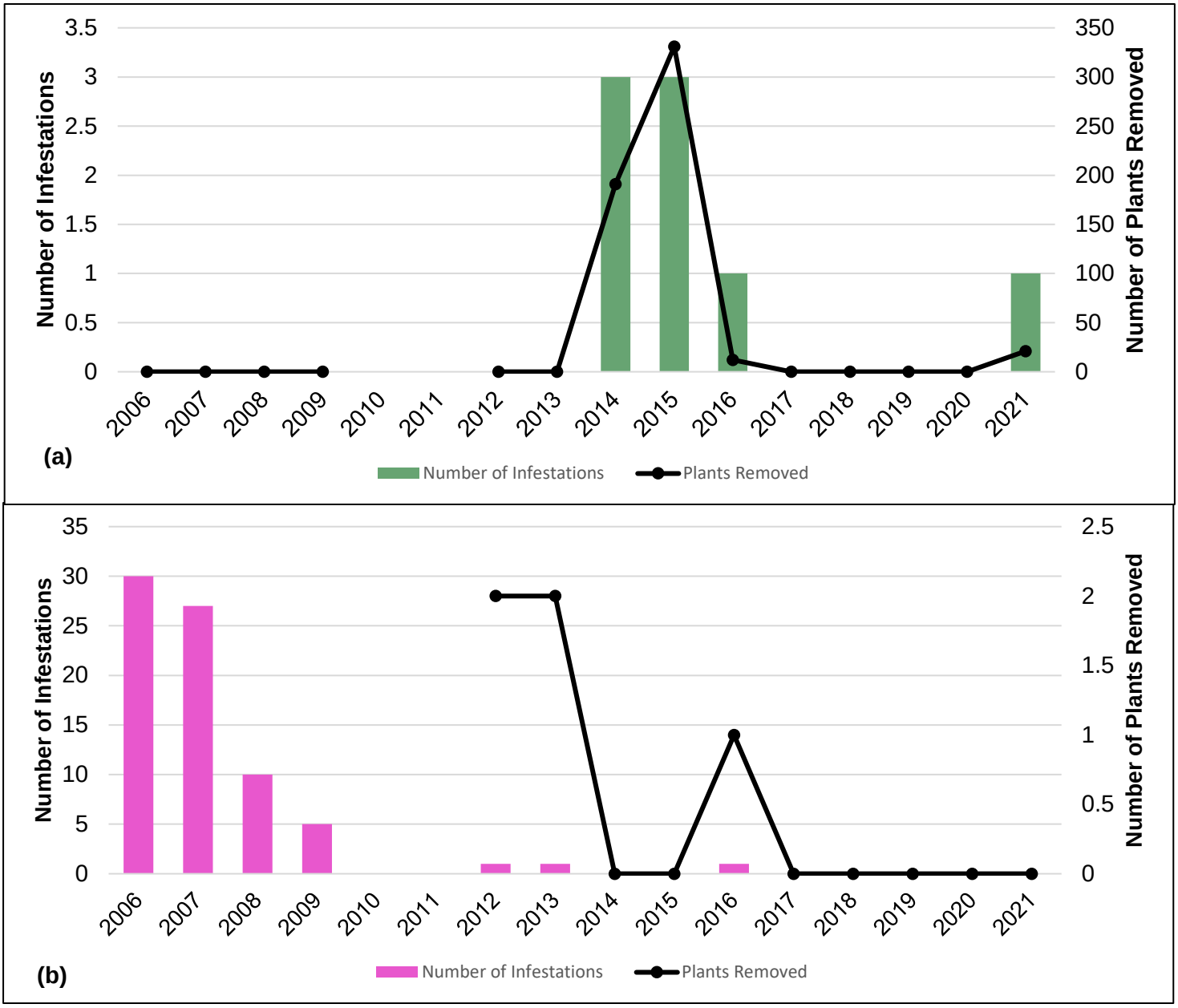


Figure 27 a-b. Garlic mustard (a) and purple loosestrife (b) distribution and management progress at Putnam Pond Campground.

Recommendations:

Surveillance for garlic mustard should remain a top priority since it was observed in 2021 for the first time in five years. Surveillance for purple loosestrife should also remain a priority to monitor any possible reemergence. Management of woody species is not recommended at this time.

Rollins Pond

Invasive Species Distribution and Management Overview:

Bush honeysuckle was observed in site 238 and was not managed due to size.

Garlic mustard was not observed in 2021 and is considered locally eradicated (Figure 28).

Winged euonymus is planted ornamentally near the shower building and was not managed.

SUMMARY STATS: PROGRESS TO DATE		
PEAK INFESTATION		CURRENT CONDITION
750	PLANTS REMOVED	0

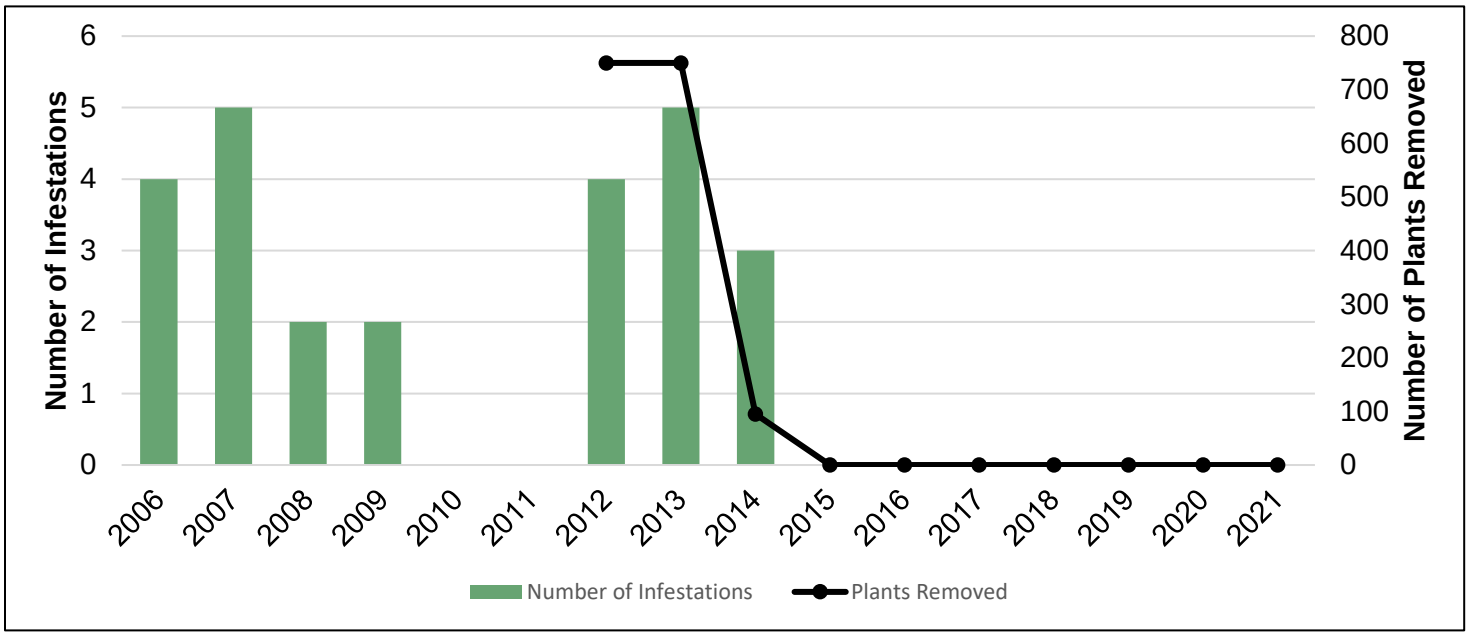


Figure 28. Garlic mustard distribution and management progress at Rollins Pond Campground.

Recommendations:

As garlic mustard is considered locally eradicated at this facility, focus should be shifted to early detection of garlic mustard reemergence and new invasive species infestations. Management of honeysuckle in site 238 should be prioritized if time allows as it has not yet spread to surrounding sites. It is recommended that the ornamental beds of winged euonymus be replaced with a native species, if possible.

Saranac Lake Islands

This facility is only accessible by motorboat and has never been inventoried. If time and resources are available, the campground should be surveyed in 2022.

Sharp Bridge

Invasive Species Distribution and Management Overview:

Bush honeysuckle observed in site 6 and not managed due to size.

Purple loosestrife was mapped along the Schroon River and downstream of the picnic area (Figure 29). Management was not completed due to heavy biocontrol presence.

Reed canary grass was mapped sporadically throughout the campground and was not managed.

