



**2017**

**Final Report**

**Esopus Mile-a-Minute Control Project**

Prepared for

The Lower Hudson Partnership for Regional Invasive Species Management

Prepared by

Nate Nardi-Cyrus, Scenic Hudson

This document summarizes the deliverables completed towards the Esopus Mile-a-Minute Control Project during 2017. Conception and execution of the project was made possible through a partnership between Scenic Hudson, INC. and Trillium Invasive Species Management (ISM), INC.



This project was contracted by the Lower Hudson Partnership for Regional Invasive Species Management (LH PRISM) using funds from the Environmental Protection Fund as administered by the New York State Department of Environmental Conservation.



## Project Summary<sup>1</sup>

In the fall of 2014, an infestation of Mile-a-minute (MAM) vine (*Persicaria perfoliata*) was identified in the Town of Esopus, NY. Subsequently, multiple patches were discovered along a railroad corridor and in adjacent wetlands and woodlands. This infestation was the first occurrence of MAM identified in Ulster County, NY and was one of the most northern infestations in New York State. For these reasons, this infestation was cause for significant concern: it represented a considerable threat to the yet -uninvaded Catskills region and important conservation lands. Scenic Hudson, INC., the Catskill Regional Invasive Species Partnership (CRISP) and Trillium ISM, INC. surveyed the area and developed a proposal for action in 2015. Initial landowner outreach in the winter of 2014-2015 only connected with one property owner, Ted Peck. LH PRISM funding was awarded to support planning, monitoring and management support for the management of Mr. Peck's property.

The goal of this project has been a suppression from the start of management activities in 2015. Due to the large size of the infestation and MAM's numerous dispersal vectors, it was determined that any other goal would be unrealistic. By suppressing MAM at the edge of its expanding range, this project aimed to slow the spread long enough to establish a large and healthy population of the available biocontrol (*Rhinoncomimus latipes*) and more quickly achieve long-term suppression in newly invaded areas.

In 2015, project collaborators engaged in community outreach, established a management plan for a portion of the infestation and implemented control measures using chemical, biological and manual techniques. Outreach to owners of land within the estimated infestation boundaries resulted in the engagement of two other landowners within the bounds of the infestation.

In 2016, Trillium ISM INC, Scenic Hudson, INC., the NY/NJ Trail Conference Invasive Species Strike Force and all partnering landowners were award LH PRISM funding to continue control efforts throughout the year. Actions included brush cutting four acres of land and two miles of access trails, treating fourteen acres with herbicide, (not including area treated by landowners), treating eighteen acres with hand-pulling and mechanical means and releasing 1000 biocontrol weevils.

In 2017, a proposal was submitted to the LH PRISM to fund the continuation and expansion of control efforts. The proposal was awarded funding, a contract was signed on 4/19/17 and all work was completed on 11/21/17.

## Justification of Project

MAM's invasiveness is ranked as "Very High" by NYS. While it is considered an established species by the LH PRISM, this population is located in the northwest corner of the LH PRISM where it is still uncommon. The occurrence on this property assemblage was the first recorded occurrence within Ulster County and is approximately eight miles from the boundary with CRISP, which considers mile-a-minute a "priority terrestrial plant."

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<sup>1</sup> Project history was sourced, in part, from 2016 Esopus Mile-a-Minute Project final report available at [lhprism.org](http://lhprism.org)

Hell Brook, a small perennial stream, bisects the assemblage and ultimately drains into Black Creek. Controlling mile-a-minute in the wetland floodplain and associated uplands adjacent to the stream is important for keeping the floating berries from spreading the plant downstream where 2014 and 2016 surveys did not detect it. This stream corridor is critical habitat for an extremely healthy population of wood turtles (*Glyptemys insculpta*), a state species of special concern.

Part of the infestation is within Shaupeneak Ridge Park—an 800 acre property known for its diversity of species, natural communities and habitats, as well as its recreational opportunities. Scenic Hudson, INC. has documented a healthy population of a NYS endangered grass (side-oats grama, *Bouteloua curtipendula*) less than 1,200 feet from the nearest mile-a-minute patch and a large population of the NYS endangered sedge, *Carex typhina*, less than 2,500 feet away.

