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On the Hunt for Invasives: 2012 Invasive Species Early Detection Report

Early detection is the key for controlling the spread of invasive/exotic pests and plants

Background

“Invasive species” are alien species that cause or are likely to cause harm to the economy, environment, and/or human health, and are considered to be one of the leading threats to the biodiversity and integrity of ecosystems worldwide. In broad terms, they are organisms that have been introduced deliberately or unintentionally into an environment where they did not evolve, are capable of establishing self-sustaining populations in “untransformed ecosystems”, and have no natural enemies to limit their reproduction and spread. These are among the reasons why early detection of invasive species was identified as a priority vital sign by several Inventory and Monitoring networks including the Northeast Temperate Network (NETN).

Objectives and Methods

The main goal of this program is to detect invasive species while they are still in the early stages of establishment when the costs of eradicating them are still low. This is accomplished by first developing a modest list of target insect pest and exotic plant species specific to each park. Species on the list must be recognizable to non-experts. The target list includes species that are either present in the park at low levels and of concern if new populations are detected, or not present in the park, but that threaten ecosystem health and function in the region. To aid with identification, NETN makes available laminated field guides and annual trainings to field crews and network parks. The field guides contain each park’s target list, identification cards for each species on the target list, and laminated pest and plant detection forms. As of the 2013 field season, field crews and even park visitors will be able to record sightings of invasive/exotic species into an off-the-shelf smartphone application (for Iphone and Android) called “What’s Invasive”. The app includes updated target lists for each park, and automatically stores important data associated with the detection including GPS location, photographs, and extent of population. Prompt reporting is expected to increase with the use of this app in the field, which is capable of documenting invasive species directly to a web-based system immediately following a detection. This is considered to be the pilot year for using this app, and projects organizers are eager for feedback as to how it works in the field and ways it may be improved.

An important note is that if a target invasive species is found on an NETN forest health monitoring plot, the plot must not be specifically targeted for invasive species removal. In order not to skew forest health data, forest monitoring plots need to be

treated the same as the surrounding area and invasive species removal should only occur when it is conducted in a larger management area that happens to include one or more plots.

AMUR PEPPERVINE

[*Ampelopsis brevipedunculata* (Maxim.) Trautv.]

AMBR7

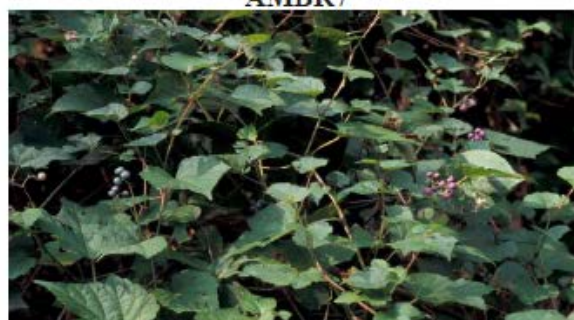


Fig 1

UGA 5379592

Problem: Native to Asia,^{2,3} amur peppervine (APV) (Fig. 1) is a fast growing vine that can overtop and weigh-down native shrubs and trees, completely shading them from the sun and making them more susceptible to wind and ice damage.⁵

Habit: Perennial, climbing vine.⁴

Reproduction: Primarily by seed, vegetatively; seeds are dispersed by birds and water.⁵

Leaves: Alternate, simple, variable (Fig. 2); palmately 3 to 5 lobed^{3,4} with coarse teeth with a heart-shaped base,¹ ~5 to 10 cm (2 to 4 in) wide. Young twigs, petioles and the undersides of the leaves are hairy.^{1,2,3}

Stems: Woody, tendril-bearing;³ can grow ~3 to 8 m (10 to 25 ft) or more.¹ Tendrils grow opposite the leaves on the stem.⁴ The pith is white.^{2,4}

Flowers: Small, inconspicuous, and greenish-white¹ (Fig. 3); Grow opposite leaves in cymose (flat or round-topped) clusters.^{2,3} Appear May through August.⁴

Fruits/Seeds: Speckled, 6 to 8 mm (~0.25 in)¹ hard berries, ripening from September to October. Fruits are borne in



Fig 2

www.discoverlife.org

VINE

A look at the amur peppervine early detection field guide card for Weir Farm National Historic Site.

Results and Findings

Early Detections

No new locations of early detection species, including aquatic plants, were observed in the park in 2012. However, mile-a-minute was observed near park borders, signifying that awareness and vigilance for detecting this plant early should remain at the forefront of the invasive species program. Also, the range of the

emerald ash borer continues to expand and is getting closer to WEFA, as it was found in prism traps in western Massachusetts and in neighboring New Haven County. Although not on the target list, viburnum leaf beetles were seen on southern arrowwood shrubs within a forest monitoring plot in early successional old field habitat. The impact of this pest in natural settings is not fully understood and native viburnums in forest habitats should be closely monitored.