SUMMARY STATS: PROGRESS TO DATE		
PEAK INFESTATION	PLANTS REMOVED	CURRENT CONDITION
667		0

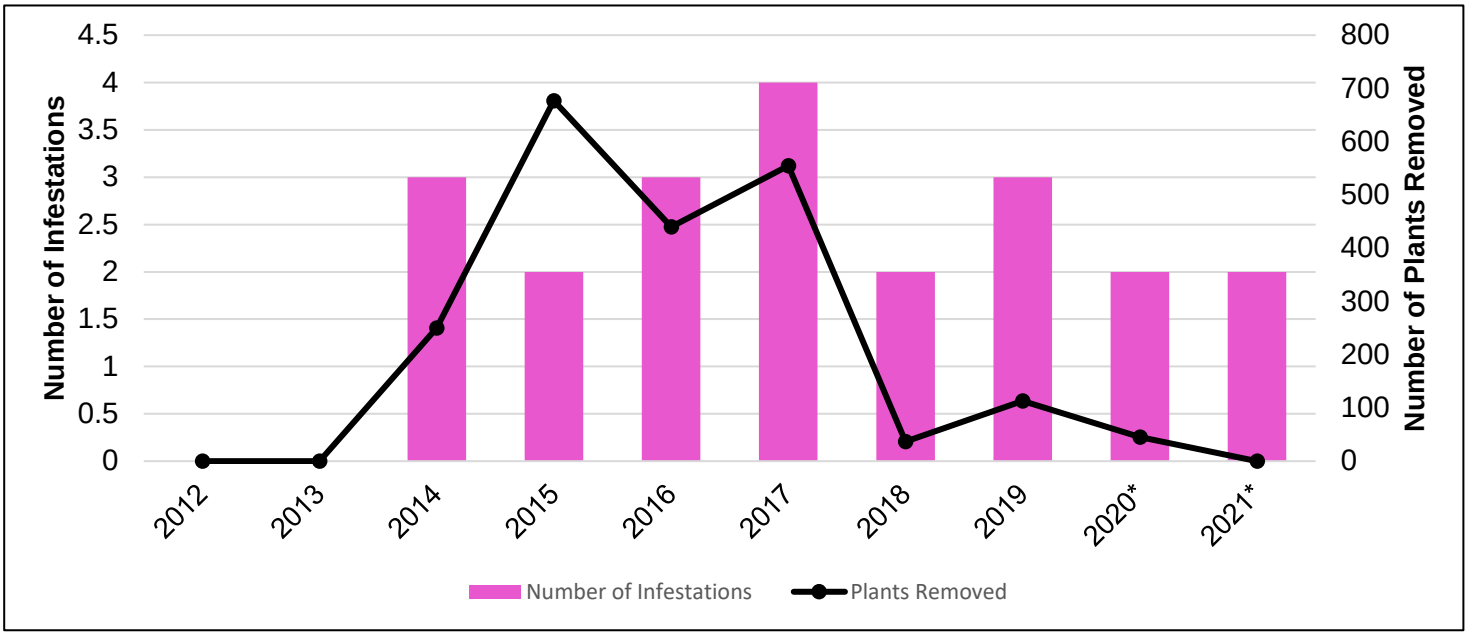


Figure 29. Purple loosestrife distribution and management progress at Sharp Bridge Campground. * indicates years in which management of all known infestations was not completed.

Recommendations:

Purple loosestrife management should remain the top priority at this facility in areas where biocontrol is not present. Heavy signs of insect damage suggest biocontrol presence, and affected plants should be left as habitat. Early detection of new invasive species should remain a priority.

Taylor Pond

Invasive Species Distribution and Management Overview:

Purple loosestrife was mapped and removed along the beach between sites 20 and 21, and near the boat launch. A total of 133 plants were removed from two locations (Figure 30). A handful of damaged plants were left as habitat for biocontrol.

Reed canary grass is growing sporadically throughout the campground and was not managed.

SUMMARY STATS: PROGRESS TO DATE

PEAK INFESTATION		CURRENT CONDITION
800	PLANTS REMOVED	133

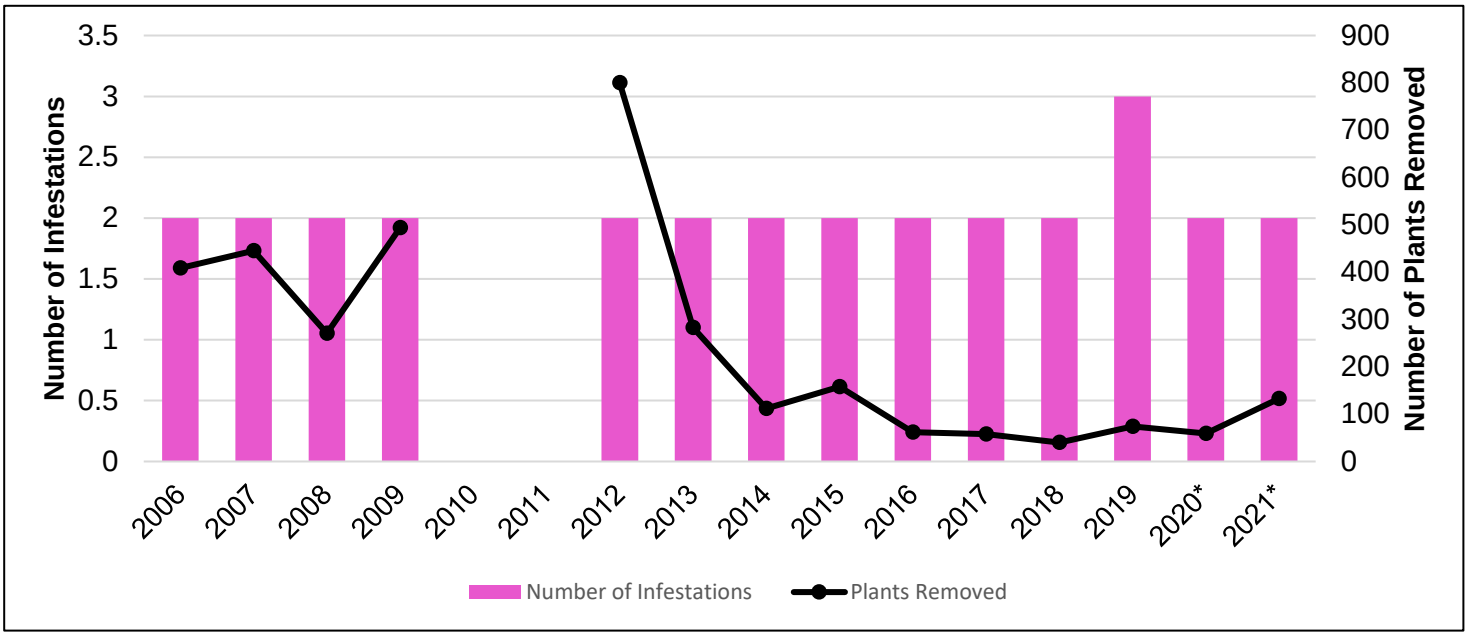


Figure 30. Purple loosestrife distribution and management progress at Taylor Pond Campground. * indicates years in which control of all known infestations was not completed.

Recommendations:

Purple loosestrife should remain the top management priority at this facility and it should be considered for *Galerucella* release in the future if current populations are not sustained. Reed canary grass is likely to be reintroduced and management is not currently recommended.

APIPP Education and Outreach Coordinator Emily-Bell Dinan assisted in survey and management efforts at this facility in 2021.

Wilmington Notch

Invasive Species Distribution and Management Overview:

No target invasive species were observed at this campground in 2021. Surveys should continue to ensure early detection and rapid response for new infestations.

Photo Credit: See/Swim

Warrensburg Working Circle

The Warrensburg Working contains seven campgrounds: Eagle Point, Hearthstone Point, Lake George Battleground, Lake George Islands, Luzerne, Rogers Rock, and Scaroon Manor. This section contains the individual reports for each of the campgrounds. For a comprehensive summary of these campgrounds – see Appendix Table 6. For a comprehensive summary of terrestrial invasive species distribution across trailheads, fishing access sites, parking areas, and boat launches in all working circles – see Appendix Table 7.

Table 7. Warrensburg Working Circle distribution and management summary.