The project area occurs within all but one of the LHPRISM's Conservation Target Areas categories:

- NYS Protected Areas
- Land Fire Forest Block >500 ac
- NY Natural Heritage Communities
- Forest Blocks and Linkages
- HREP Significant Biodiversity Areas
- TNC Focal Portfolio Areas



Wood turtles (*Glyptemys insculpta*) were a serious consideration when planning management activities – Photo Credit: Nate Nardi-Cyrus

## Management Actions (See Map 1)

### ***Trillium ISM, INC.***

***Acres of Management: 25 (21 – Herbicide; 2 – Flame Torch; 2 – Hand Pull)***

Winter/Spring: Brush cutting work was initially planned for early in the season to provide access for subsequent herbicide treatments. Upon further inspection, project partners determined that additional cutting was not necessary and that those funds should be used for more herbicide treatment during the summer months.

Early Summer: Up to 63 person hours were used to apply Accord XRT II on three private properties. 10.5 person hours were used in targeted flame treatments on one private property.

Summer: Up to 10.5 person hours were used to manually remove MAM on sensitive areas of one private property. Up to 94.5 person hours were used to apply Accord XRT II on six private properties, two of which were newly discovered sites.

Late Summer: 2 hours of general monitoring was conducted to assess outcomes and assess future control options.



Flame torch treatment plot – Photo Credit: Tom Lewis

### ***Scenic Hudson, INC.***

***Acres of Management: 2 (1.5 – Hand Pull; .5 Weed whack)***

Winter/Spring: 7 person hours were used to brush cut access to treatment sites. APHIS biocontrol release and DEC herbicide application permits were secured. Biocontrol was ordered, with a delivery date set for mid-July.

Summer: 78 person hours were used in mechanical and manual treatments around the Hell Brook floodplain and adjacent uplands. 500 biocontrol weevils were released on 1 private



ownership within the main patch. A MAM survey was conducted throughout the Town of Esopus (See Map 2), with special focus given to adjacent roadsides, ROWs and private lands. On 7/19/17, staff gave a presentation to the Town of Esopus Environmental Board, focused on our MAM management project. The remaining post-treatment monitoring was conducted on over a series of months on all properties where action was taken in 2017.

Fall: 14 person hours used in mechanical and manual treatments around the Hell Brook floodplain and adjacent uplands. 3 person hours were used to conduct post management conservation seeding within mechanical/manual treatment site at Shaupeneak Ridge.



Biocontrol (*Rhinoncomimus latipes*) release on private land – Photo Credit: Megan Johnson

**Mr. Ted Peck**

***Acres of Management: 13 (Herbicide)***

Winter/Spring: Up to 10 person hours were used to brush cut access for treatments on southern portion of property

Summer: Up to 65 person hours were used to apply Roundup on the Peck Property (1 treatment and 1 follow-up).

## **Conclusion and Recommendations**

This year was the third year (2015-2017) of a multi-partner project with a goal of suppressing MAM in Esopus. While the number of participating landowners increased from 2 (2015) to 7 (2017), our funding was also increased and administration responsibilities were largely shifted to Scenic Hudson, INC. This allowed Trillium ISM, INC. to experiment with new management techniques and to expand their control efforts over a larger geographic area. In collaboration with Trillium ISM,

INC., Scenic Hudson, INC. and Ted Peck continued and expanded their matching management efforts.

