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Spring / Summer 2018

Providing Insight into the Benefits and Uses of the Pennsylvania iMapInvasives Database

Tracking Invasive Species with Pennsylvania iMapInvasives

Friends of High School Park Remove Invasive Species and Replace with a Native Meadow and Rain Garden

Story provided by Cynthia Blackwood, President of [Friends of High School Park](#)



The Friends of High School Park (FHSP) is a non-profit volunteer organization based out of Elkins Park in Montgomery County, Pennsylvania. The FHSP's mission is to create, manage, and preserve an 11+ acre native ecosystem within Cheltenham Township's High School Park for the enjoyment of the local community. The group offers various opportunities to engage and connect with fellow community members and nature through educational programs, work/service days, and annual festivals.

Since FHSP's creation in 1995, members and volunteers have designed three distinct ecosystems within the 11 acres of the preserved park including the upper meadow, the middle woodland edge, and the lower area stream bank.

In March of this year, two members of FHSP were given an opportunity to learn more about iMapInvasives through a class



Volunteers weeding Fulton Garden at High School Park.
Credit: Friends of High School Park

offered at the Morris Arboretum in Philadelphia.

iMapInvasives data entry and custom querying tools were discussed and examples were given on how other individuals and groups are making use of the database. All of this information showed FHSP members how they too could be utilizing iMapInvasives to track invasive species found and treated at High School Park, expand the group's recordkeeping efforts, and connect to a larger volunteer base for park maintenance purposes.

(Story continued on page 2...)



Volunteers gather in front of shed at High School Park for lesson during early spring workdays. Credit: Friends of High School Park

Feature Story (Continued from Page 1)

One of the original large-scale projects FHSP took on (in coordination with Cheltenham Township) was the planting of a native meadow in the area where Cheltenham High School burned down and was subsequently imploded into its basement. That destruction left most of the area with only 10" of soil, hence the decision to plant a meadow.



Mugwort (*Artemisia vulgaris*) is one of a few species that invaded the native meadow at HSP. Credit: Wikimedia Commons

Over the years, crown vetch, mugwort, and porcelainberry choked out the native flowers and weighed down many of the native grasses and small trees. In Spring 2017, FHSP began an intensive "re-claiming" program for the front half of the meadow, essentially starting from scratch so the group could follow the protocol for a meadow's challenging development and maintenance schedule.



Porcelainberry (*Ampelopsis brevipedunculata*) is another species that invaded the native meadow at HSP. Credit: Wikipedia

Having mowed, sprayed, and mowed again the front meadow in April 2018, FHSP has plans to plant native grasses in mid-summer and then again in late fall. Now with the use of iMapInvasives, daily walkers through High School Park along with FHSP's restoration manager, Kevin Reis, can precisely monitor any new invasive growth that occurs within the newly planted meadow.

In Fall 2017, FHSP completed a 25ft x 100ft double pool [rain garden](#) to disperse storm water runoff from the main meadow before it reaches Tacony Creek. Much debris-filled dirt was removed from the area and new dirt was put in its place; however, in doing so, new weed seed was likely introduced into the park. As this new area is now being managed by FHSP, iMapInvasives will again be an essential tool for monitoring and identifying invasive species before they become established in the rain garden.



Construction of double pool rain garden for use in dispersing storm water runoff from main meadow in HSP before reaching Tacony Creek. Credit: Friends of High School Park



Double pool rain garden—finished and in use at High School park. Credit: Cynthia Blackwood

To learn more about Friends of High School Park or to volunteer your time to steward and beautify the park, please visit the FHSP website at www.fhsp.org. Volunteers are needed to pull and cut exotic invasive plants, perform trail maintenance, plant trees and shrubs, and work on some of the projects happening in the park.

You can also view a YouTube video titled "[Precious Places 2011—High School Park](#)" that highlights the park's history and its use as a natural resource to the community of Elkins Park.

Brand New Cooperative Weed Management Area in North Central Pennsylvania Targets Non-Native Invasive Species

Penn State Extension and the McKean County Conservation District team up to form a new cooperative weed management area in North Central Pennsylvania known as the Allegheny Plateau Invasive Plant Management Area.



Kimberly Bohn (far right) and Jody Groshek (second from right), co-founders of the APIPMA, speak on best management practices related to invasive species prevention at a workshop held near Emporium in April 2018.