Campground	Invasive Plants Present	Total Plants Removed
Eagle Point	Bush honeysuckle	0
Hearthstone Point	Autumn olive Garlic mustard Japanese barberry Japanese knotweed Multiflora rose Norway maple Oriental bittersweet Winged euonymus	0 33 0 0 0 0 0 0
Lake George Battleground	Bush honeysuckle Garlic mustard Japanese barberry Japanese knotweed Norway maple Oriental bittersweet Winged euonymus	0 6,598 0 0 0 0 0
Lake George Islands	Not surveyed in 2021	
Luzerne	Bush honeysuckle Garlic mustard Oriental bittersweet Purple loosestrife Reed canary grass	0 86 0 0 0
Rogers Rock	Autumn olive Bush honeysuckle Common buckthorn Garlic mustard Japanese barberry Japanese knotweed Oriental bittersweet Reed canary grass	0 0 0 1,637 0 0 0 0

Campground	Invasive Plants Present	Total Plants Removed
Scaroon Manor	Autumn olive Bush honeysuckle Common buckthorn Japanese barberry Oriental bittersweet Purple loosestrife Reed canary grass Winged euonymus	0 0 0 0 0 0 0 0

Eagle Point

Invasive Species Distribution and Management Overview:

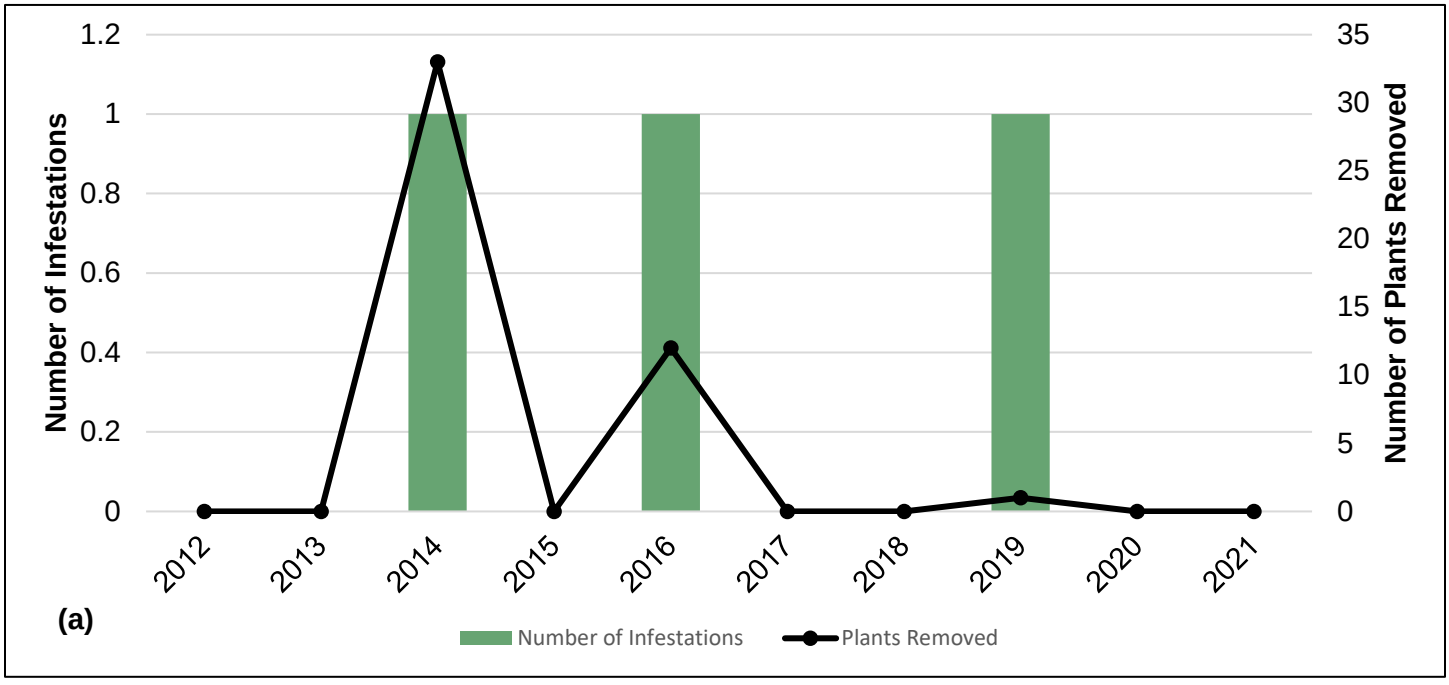
Bush honeysuckle was observed at sites 57 and 7 and was not managed.

Garlic mustard was not present 2021 (Figure 31a).

Purple loosestrife was not observed in 2021 (Figure 31b).

SUMMARY STATS: PROGRESS TO DATE

PEAK INFESTATION		CURRENT CONDITION
33	PLANTS REMOVED	0



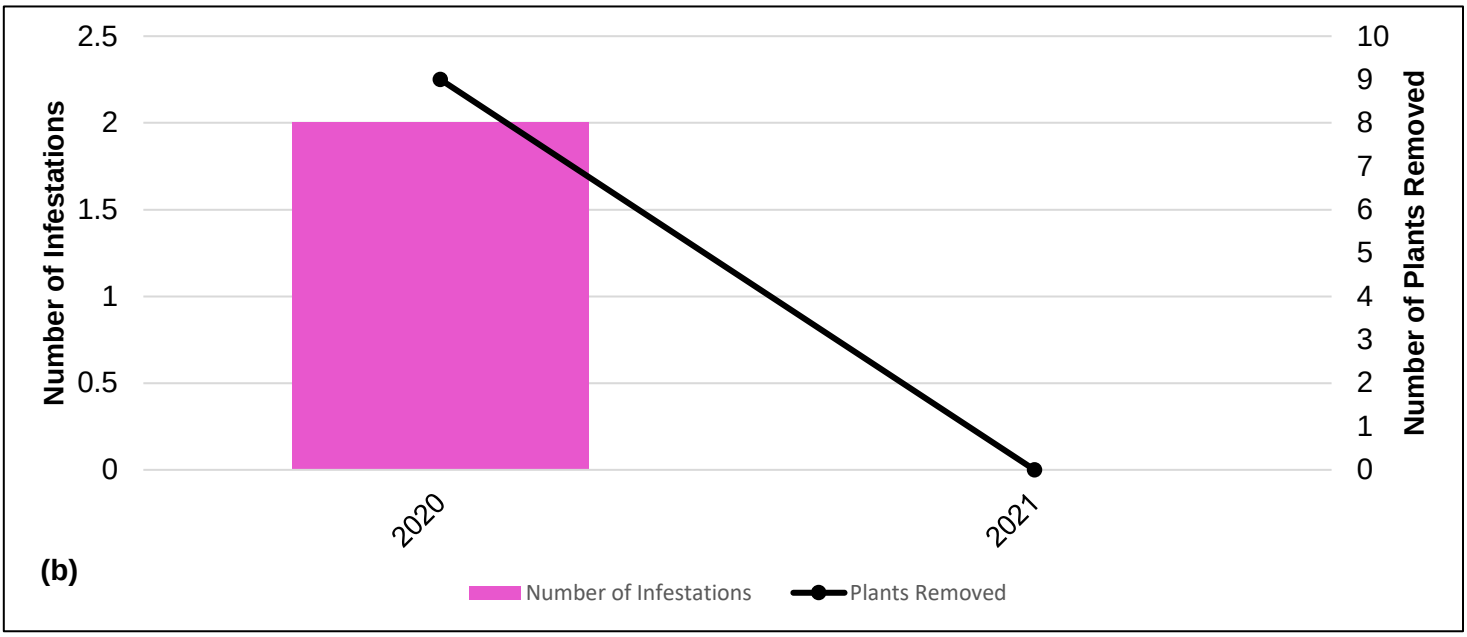


Figure 31 a-b. Garlic mustard (a) and purple loosestrife (b) distribution and management progress at Eagle Point Campground.

Recommendations:

Garlic mustard should remain a survey priority at this campground as local eradication is likely with sustained efforts. Purple loosestrife should be a top survey and management priority in 2022 to ensure that no new plants have emerged since 2020.

Hearthstone Point

Invasive Species Distribution and Management Overview:

Autumn olive was mapped near a bathroom and was not managed due to size.

Bush honeysuckle was not observed in 2021.

Garlic mustard was mapped and removed from sites 50, 58, and near a fire danger sign. A total of 33 plants were removed from three locations (Figure 32).

Japanese barberry is found sporadically throughout campground and was not managed.

SUMMARY STATS: PROGRESS TO DATE

PEAK INFESTATION		CURRENT CONDITION
21,500	PLANTS REMOVED	33

Japanese knotweed was mapped along the road past site 73 and in the spoils area and was not managed.

Multiflora rose was mapped in site 192 and 198 area and was not managed due to size.

Norway maple was mapped in site 70 but was too large for management.

Oriental bittersweet is found sporadically throughout the campground and was not managed.

Winged euonymus is found sporadically throughout the campground and was not managed.

