

Emerald Ash Borer Report

Volume 4, Issue 42

December 17 thru December 28, 2012

Henry and Knox counties added to emerald ash borer quarantine list

The Illinois Department of Agriculture has added Henry and Knox counties to its existing 39-county emerald ash borer (EAB) quarantine.

The boundary expansion became necessary this fall after infestations of the tree-killing beetle were confirmed for the first time in Henry and Knox counties. The pest was discovered in Henry County at a park on the northwest side of Kewanee through the department's EAB trapping program and in Knox County by alert grounds staff at Knox College in Galesburg.

The quarantine, which now covers 40 percent of the entire state, is intended to prevent the artificial or "human-assisted" spread of the beetle through the movement of infested wood and nursery stock. Specifically, it prohibits the movement of the following items from quarantined areas:

The emerald ash borer in any living stage of development.

Ash trees of any size.

Ash limbs and branches.

Any cut, non-coniferous firewood.

Bark from ash trees and wood chips larger than one inch from ash trees.

Ash logs and lumber with either the bark or the outer one-inch of sapwood, or both, attached.

Any item made from or containing the wood of the ash tree that

is capable of spreading the emerald ash borer.

Any other article, product or means of conveyance determined by the IDOA to present a risk of

spreading the beetle infestation.



The emerald ash borer is a small, metallic-green beetle native to Asia. Its larvae burrow into the bark of ash trees, causing the trees to starve and eventually die. Since the first detection of the pest near Detroit, Mich., in 2002, it has killed more than 25 million ash trees.

The beetle often is difficult to detect, especially in newly-infested trees. Signs of infestation include thinning and yellowing leaves, D-shaped holes in the bark of the trunk or branches and basal shoots. Anyone who suspects an ash tree has been infested should contact their county Extension office, their village forester or the Illinois Department of Agriculture.

For a quick EAB/ash tree identification guide visit <http://web.extension.illinois.edu/hmrs/> and click on the EAB link. University of Illinois Extension will offer Emerald Ash Borer Management programs in both Henry and Knox counties next April, prior to the 2013 EAB emergence and flight season. The dates are April 15 in Galesburg and April 25 in Kewanee. EAB identification and control strategies will be discussed along with Ash tree identification, insect and disease look-alikes and what regulations are now in place due to the expansion of the quarantine zone. Meeting details will be available in February.

The full quarantine order and detailed information about the EAB program can be accessed on the internet at www.IllinoisEAB.com

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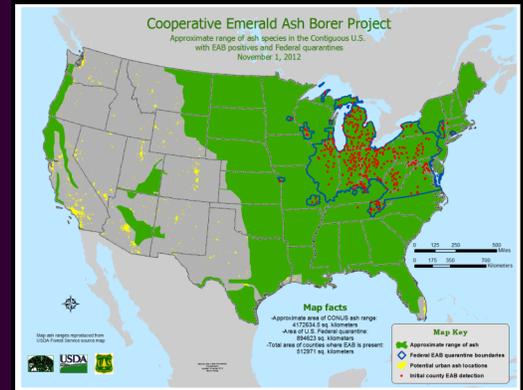
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Links to EAB Maps:

[Native and Potential Urban Range of Ash in CONUS](#)

The maps following this thematic map provide a finer scale of regulated areas and detections of EAB. This native and potential urban range map of ash provides another observation of those features from a coarser scale.

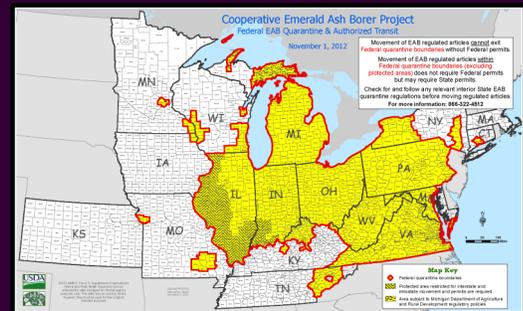


[EAB Quarantine Map](#)

Note: Federal EAB quarantine change became effective July 1st, 2012.

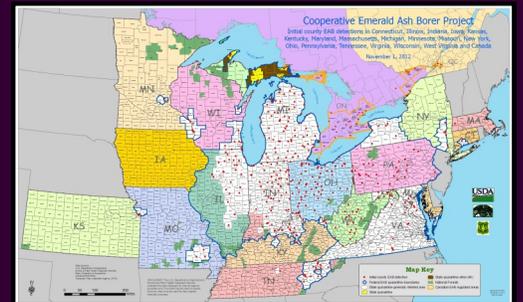
More information on this quarantine change can be found at:

http://www.aphis.usda.gov/plant_health/plant_pest_info/emerald_ash_b/downloads/DA-2012-18.pdf



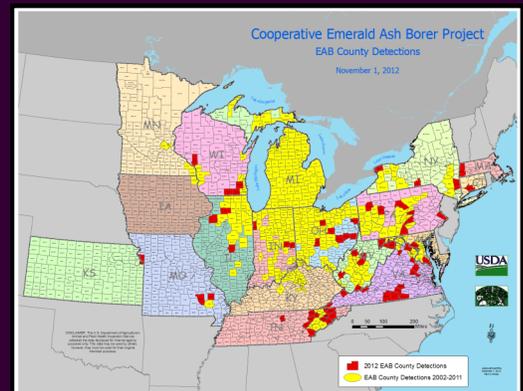
[EAB Detection and Quarantine Map](#)

This map depicts the initial EAB detection in each county and replaces the map showing all known EAB detections. All detections are still tracked and recorded by the EAB Program but for illustrative purposes this map provides a clearer view of EAB's known distribution in the United States and Canada.