Story provided by Kimberly Bohn, Forestry Extension Educator with The Pennsylvania State University

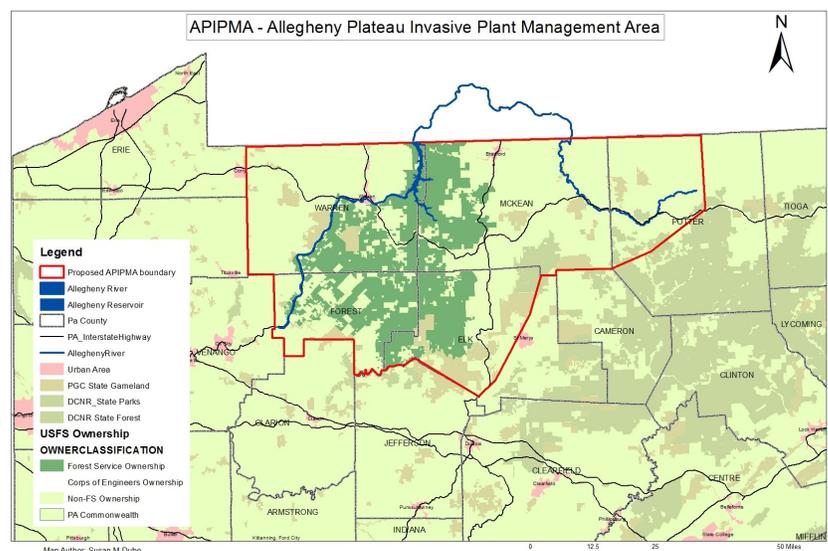
A new invasive species cooperative called the Allegheny Plateau Invasive Plant Management Area (APIPMA) was recently formed at the beginning of 2018 to tackle invasive plants in North Central Pennsylvania. APIPMA originated after co-founders Kimberly Bohn, Educator with Penn State Extension, and Jody Groshek, Communications Outreach Director for the McKean County Conservation District, saw a need for such a group in the McKean County area after attending a meeting of neighboring Sinnemahoning Invasive Plant Management Area (SIPMA). An initial meeting with local stakeholders including federal, state, and local agencies, private natural resource companies, and community groups widened the scope of the cooperative region to cover both the watershed of the Upper Allegheny River and the entirety of the

Allegheny National Forest. The mission of APIPMA is to work toward invasive plant awareness, inventory, prevention, early detection, and control.

One of the first goals of APIPMA is to better inform the public and develop a citizen science volunteer network that can help the cooperative to monitor and map invasive plants in critical habitats throughout the region. Ultimately, APIPMA would like to prioritize the most critical areas in the region to target invasive plant control and work with agencies, industry, and private individuals to treat these target areas simultaneously.

To that end, the cooperative will be using iMapInvasives to build a database of invasive plants within the region. iMapInvasives will allow APIPMA members to upload and combine datasets already collected by agency and industry partners with new datasets to be collected by volunteers in the area. Several trainings this summer will be provided throughout the APIPMA region to educate the community on identifying, monitoring, and mapping invasive plants including a tutorial on how to use the iMapInvasives mobile app and how to upload data through the website. In addition to mapping their favorite recreational areas, APIPMA coordinators are asking partners to identify crucial areas where volunteers can be sent in order to fill in gaps in the iMapInvasives database.

(Story continued on page 4...)



Early Detection and Rapid Response (continued from Page 3)

Among the many invasive plants being looked for in the forested areas of APIPMA are glossy buckthorn (*Frangula alnus*), Japanese stiltgrass (*Microstegium viminium*), and bush honeysuckles (*Lonicera morrowii* and *L. tatarica*). Glossy buckthorn in particular has invaded much of the Allegheny National Forest and surrounding public and private forest land, forming dense understory canopies across thousands of contiguous acres. Buckthorn is problematic not only because it outcompetes all



Glossy false buckthorn (*Frangula alnus*) - Credit: Pete Woods, PNHP

other native understory vegetation, but it also has been shown to alter soil chemistry which can exclude seedling regeneration even after having been eradicated. Thus being able to locate and control isolated patches or containing the periphery of invaded areas will be essential to maintaining the quality of our forests.