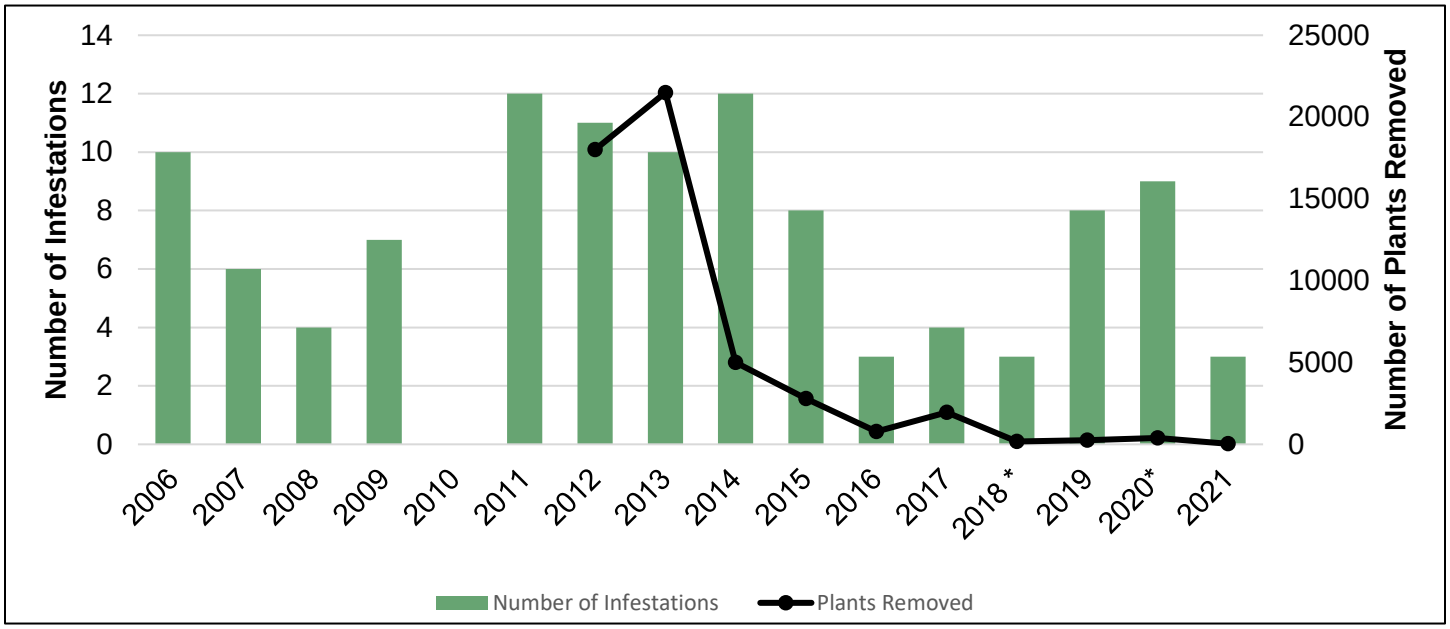


Figure 32. Garlic mustard distribution and management progress at Hearthstone Point Campground. * indicates years in which control of all known infestations was not completed.

Recommendations:

Garlic mustard management should remain the top priority at this facility. The knotweed infestations should be considered for chemical treatment in 2022. Japanese barberry, Oriental bittersweet, and winged euonymus are found throughout the campground and are not high management priorities. The autumn olive and multiflora rose should be cut in 2022, if time allows.

Photo credit: APIPP staff

Lake George Islands

Invasive Species Distribution and Management Overview:

This facility was not visited in 2021. A partial inventory was performed in 2007, documenting purple loosestrife, bush honeysuckle, Japanese barberry, spotted knapweed, and multiflora rose at various campsites. Long Island was found to be infested with all five of these species, while Speaker Heck Island was only found to have bush honeysuckle, purple loosestrife, and spotted knapweed. Diamond Island only had bush honeysuckle. A complete inventory of the islands should be prioritized for 2022 to assess the distribution and abundance of any target species and evaluate management opportunities.

Photo Credit: The Dyrt

Lake George Battleground

Invasive Species Distribution and Management Overview:

Bush honeysuckle was mapped at site 42 and was not managed due to size.

Garlic mustard was mapped and removed from sites 8, 10, 12, 14, 16, 18-20, 42, behind the shower building, and in the woods behind sites 8-19. A total of 6,598 plants were removed from 11 locations (Figure 33).

Japanese barberry is scattered throughout the campground and was not managed.

SUMMARY STATS: PROGRESS TO DATE

PEAK INFESTATION		CURRENT CONDITION
21,500	PLANTS REMOVED	6,598

Japanese knotweed is present in a large patch in the woods behind site 19, closely following and extending over the property line.

Norway maple was mapped at site 58 but was too large for management.

Oriental bittersweet is present near site 46 and in the woods behind sites 8-16.

Winged euonymus was mapped in site 7 and was not managed due time constraints.

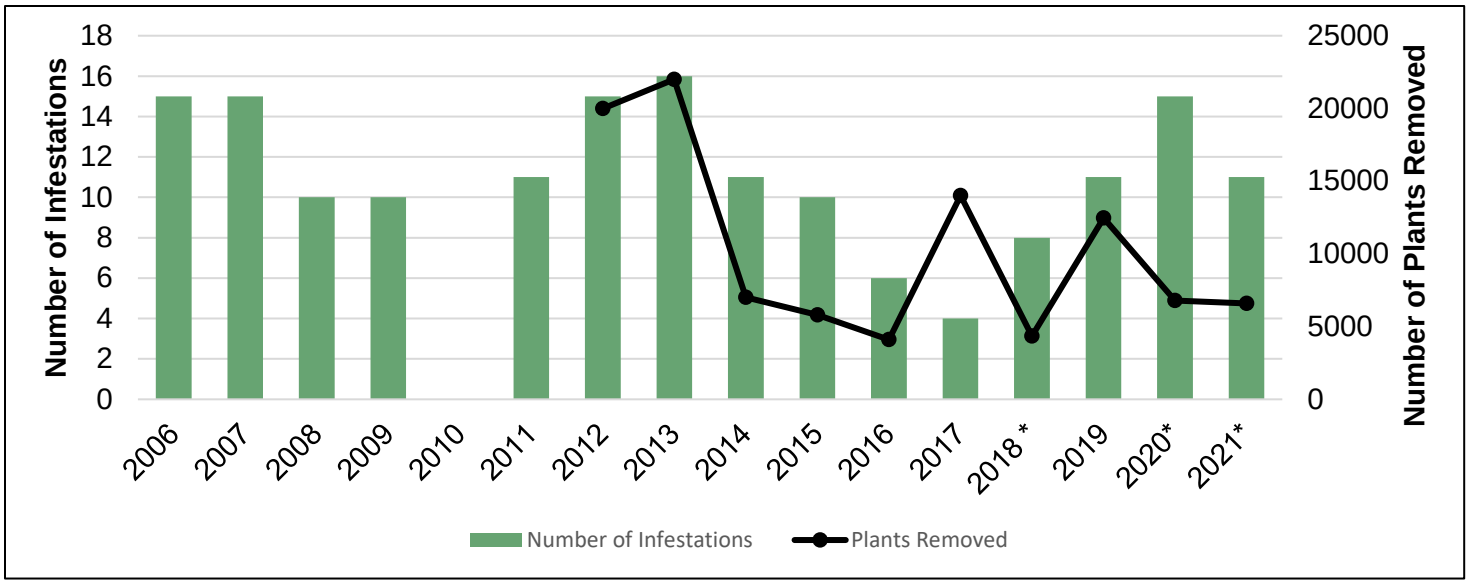


Figure 33. Garlic mustard distribution and management progress at Lake George Battleground Campground.
* indicates years in which control of all known infestations was not completed.

Recommendations:

Garlic mustard management should remain the top priority at this campground. In past seasons this facility was managed with the help of several volunteers and interns, the lack of which in 2020 and 2021 made full management infeasible. The presence and density of garlic mustard extending onto adjacent private property makes eradication unlikely if not addressed. As a large portion of the garlic mustard is in the woods behind campsites rather than within the main campground, this area should be prioritized for chemical management in the future. It is recommended that the knotweed is chemically treated, if possible. The woody species are not high priority and management is not recommended at this time.

Photo credit: New York State Department of Environmental Conservation

Luzerne

Invasive Species Distribution and Management Overview:

Bush honeysuckle is found sporadically throughout the campground and was not managed.

Garlic mustard was observed along the road past the field of dreams where the dirt side road rejoins the main road. A total of 86 plants were pulled from this one site (Figure 34).

Oriental bittersweet was mapped near the horse paddocks growing on an apple tree and was not managed.

SUMMARY STATS: PROGRESS TO DATE		
PEAK INFESTATION		CURRENT CONDITION
310	PLANTS REMOVED	86

Purple loosestrife was found for the first time at this campground in 2020 during a paddle survey for hemlock wooly adelgid and was still present in 2021. The patch is at the mouth of an inlet leading to a creek running through the campground and requires watercraft to access. This area was not managed due to time constraints.

Reed canary grass is found sporadically throughout the campground and was not managed.