Invasive Species Target List Review

NETN staff determined that all species should remain on the target list. Several species have been detected in the park, but are, in the opinion program organizers, at low enough levels that NETN suggests keeping them on the list until their full extent is known throughout the park. Although there are several invasive species of concern that are creeping closer to Weir Farm NHS (e.g. chocolate vine, Japanese aralia, and privet species), they are not yet recommended for inclusion on the list at this time. These species will be considered for inclusion in the future.

Invasive Species Management

With assistance from youth groups, park staff and interns managed several invasive species in 2012. In a 3 acre old-field site, control efforts focused on barberry, oriental bittersweet, winged burning bush, multiflora rose, and privet species. Working from previous inventories, the rapidly expanding Japanese stiltgrass was hand pulled throughout the park by staff and interns.

What's Next

The invasives program, now in its third year, has entered the stage of reviewing the original species target lists based on the number of detections and updated species ranges. Feedback from park managers has indicated that the target lists and field guides have increased awareness of priority invasive species, and have made identification of these species easier. Continued feedback about the *What's Invasive?* app will help to further enhance the effectiveness of the invasive species early detection program.

More Information

Contacts and Websites

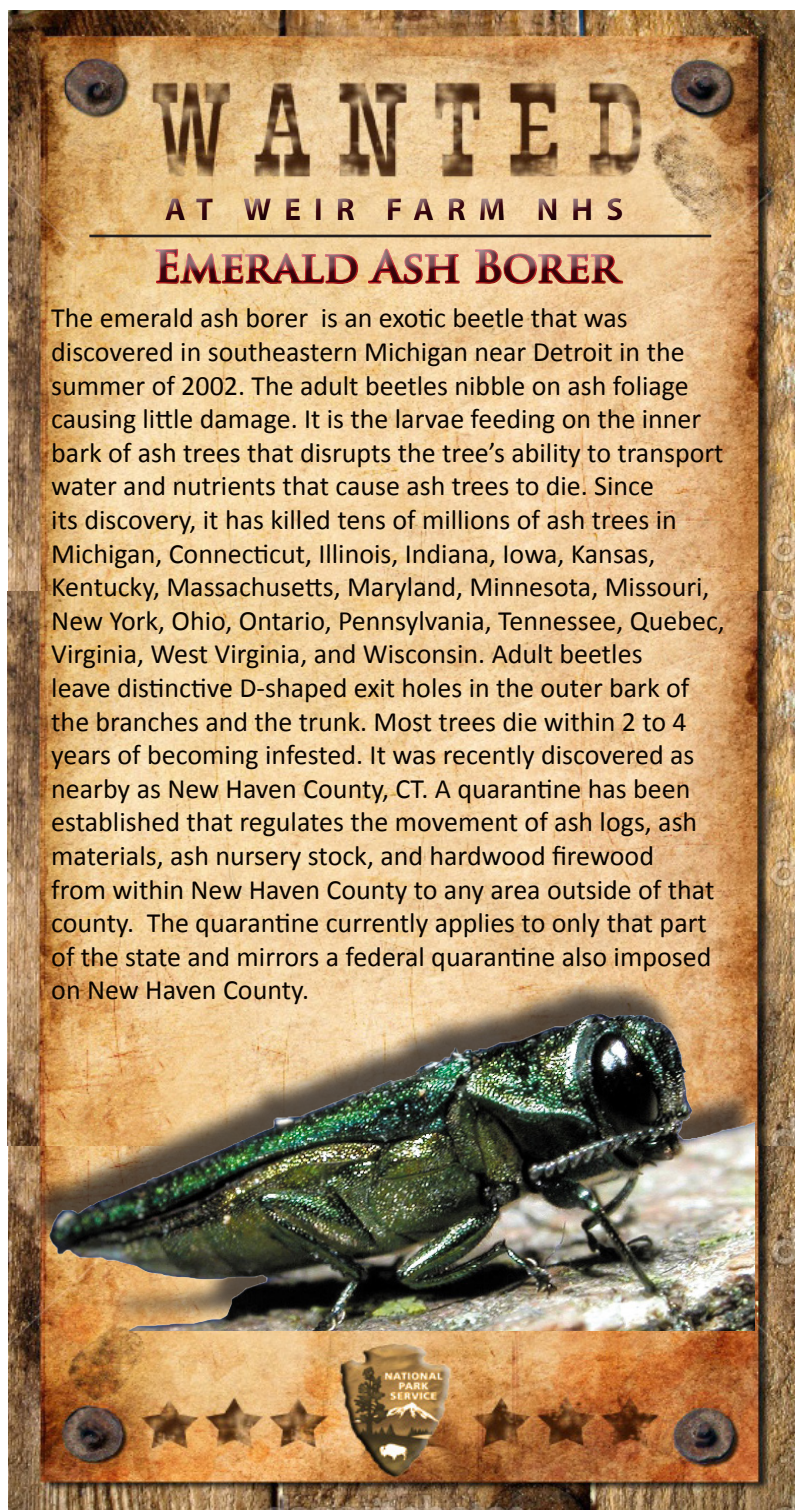
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Full Report online at:

<https://irma.nps.gov/App/Reference/Profile/2194335>

"What's Invasive?" Website

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