Other early detection rapid response (EDRR) species on the radar for the APIPMA region include tree-of-heaven (*Ailanthus altissima*), mile-a-minute (*Persicaria perfoliata*), Japanese barberry (*Berberis thunbergii*), and oriental bittersweet (*Celastrus orbiculata*). All of these species are already present south of APIPMA's border.

Though APIPMA is only about one year into its establishment, the group has been able to tap into the long-established collegiality of the natural resource community in the area. Some of the group's biggest supporters and contributors to its mapping efforts include the United States Forest Service at the Allegheny National Forest, the Pennsylvania Department of Conservation and Natural Resources, the Pennsylvania Game Commission, and the many forestry and natural gas companies in the region. Engaging community groups that utilize the forests and streams in the region is the next step towards meeting APIPMA's mission. iMapInvasives will allow the group to integrate and analyze the invasive plant information from all of these diverse partners!



Tatarian honeysuckle (*Lonicera tatarica*) - Credit: Richard Gardner

APIPMA is one of five active Cooperative Weed Management Areas (CWMAs) in Pennsylvania. Other active CWMAs include the Sinnemahoning CWMA, Lake Erie Watershed CWMA, Southern Laurel Highlands CWMA, and the French Creek CWMA.

To learn more about APIPMA and the invasive plant control efforts the group is conducting, please contact Kimberly Bohn at kkb29@psu.edu or (814) 887-5613.



Japanese stiltgrass (*Microstegium vimineum*) - Credit: Amy Jewitt, PNHP

Protect Pennsylvania's Forests and City Trees by Looking for Signs and Symptoms of the ALB

The Asian longhorned beetle has not been found in Pennsylvania to date, but is known from nearby states including New York, Ohio, and Massachusetts. Be on the lookout this summer in case you see evidence of this pest in PA.

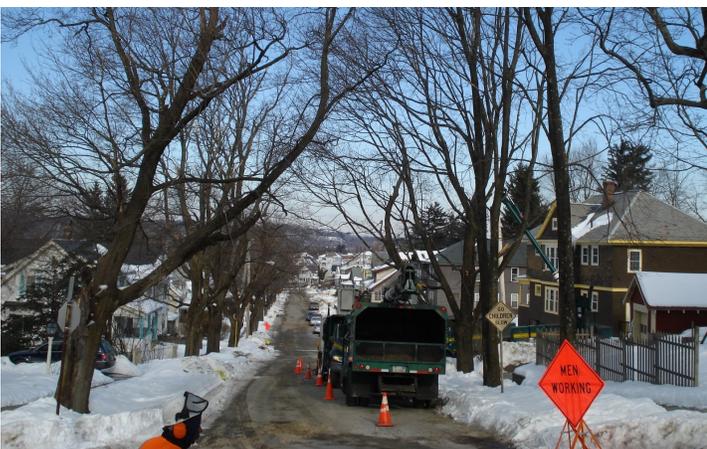
Story written by Aspen Weitzel, Conservation Information Technician for the [Pennsylvania Natural Heritage Program](#)

The Asian longhorned beetle (ALB - *Anoplorphora glabripennis*) is a large, bullet-shaped beetle about 1-1.5 inches long with six long legs. Its shiny black body has distinctive white spots and its head sports exceptionally long antennae that are banded black and white. The ALB's elongated feet are black with a whitish-blue upper surface.



Asian longhorned beetle

Credit: U.S. Department of Agriculture, [CC BY-ND 2.0](#)



Granville Avenue in Worcester, Massachusetts. Photo taken *prior* to removal of trees due to ALB infestation. Credit: Kenneth R. Law, USDA APHIS PPQ

active quarantine zones are in place. And even though no active quarantine zones exist (yet) in western states, all states are considered at risk of invasion by this small but destructive pest.

Signs and symptoms of infestation by the Asian longhorned beetle include the following: visible beetles, chewed round depressions in the bark of a host tree, pencil-size round exit holes, excessive sawdust (frass) buildup near tree bases, and unseasonable yellowed or drooping leaves.



ALB exit holes are perfectly round and are slightly smaller than a dime.