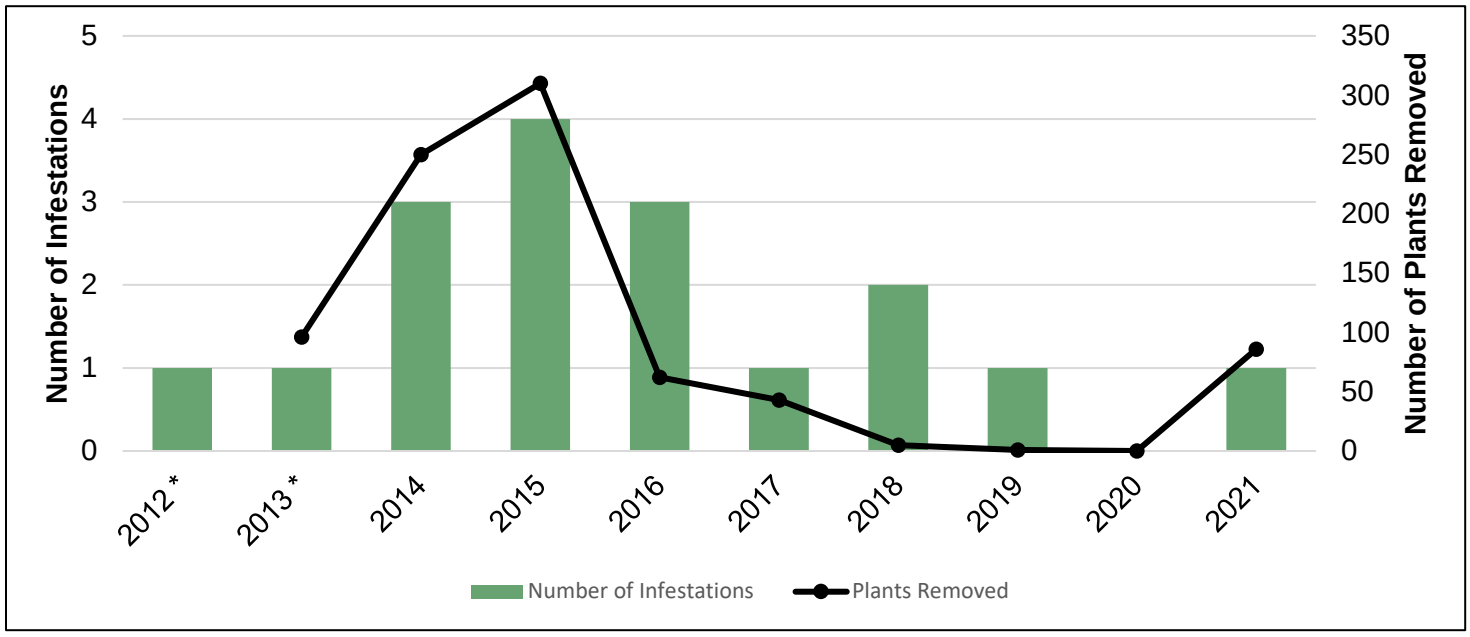


Figure 34. Garlic mustard distribution and management progress at Luzerne Campground. * indicates years in which control of all known infestations was not completed.

Recommendations:

Garlic mustard should continue to be a top survey priority given that it was observed again in 2021. With purple loosestrife being found elsewhere along Fourth Lake, early detection shoreline surveys should be done along the swimming area and along the creek running through the campground. Management of bush honeysuckle and Oriental bittersweet is not recommended at this time as reintroduction is likely.

Rogers Rock

Invasive Species Distribution and Management Overview:

Autumn olive is growing sporadically throughout the campground and was not managed.

Bush honeysuckle is growing sporadically throughout the campground and was not managed.

Common buckthorn is growing behind the recycling center and at the picnic area between the parking and boat launch. It was not managed due to size.

SUMMARY STATS: PROGRESS TO DATE

PEAK INFESTATION		CURRENT CONDITION
1,540	PLANTS REMOVED	1,637

Garlic mustard was mapped and removed from sites 5-9, across from site 7, near the bathrooms by site 7, 11, 14, 17, between sites 21 and 22, between 26 and 28, 55, 166a, 163, 165, 167-169, across from 170, 182, 206, and 280. A total of 1,637 plants were removed from 23 sites (Figure 35a).

Japanese barberry is growing sporadically throughout the campground and was not managed.

Japanese knotweed was observed near bathroom #6 and was not managed.

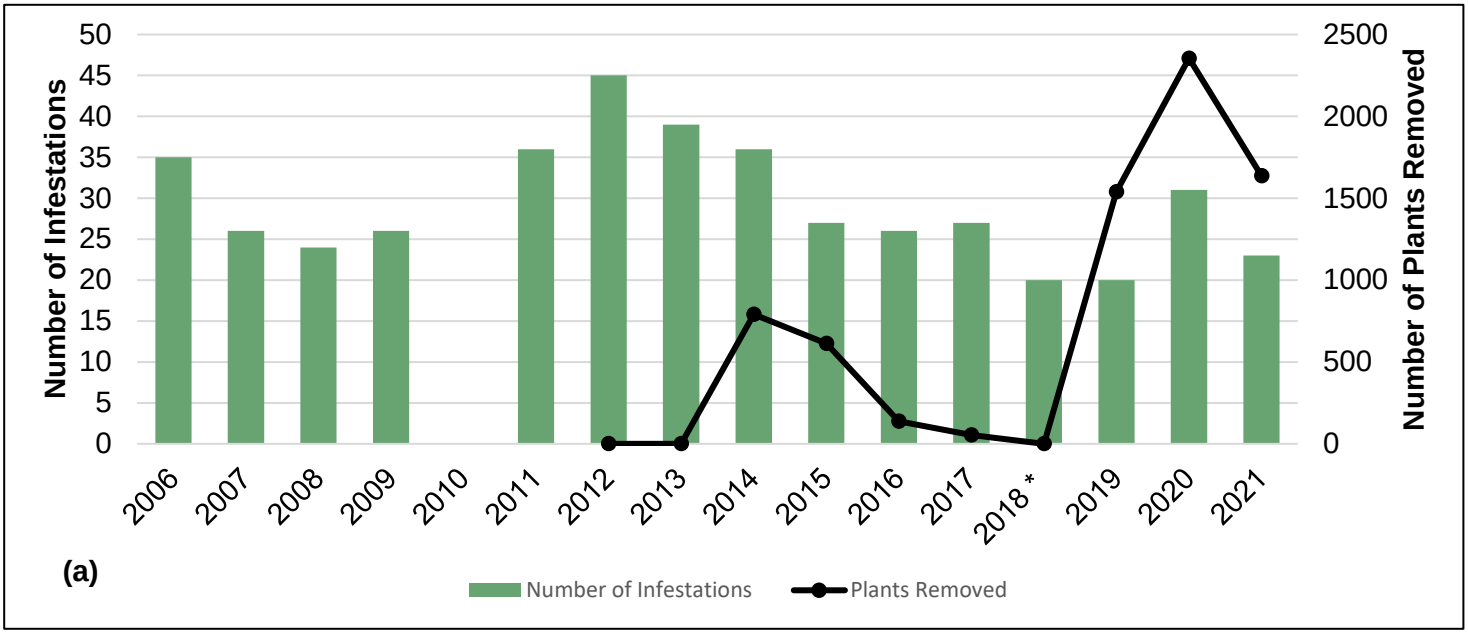
Oriental bittersweet is widespread throughout campground and was not managed.

Reed canary grass is growing sporadically throughout campground and was not managed.

Wild parsnip was not observed for a third consecutive year and is now presumed to be locally eradicated.

Winged euonymus was not observed in 2021.

Yellow iris was not observed in 2021 (Figure 35b).



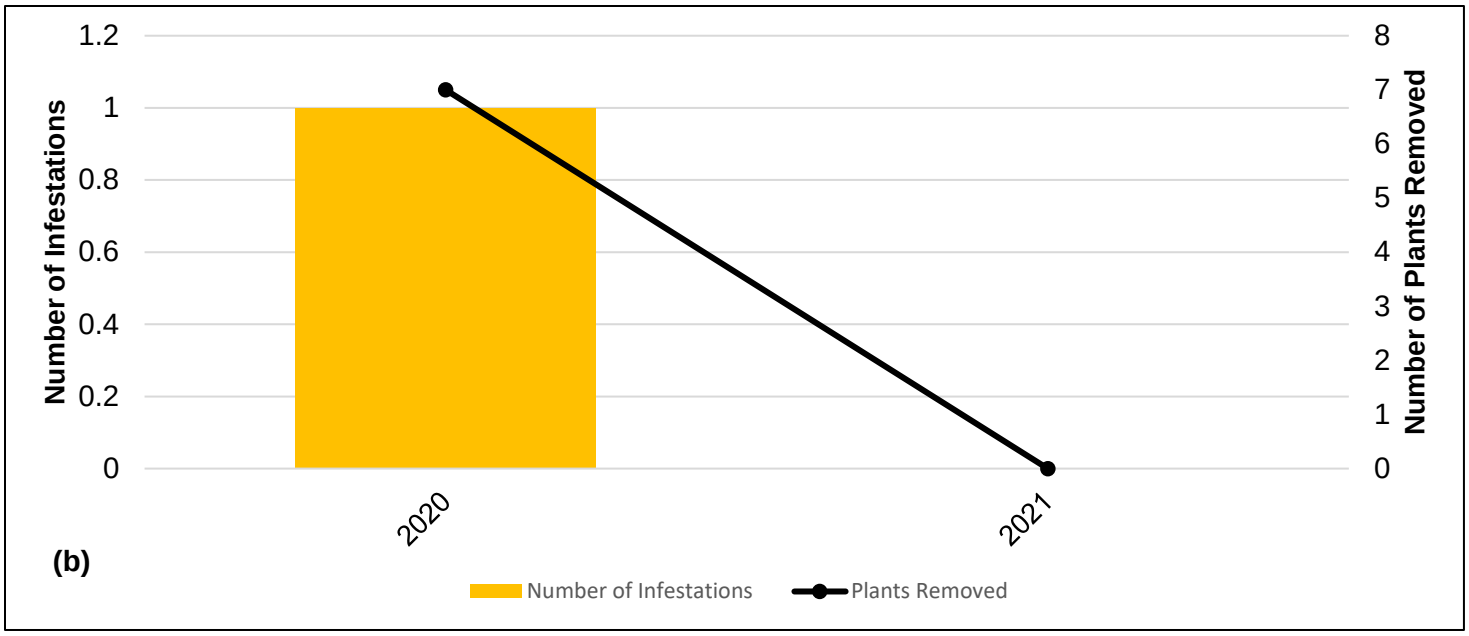


Figure 35 a-b. Garlic mustard (a) and yellow iris (b) distribution and management progress at Rogers Rock Campground.
* indicates years in which control of all known infestations was not completed