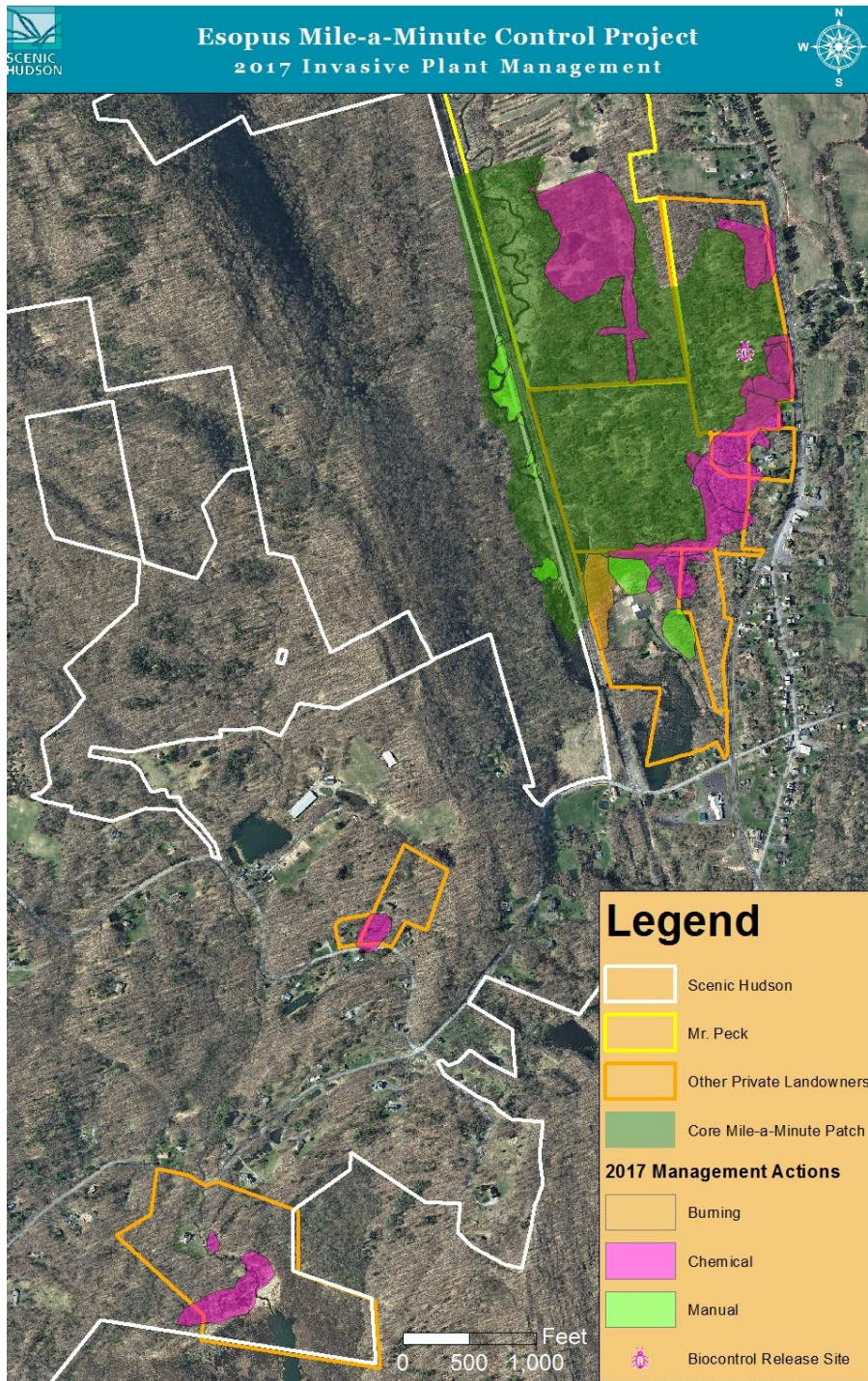
Trillium ISM, INC used plots to test the effectiveness of targeted flame on MAM in the main patch. As compared with weed whacking and hand pulling, flame torch treatments appeared to be more effective and required less effort. While they did not appear to be as effective as herbicide treatments, flame torches might provide a reasonable method of management in wetlands or other sensitive habitats. More research is needed to quantify the efficacy of these treatments across multiple sites, but these preliminary trials are promising.

Due to favorable weather conditions (i.e. abundant moisture), MAM germinated at higher rates than had been observed in previous years. This presented a challenge because vines appeared in new locations and fruited more rapidly than in prior years. The positive effect of this development was that more of the seed bank was exhausted through repeated treatments in a given year.

Without costly, long-term monitoring it is difficult to assess the success of released biocontrol on the site. In 2015, project collaborators noticed biocontrol was already present in low densities throughout the core patch. Since that time, Scenic Hudson INC. and Trillium ISM, INC. have released 2,500 weevils within the center of the core patch, where no management occurred during the duration of the project. It is our hope that this area acts as a local biocontrol nursery; boosting their population and therefore encouraging dispersal to nearby MAM infestations.

Since the writing of the proposal for this year's management, several new populations of MAM have been documented in close proximity to the Esopus population. Three of the new infestations were within the LH PRISM but closer to the boundary with CRISP. Two new infestations were within the Catskills, where CRISP has engaged in a rapid response campaign. Based on this new information, Trillium ISM, INC and Scenic Hudson, INC. agree that next year's management should be limited to biocontrol releases and possibly some minimal management by Scenic Hudson on its infested properties. It is likely that Ted Peck will continue his management within the site, as he has articulated a personal goal of MAM eradication on his property.