Nicknamed the "Starry Night Sky Beetle", the ALB was first discovered in the United States in 1996 near Brooklyn, New York. Researchers have concluded that the ALB probably hitch-hiked to the U.S. in solid wood packing materials such as crates and pallets from countries including China, Korea, and Japan. The ALB is currently found in Massachusetts, New York, and Ohio where



Granville Avenue in Worcester, Massachusetts. Photo taken *after* removal of trees due to ALB infestation. Credit: Kenneth R. Law, USDA APHIS PPQ

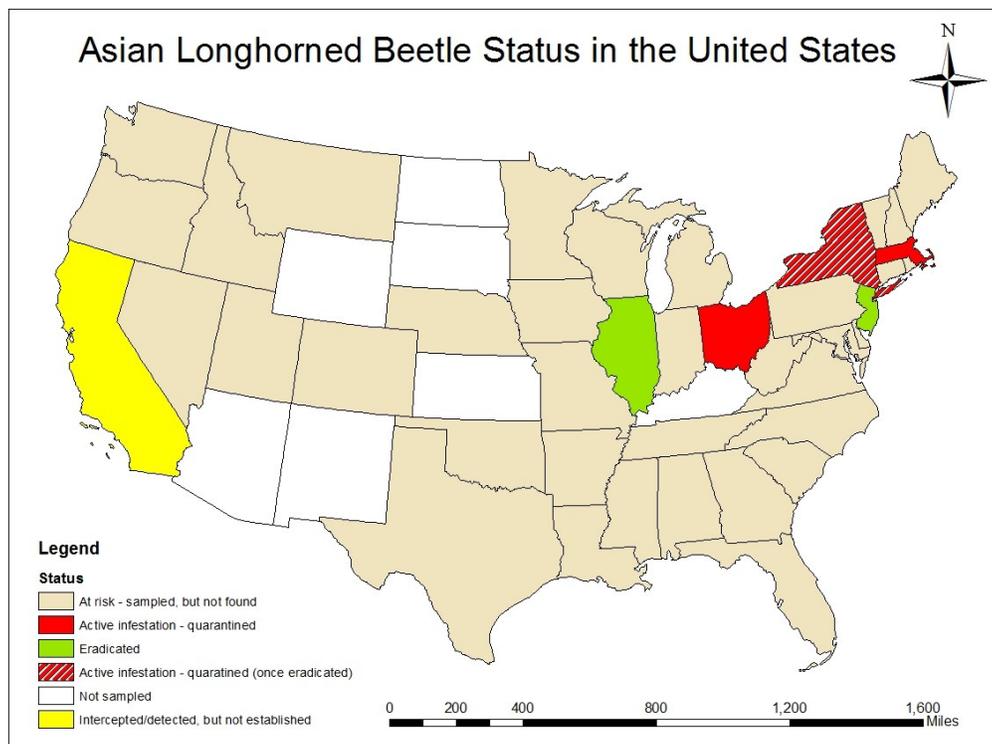
So, why should you care? The ALB has the ability to devastate trees in rural, urban, and suburban communities. It can harm tree species including ash, birch, elm, horse chestnut/buckeye, golden raintree, willow, poplar, most maples, and many more. According to The Nature Conservancy, devastation caused by the Asian longhorned beetle could kill 30% of all urban trees (at a compensatory value of \$669 billion), destroy the maple syrup industry, and damage tourism along the East Coast and in the Midwest due to decrease of fall foliage.

Luckily, there are things you can do to help keep the ALB out of Pennsylvania. First and foremost, do not move firewood. The ALB and other invasive pests can be transported to new places when people move firewood. When you go camping, remember to "[buy local](#), [burn local](#)". You can also help by inspecting your trees. Keep an eye on your backyard and street trees for signs of the ALB. If signs or symptoms of the ALB are found, report your findings immediately to the [USDA APHIS](#). You can also report the ALB and other invasive species found in Pennsylvania to iMapInvasives by submitting a [Public Report](#) or by [requesting a free login account](#) and watching our online [training video](#) to learn how to submit an observation report.

Be on the Lookout (continued from page 5)

The map on the right shows the current distribution of the Asian longhorned beetle (*Anoplophora glabripennis*) in the United States. Map created by Aspen Weitzel, [PA Natural Heritage Program](#).