Recommendations:

As garlic mustard levels spiked in 2019 and 2020, it remains the top priority at this facility. Management should be done early in the season to ensure garlic mustard does not go to seed. The shoreline should continue to be surveyed for reoccurrences of yellow iris. Knotweed should be prioritized for chemical treatment in 2022, if possible. Once garlic mustard levels have been reduced to a satisfactory level, the focus can shift to managing the woody species, but management is not currently recommended.

Both APIPP Invasive Species Management Stewards Megan Grega and Adellia Baker assisted in survey and management efforts at this facility in 2021.

Photo credit: New York State Department of Environmental Conservation

Scaroon Manor

Invasive Species Distribution and Management Overview:

Autumn olive was mapped in site C12 in the Camp Cayuga primitive campsite area but was absent from the main campground.

Bush honeysuckle is widespread throughout the entire campground and was not managed.

Common buckthorn is growing sporadically throughout the main campground and was not managed due to size.

SUMMARY STATS: PROGRESS TO DATE		
PEAK INFESTATION	PLANTS REMOVED	CURRENT CONDITION
791		0

Garlic mustard was not observed for the fourth consecutive year and is now presumed to be locally eradicated (Figure 36).

Japanese barberry was mapped across from site 9 but was not managed due to size.

Oriental bittersweet is widespread throughout the facility and was not managed.

Purple loosestrife was mapped at this campground in Camp Cayuga along the entrance trail, along the beach at site C10, and in one spot along the beach at site C11. The purple loosestrife observed along the entrance trail was not fully managed due to biocontrol presence, but flower heads were removed. The plants located along the shore of the primitive sites could not be accessed due to high water levels.

Reed canary grass is growing sporadically throughout the entire campground and was not managed.

Wild parsnip was not observed in 2021 and may have been previously misidentified.

Winged euonymus is widespread throughout the main campground and was not managed.

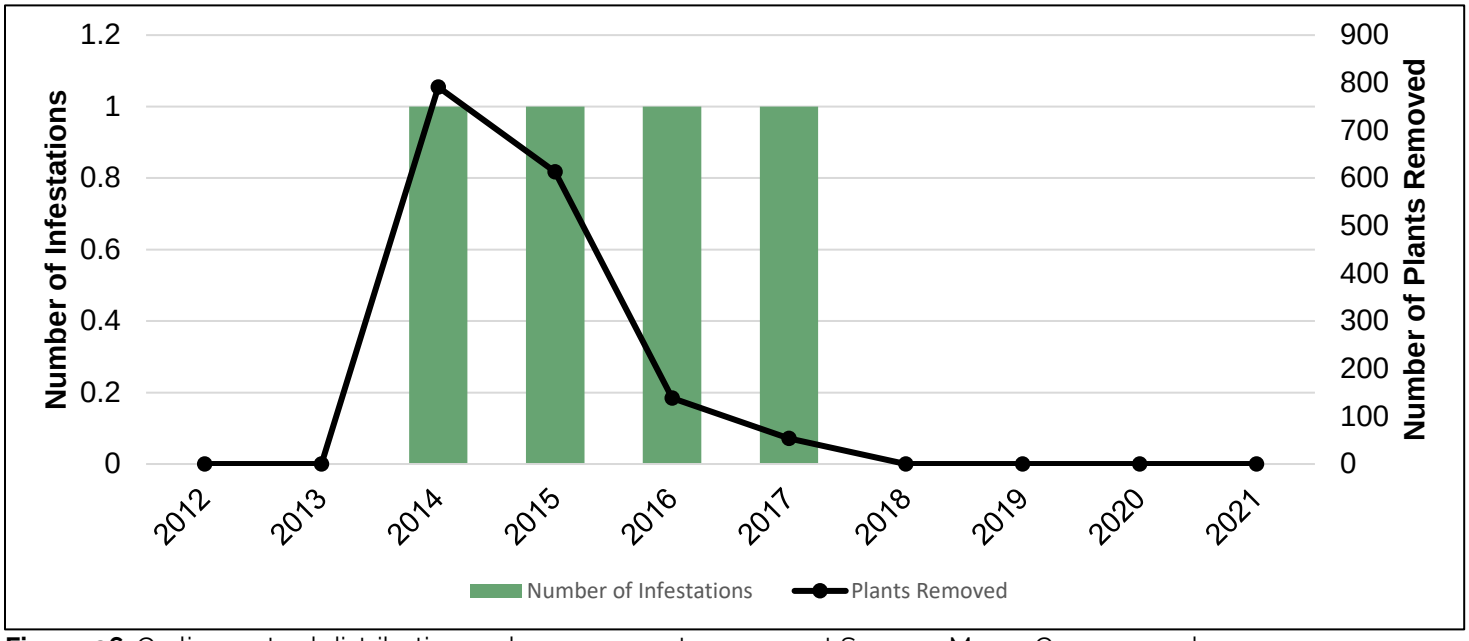


Figure 36. Garlic mustard distribution and management progress at Scaroon Manor Campground.

Recommendations:

Garlic mustard reemergence should remain the top survey priority for this facility as this species has not been observed since 2017. With garlic mustard considered eradicated, management efforts can shift to address less abundant woody species, such as Japanese barberry and winged euonymus. However, since these species can spread long distances via bird dispersed seed, reintroduction is likely. Purple loosestrife removal at Camp Cayuga should be a priority in 2022 due to the inability to access the observed plants due to flooding in 2021.

Photo credit: Reserve America

Conclusion

The invasive species campground stewards have achieved significant progress in documenting and managing terrestrial invasive species on NYSDEC administered lands throughout the Adirondack PRISM. The additional seasonal management capacity provided through this position has greatly increased APIPP's ability to reduce and/or eliminate priority invasive plant infestations and limit spread potential by land-based outdoor recreation. Since 2012 stewards have:

- Surveyed approximately 6,200 acres of priority areas (~600 annually).
- Documented over 1,300 infestations of 18 target terrestrial invasive species.
- Reduced garlic mustard abundance at NYSDEC campgrounds by approximately 78%. In 2021, only 14,709 plants were removed, compared to 68,048 in 2012 (Figure 37).
- Eradicated garlic mustard from six campgrounds and documented one or two years of absence at four others.
- Reduced purple loosestrife abundance at NYSDEC campgrounds by approximately 89%. In 2021, only 567 plants were removed, compared to a peak of 4,956.