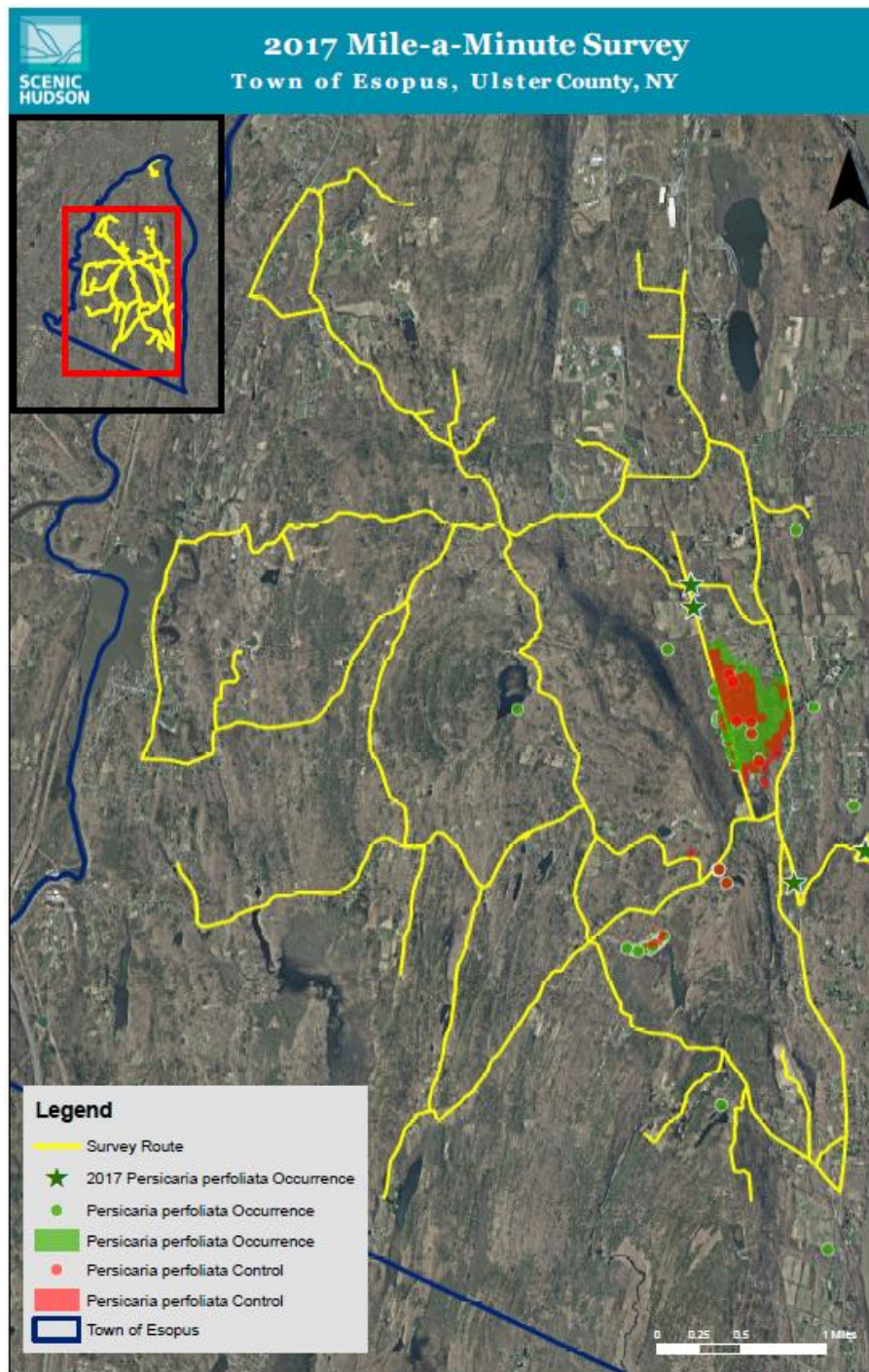
**Map 1. 2017 Esopus Mile-a-Minute Project - Management Actions\***



\* Scenic Hudson, INC. created this map with data contributions made by Trillium ISM, INC.



**Map 2.** 2017 Esopus Mile-a-Minute Project – Survey\*



\* Scenic Hudson, INC. created this map with data contributions made by Trillium ISM, INC.