- **Light Brown:** At risk—sampled, but not found
- **Red:** Active infestation—quarantined
- **Green:** Eradicated
- **Red with White Slashes:** Active infestation—quarantined ([eradicated in portions of state](#))
- **White:** Not sampled
- **Yellow:** Intercepted/detected, but not established



Invasive Species Profile >>>

Asian longhorned beetle (*Anoplophora glabripennis*)

Species at a Glance: The Asian longhorned beetle (ALB) is a large-bullet shaped beetle about 1 to 1.5 inches long. Shiny and black with white spots, it has exceptionally long antennae that are banded with black and white. The elongated feet are black with a whitish-blue upper surface. Although its size and large mandibles cause it to appear threatening, the beetle is harmless to humans and pets. In the larval stage, the white, worm-like beetles bore into live trees causing sap to flow from wounds and frass (sawdust and other insect waste) to accumulate at tree bases. Left undetected, the ALB will girdle the vascular system of trees, eventually causing the tree to wither and die.

Threat: The ALB is a serious threat to U.S. trees. ALB larvae bore deep into deciduous hardwood trees such as maple, birch, horse chestnut, poplar, willow, elm, and ash, eventually killing them. Damage from infestations in Illinois, New Jersey, and New York has resulted in the removal of more than 30,000 trees and costs to State and Federal governments in excess of \$269 million since the discovery of the infestations in 1996. If the ALB were to expand beyond the current quarantined areas, it has the potential to wreak havoc nationwide, affecting such industries as lumber, maple syrup, nursery, and tourism and causing more than \$41 billion in losses.

Similar Species: Whitespotted sawyer (*Monochamus scutellatus*), Northeastern sawyer (*Monochamus notatus*), Eyed click beetle (*Alaus oculatus*), Brown prionid (*Orthosoma brunneus*), and several other species of beetles.

Treatment Options: Although treatments exist to control ALB-infested cargo, the ALB is not easily controlled once it is introduced into the environment. Because the majority of the beetle's life is spent deep within the heartwood of host trees, it is difficult to control using contact insecticides. Although costly and undesirable, the only assured method of eliminating the beetle is to cut and chip or burn infested trees and replace them with non-host species. The use of the insecticide imidacloprid has shown to decrease beetle populations and help in preventing the spread of ALB and has become an additional effective control tool in the eradication of this pest.

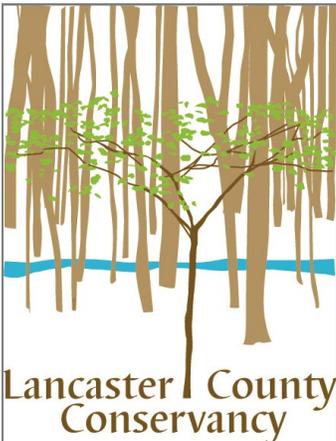
Information for this species profile comes from the USDA APHIS PPQ fact sheet "[Asian Longhorned Beetle: Questions and Answers](#)" and the Massachusetts DAR "[ALB Look-Alikes](#)" poster.



Lancaster County Conservancy Contributes Bioblitz Data

Steinman Run and Climbers Run are two protected nature preserves in Lancaster County. In 2017, a Bioblitz was held at each location. Data from both events were submitted to iMapInvasives to share with natural resource professionals and increase local awareness of the harm caused by invasive species.

Story written by Aspen Weitzel, Conservation Information Technician for the [Pennsylvania Natural Heritage Program](#)



The [Lancaster County Conservancy](#) (LCC) strives to strike a balance in its dual mission to protect natural lands while providing excellent recreational opportunities for the public. With this in mind, the LCC established 22 nature preserves around the county which includes Steinman Run and Climbers Run, located near Rawlinsville and Marticville respectively.

In 2017, both preserves were the focus of a Bioblitz; Climbers Run Bioblitz on May 16th and Steinman Run Bioblitz on September 16th. A Bioblitz includes dozens of experts on a mission to develop a comprehensive inventory of species within a certain area. Citizens and scientists joined together to complete this mission to document the diversity of flora and fauna

at the preserves. Both Bioblitzes were led by Lydia Martin, Director of Education at the LCC.