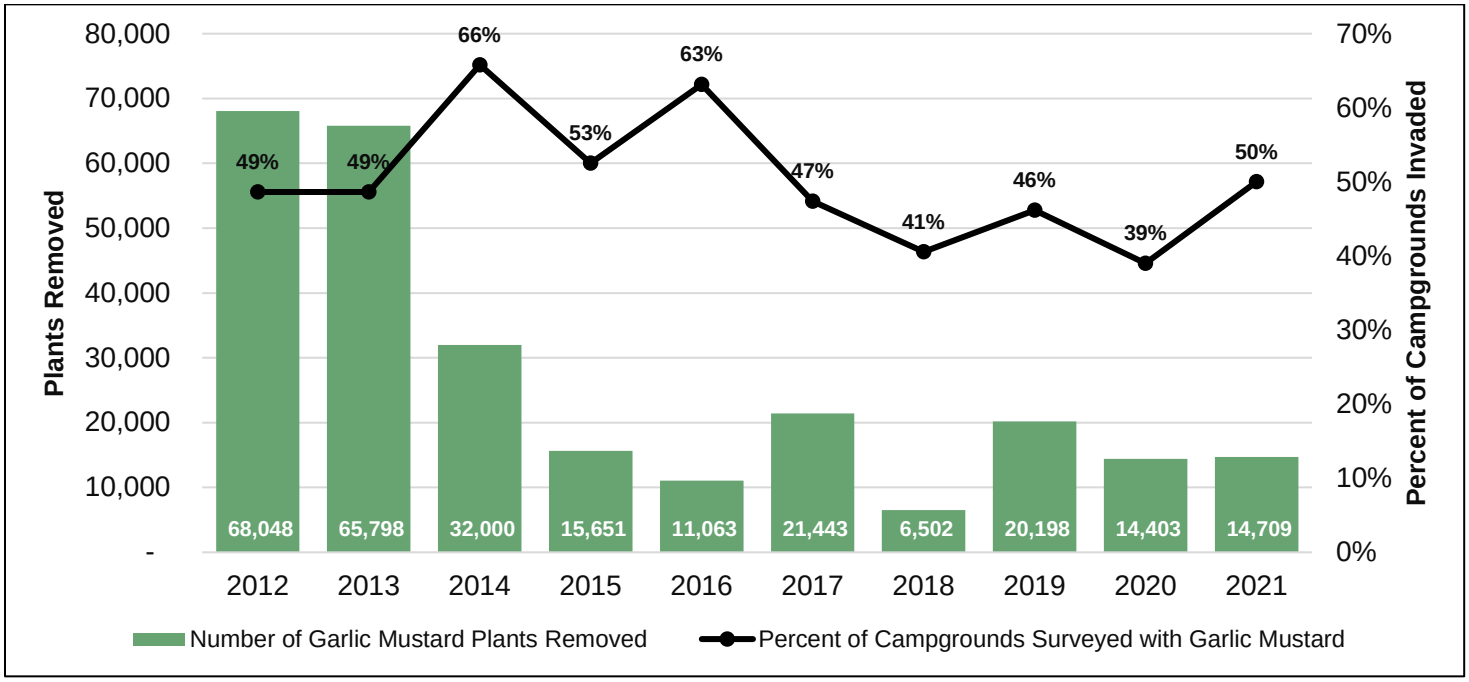


Figure 37. Garlic mustard management progress (2012-2021) at NYSDEC administered campgrounds in the Adirondack PRISM.

Trend analysis suggests that target species distribution and abundance at NYSDEC campgrounds will continue to decline with continued support and advancement of the program. Six campgrounds had significantly reduced levels of garlic mustard in 2021 compared to 2020 levels and are candidates for local eradication over the coming years. An additional eight campgrounds had extremely low levels of purple loosestrife that are expected to be locally eradicated over the coming years. Finally, many remaining purple loosestrife plants showed evidence of damage from the biocontrols *Galerucella* spp. or *Nanophyes marmoratus*. These plants were often not removed to help facilitate the spread of these vital biocontrols.

Appendix

Appendix Table 1. Invasive Species Distribution Across the Herkimer Working Circle.

	Autumn olive	Bush honeysuckle	Common or glossy buckthorn	Common reed grass	Garlic mustard	Japanese barberry	Japanese knotweed	Multiflora rose	Norway maple	Oriental bittersweet	Purple loosestrife	Reed canary grass	Wild parsnip	Winged euonymus	Yellow iris	NONE
ALGER ISLAND CAMPGROUND																■
NICKS LAKE CAMPGROUND		■			■							■	■		■	
Total	0	1	0	0	1	0	0	0	0	0	0	1	1	0	1	1

■ indicates species presence

Appendix Table 2. Invasive Species Distribution Across the Indian Lake Working Circle.

	Autumn olive	Bush honeysuckle	Common or glossy buckthorn	Common reed grass	Garlic mustard	Japanese barberry	Japanese knotweed	Multiflora rose	Norway maple	Oriental bittersweet	Purple loosestrife	Reed canary grass	Wild parsnip	Winged euonymus	Yellow iris	NONE
BROWN TRACT POND CAMPGROUND		■			■											
EIGHTH LAKE CAMPGROUND					■							■				
FORKED LAKE CAMPGROUND		■														
GOLDEN BEACH CAMPGROUND		■			■											
LAKE DURANT CAMPGROUND	■	■			■											
LEWEY LAKE CAMPGROUND		■			■						■	■				
LIMEKILN LAKE CAMPGROUND		■			■							■				
Total	1	6	0	0	6	0	0	0	0	0	1	3	0	0	0	0

■ indicates species presence

Appendix Table 3. Invasive Species Distribution Across the Northville Working Circle.

	Autumn olive	Bush honeysuckle	Common or glossy buckthorn	Common reed grass	Garlic mustard	Japanese barberry	Japanese knotweed	Multiflora rose	Norway maple	Oriental bittersweet	Purple loosestrife	Reed canary grass	Wild parsnip	Winged euonymus	Yellow iris	NONE
CAROGA LAKE CAMPGROUND	■	■		■	■	■	■	■			■	■			■	
LITTLE SAND POINT CAMPGROUND		■			■		■					■				
MOFFITT BEACH CAMPGROUND		■		■	■						■	■				
NORTHAMPTON BEACH CAMPGROUND	■	■	■						■	■						
POINT COMFORT CAMPGROUND									■							
SACANDAGA CAMPGROUND	■						■					■				
Total	3	4	1	2	3	1	3	1	2	1	2	4	0	0	1	0

■ indicates species presence

Appendix Table 4. Invasive Species Distribution Across the Potsdam Working Circle.

	Autumn olive	Bush honeysuckle	Common or glossy buckthorn	Common reed grass	Garlic mustard	Japanese barberry	Japanese knotweed	Multiflora rose	Norway maple	Oriental bittersweet	Purple loosestrife	Reed canary grass	Wild parsnip	Winged euonymus	Yellow iris	NONE
CRANBERRY LAKE CAMPGROUND			■		■		■					■				
Total	0	0	1	0	1	0	1	0	0	0	0	1	0	0	0	0

■ indicates species presence

Appendix Table 5. Invasive Species Distribution Across the Ray Brook Working Circle.

	Autumn olive	Bush honeysuckle	Common or glossy buckthorn	Common reed grass	Garlic mustard	Japanese barberry	Japanese knotweed	Multiflora rose	Norway maple	Oriental bittersweet	Purple loosestrife	Reed canary grass	Wild parsnip	Winged euonymus	Yellow iris	NONE
AUSABLE POINT CAMPGROUND		■	■			■				■	■	■	■			
BUCK POND CAMPGROUND																■
CROWN POINT CAMPGROUND	■	■	■	■	■					■	■	■	■			
FISH CREEK POND CAMPGROUND		■							■			■				
FRONTIER TOWN CAMPGROUND		■									■	■				
LAKE EATON CAMPGROUND					■							■				
LAKE HARRIS CAMPGROUND		■									■	■				
LINCOLN POND CAMPGROUND		■								■	■	■				
MEACHAM LAKE CAMPGROUND							■				■	■	■			
MEADOWBROOK CAMPGROUND	■	■														
PARADOX LAKE CAMPGROUND		■			■						■	■				
PUTNAM POND CAMPGROUND					■			■				■				
ROLLINS POND CAMPGROUND		■												■		
SHARP BRIDGE CAMPGROUND		■									■	■				
TAYLOR POND CAMPGROUND											■	■				
WILMINGTON NOTCH CAMPGROUND																■
Total	2	10	2	1	4	1	1	1	1	3	9	12	3	1	0	2

■ indicates species presence

Appendix Table 6. Invasive Species Distribution Across the Warrensburg Working Circle.

	Autumn olive	Bush honeysuckle	Common or glossy buckthorn	Common reed grass	Garlic mustard	Japanese barberry	Japanese knotweed	Multiflora rose	Norway maple	Oriental bittersweet	Purple loosestrife	Reed canary grass	Wild parsnip	Winged euonymus	Yellow iris	NONE
EAGLE POINT CAMPGROUND		■														
HEARTHSTONE POINT CAMPGROUND	■				■	■	■	■	■	■				■		
LAKE GEORGE BATTLEGROUND CAMPGROUND		■			■	■	■		■	■				■		
LUZERNE CAMPGROUND		■			■					■	■	■				
ROGERS ROCK CAMPGROUND	■	■	■		■	■	■			■		■				
SCAROON MANOR CAMPGROUND	■	■	■			■				■	■	■		■		
Total	3	5	2	0	4	4	3	1	2	5	2	3	0	3	0	0

■ indicates species presence

Appendix Table 7. Invasive Species Distribution Across Recreational Access Points Such as Trail Heads, Parking Lots, and Boat Launches.

	Autumn olive	Bush honeysuckle	Common or glossy buckthorn	Common reed grass	Garlic mustard	Japanese barberry	Japanese knotweed	Multiflora rose	Norway maple	Oriental bittersweet	Purple loosestrife	Reed canary grass	Wild parsnip	Winged euonymus	Yellow iris	NONE
AMPERSAND PARKING LOT																■
AMPERSAND ROAD PARKING LOT																■
ANDREW BROOK PARKING AREA												■				
AUSABLE BRIDGE #1 RIVER ACCESS PARKING																■
AXTON LANDING WATER ACCESS PARKING																■
AZURE MTN. PARKING LOT																■
BARTLETT CARRY # 1 RIVER ACCESS PARKING		■														
BARTLETT CARRY # 2 WATER ACCESS PARKING																■
BARTLETT CARRY # 3 WATER ACCESS PARKING																■
BARTLETT ROAD PARKING																■
BEAR MOUNTAIN TRAIL PARKING LOT																■
BERRYMILL FLOW TRAIL PARKING												■				
BLUE MOUNTAIN AND TIRRELL POND PARKING																■
BOG RIVER FALLS PARKING AREA																■
BRANT LAKE BOAT LAUNCH											■					
BROOMSTICK LAKE TRAIL PARKING																■
BUCK POND BOAT LAUNCH PARKING																■
BURNT HILL PARKING LOT			■	■								■				
BURNT VLY																■
CASCADE LAKE TRAIL PARKING																■
CHAPEL POND PARKING LOT												■				
CHENEY POND TRAIL PARKING												■				
CLAY MEADOWS OVERFLOW PARKING		■								■						
CLAY MEADOWS PARKING AREA																■
CLEAR POND PARKING LOT																■
COD POND PARKING LOT												■				

	Autumn olive	Bush honeysuckle	Common or glossy buckthorn	Common reed grass	Garlic mustard	Japanese barberry	Japanese knotweed	Multiflora rose	Norway maple	Oriental bittersweet	Purple loosestrife	Reed canary grass	Wild parsnip	Winged euonymus	Yellow iris	NONE
COOPER KILL POND TRAIL- BONNIEVIEW ROAD																■
COREYS ROAD 1 TRAIL PARKING																■
COREYS ROAD 2 TRAIL PARKING																■
CORLEAR BAY BOAT LAUNCH PARKING				■							■					
CRANBERRY LAKE CAMPGROUND MAINTENANCE PARKING LOT					■							■				
CRANE MOUNTAIN PARKING LOT																■
DEBAR MTN. PARKING LOT																■
DEER LEAP TRAILHEAD ROADSIDE PARKING																■
EAST MILL FLOW TRAIL PARKING																■
EAST PINE POND FISHING ACCESS PARKING																■
FLOODWOOD CROSSING PARKING LOT		■														
FLOODWOOD MOUNTAIN TRAIL PARKING																■
FLOODWOOD RESERVATION TRAIL PARKING																■
FOLLENSBY CLEAR (NORTH) FISHING ACCESS PARKING																■
FOLLENSBY CLEAR (SOUTH) WATER ACCESS PARKING																■
FOURTH LAKE PARKING LOT												■				
FOX HILL ROAD PARKING LOT																■
FRANKLIN FALLS POND FISHING ACCESS PARKING																■
GEORGIA CREEK PARKING LOT																■
GLASGOW TRAIL PARKING																■
GRIFFIN GORGE PARKING LOT AT ROUTE 8												■				
GULF BROOK ROAD PARKING LOT												■				
HAGUE BROOK PARKING AREA							■									
HARPERS FALLS PARKING AREA																■
HOFFMAN NOTCH BROOK TRAIL PARKING												■				
HOLMES LAKE																■

	Autumn olive	Bush honeysuckle	Common or glossy buckthorn	Common reed grass	Garlic mustard	Japanese barberry	Japanese knotweed	Multiflora rose	Norway maple	Oriental bittersweet	Purple loosestrife	Reed canary grass	Wild parsnip	Winged euonymus	Yellow iris	NONE
INDIAN CARRY (ROAD) TRAIL PARKING												■				
INDIAN RIVER PUT-IN PARKING LOT																■
INDIAN ROCK PARKING LOT																■
JABE POND PARKING AREA																■
KANE MOUNTAIN PARKING																■
KING PHILLIPS SPRING PARKING LOT												■				
LAKE DESOLATE PARKING LOT 1																■
LAKE DURANT PARKING LOT																■
LAKE OZONIA PARKING AREA																■
LAKE ROAD PARKING LOT					■											
LAMPSON FALLS PARKING AREA					■							■	■			
LEWIS PRESERVE NORTH PARKING LOT																■
LEWIS PRESERVE SOUTH PARKING LOT																■
LINDSAY BROOK NORTH TRAIL PARKING																■
LINDSAY BROOK SOUTH TRAIL PARKING																■
LONG POND PARKING LOT																■
LOWER DAM ROAD NORTH PARKING LOT																■
LOWER DAM ROAD SOUTH PARKING LOT																■
LYON MOUNTAIN TRAIL PARKING											■					
MAIN BRANCH CARRY PARKING LOT																■
MARINA TRAIL																■
MARINA TRAIL PARKING																■
MIDDLE BRANCH PARKING LOT																■
MIDDLE POND TRAIL PARKING																■
MOON POND PARKING LOT												■				
MOSS LAKE PARKING																■
MT FAY TRAILHEAD PARKING																■

	Autumn olive	Bush honeysuckle	Common or glossy buckthorn	Common reed grass	Garlic mustard	Japanese barberry	Japanese knotweed	Multiflora rose	Norway maple	Oriental bittersweet	Purple loosestrife	Reed canary grass	Wild parsnip	Winged euonymus	Yellow iris	NONE
MUD POND TRAIL PARKING																■
NINE CORNER LAKE TRAIL PARKING												■				
NORTH BRANCH BOUQUET RIVER PARKING LOT																■
NORTHVILLE PLACID TRAIL & WOODS LAKE TRAIL PARKING																■
NORTHWEST BAY PARKING																■
OLD FARM PARKING LOT																■
PADANARUM ROAD PAKING LOT																■
PALMER POND PARKING AREA											■					
PAULINE MURDOCK PARKING		■				■	■									
PERU DOCK BOAT LAUNCH PARKING		■	■								■					
PIKES BEACH PARKING		■														
POKE-O-MOONSHINE FIRE TOWER PARKING			■							■						
POKE-O-MOONSHINE OBSERVER'S TRAIL PARKING												■				
POLE HILL POND PARKING AREA																■
POLLIWOG POND WATER ACCESS PARKING		■														
POPLAR POINT						■				■		■				
PROSPECT MT PARKING										■		■				
QUEBEC BROOK PARKING LOT																■
RAINBOW LAKE TO JONES CANOE CARRY PARKING LOT												■				
RATTLESNAKE COBBLE PARKING												■				
REDD PARKING LOT										■						
RIDGE ROAD PARKING LOT																■
RIVER ROAD # 1 RIVER ACCESS PARKING		■										■				
ROCK LAKE TRAIL PARKING LOT																■
ROCK RIVER TRAIL PARKING LOT																■
RONDAXE FIRE TOWER PARKING																■

	Autumn olive	Bush honeysuckle	Common or glossy buckthorn	Common reed grass	Garlic mustard	Japanese barberry	Japanese knotweed	Multiflora rose	Norway maple	Oriental bittersweet	Purple loosestrife	Reed canary grass	Wild parsnip	Winged euonymus	Yellow iris	NONE
ROUND POND PARKING LOT												■				
ROUTE 30 @ MIDDLE SARANAC LAKE PARKING LOT												■				
ROUTE 73 PULL OFF												■				
SAWYER MOUNTAIN TRAIL PARKING																■
SCHOFIELD FLATS ACCESSIBLE PARKING																■
SCHOFIELD FLATS PARKING												■				
SHOULDER PARKING FOR CATAMOUNT TRAIL HEAD																■
SINCLAIR FALLS PARKING AREA/LAKE GEORGE RD																■
SINCLAIR FALLS PARKING AREA/TOOLEY POND RD																■
SNOWY MOUNTAIN TRAIL PARKING																■
SOUTH BRANCH BOUQUET RIVER PARKING LOT																■
SOUTH CREEK FISHING ACCESS PARKING					■							■				
SPANKY'S WALL PARKING LOT												■				
SQUIRE POND PARKING LOT																■
STONE DAM TRAIL PARKING												■	■			
TAYLOR POND LOOP PARKING LOT												■				
THIRD LAKE CREEK PARKING												■				
TOOLEY POND CAMPSITE PARKING AREA																■
TOOLEY POND MTN PARKING AREA NORTH																■
TOOLEY POND PARKING AREA																■
UPPER SARANAC LAKE BOAT LAUNCH PARKING												■				
VANDERWHACKER WOODS												■				
WALKER BROOK PARKING LOT																■
WATCH HILL PARKING AREA												■				
WEST PINE POND TRAIL PARKING																■
WILFRED KING PARKING LOT												■				
WILLSBORO BAY BOAT LAUNCH PARKING		■	■								■					

	Autumn olive	Bush honeysuckle	Common or glossy buckthorn	Common reed grass	Garlic mustard	Japanese barberry	Japanese knotweed	Multiflora rose	Norway maple	Oriental bittersweet	Purple loosestrife	Reed canary grass	Wild parsnip	Winged euonymus	Yellow iris	NONE
WILSON POND																■
WINDFALL POND PARKING					■								■			
WOLF POND TRAILHEAD PARKING AREA												■				
ZANDER SCOTT TRAIL HEAD PARKING LOT												■				

■ indicates species presence