Data resulting from these Bioblitzes were later provided to the Pennsylvania iMapInvasives program, totaling 224 observation records for 63 species

considered invasive in Pennsylvania. Some of the invasive plant species found during the bioblitzes included Japanese stiltgrass (*Microstegium vimineum*), garlic mustard (*Alliaria petiolata*), Norway maple (*Acer platanoides*), oriental bittersweet (*Celastrus orbiculatus*), mile-a-minute weed (*Polygonum perfoliatum*), wineberry (*Rubus phoenicolasius*), and multiflora rose (*Rosa multiflora*). The most abundant species were Japanese stiltgrass, garlic mustard, and



The 82-acre Climbers Run Nature Preserve includes an Education Center which is housed in a converted historic barn, seen here on the preserve in Martic Township, Lancaster County. Credit: Lancaster County Conservancy



Hiking trail at Steinman Run Nature Preserve, a 245-acre preserve in Martic Township, Lancaster County. Credit: Lancaster County Conservancy

multiflora rose, with the remaining species being found in lower quantities.

To view this data in iMapInvasives, please [register for a free Pennsylvania iMapInvasives user account](#) and request to

view data in the projects entitled "Climbers Run Bioblitz" and "Steinman Run Nature Preserve Bioblitz".

To learn more about the Lancaster County Conservancy and the 22 preserves they manage, please visit their website at www.lancasterconservancy.org/.



Lydia Martin, Director of Education at the Lancaster County Conservancy

Summer Event Challenges Participants to Hunt for Water Chestnut

[Water chestnut](#) (*Trapa natans*) is considered a high priority invasive species in Pennsylvania because it causes significant harm to the environment and is not (yet) widespread within the state. Given this status, findings of water chestnut should be documented in a database such as *iMapInvasives* and managed quickly to ensure spread does not occur into new waterbodies or continue to invade waterbodies where infestations currently exist.



Water chestnut — Credit: Ron Keeney, Coneywango Creek Watershed Association

This summer, the Pennsylvania *iMapInvasives* program is again issuing a challenge to anyone willing to accept it: in the month of July, visit your local lake, pond, stream, or river and search for water chestnut. Report your findings, both presence and absence, to *iMapInvasives* using your desktop computer or mobile device. At the end of the month, all findings recorded in *iMapInvasives* will be tallied and a grand prize awarded to the person with the most records documented in

iMapInvasives. You must be [registered](#) to participate in this event and a webinar training scheduled for June 21, 2018 is a requirement for all participants of the 2018 Challenge.

Findings from the 2017 Challenge indicated a handful of new waterbodies in Bucks County that were heavily infested with water chestnut. These new infestations were not previously known about (according to data in PA *iMapInvasives*) and represent important “early detection” findings.



Heavy water chestnut infestation in Bradford Reservoir (Bucks County) — Credit: Nick Macelko (PSU Eco Action)

In total, waterbodies located in 19 counties were searched by Challenge participants in 2017, and thankfully, many did not contain water chestnut infestations. According to data currently in *iMapInvasives*, water chestnut has been found in six Pennsylvania counties: Berks, Bucks, Dauphin, Luzerne, Montgomery, and Warren.

Data resulting from the 2017 and 2018 Water Chestnut Chasers Challenges are intended for use by natural resource professionals all across Pennsylvania who have an interest in managing this high priority aquatic invader. Current efforts to

manage water chestnut exist in Lake Towhee (Bucks County) where Meghan Rogalus, Watershed Specialist with the [Bucks County Conservation District](#), hosts an annual event called “[Paddle with a Purpose: Lake Towhee Water Chestnut Removal](#)”. This event is free to attend and open to anyone. The dates for this year’s Paddle with a Purpose are July 17-19, 2018.

Register to participate in the 2018 Water Chestnut Chasers Challenge by going to www.paimapinvasives.org and clicking on “Events”. Learn more about the results of the 2017 WCCC by clicking on Resources and scrolling to the bottom of the page.

ENCOURAGING WORDS >>>



Eric Rensel, Natural Resource Specialist with the Pennsylvania Department of Conservation and Natural Resources, Bureau of State Parks

*“We will be using *iMapInvasives* to track our invasive species found in the Parker Dam State Park Complex. Interns will be doing some of this work—as well as control—and we wanted a good way to document it all. And, for the next park manager/staff who may want to know what invasive species we have (or had) on our managed lands and what was done with them, *iMapInvasives* will prove most useful.”*