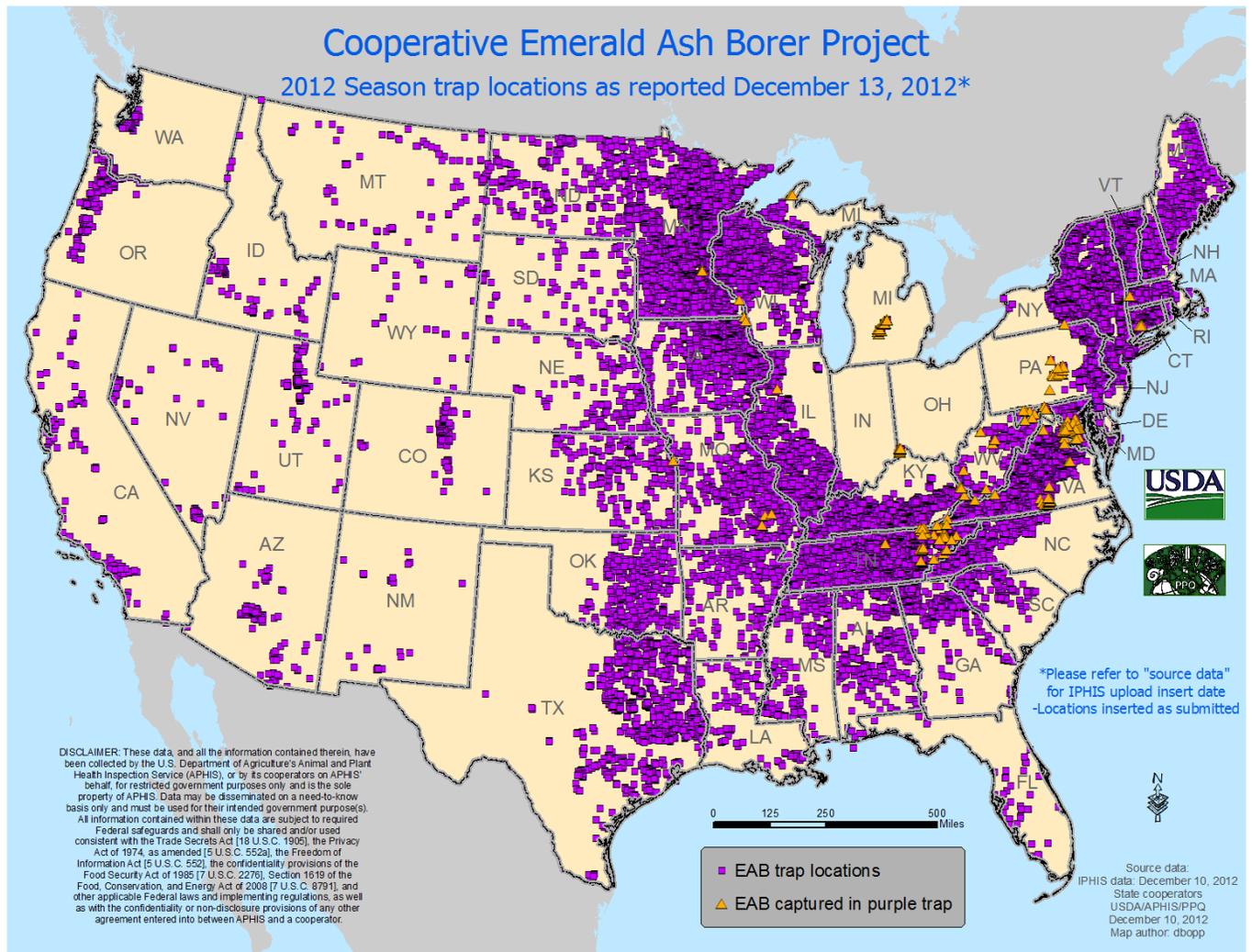


[2012 EAB New County Detections Map](#)

This map displays the initial detections of EAB by county. All new county detections occurring prior to 2012 are filled yellow while new county detections for 2012 are filled red. Currently, there are 70 new county detections in calendar year 2012; 39 in non-Federally quarantined areas.



2012 EAB Survey Trap Locations Map:



The map above displays locations of purple prism traps used for the detection of emerald ash borer and reported to the Integrated Plant Health Information System (IPHIS). Cooperators are requested to submit their survey data at their earliest convenience to IPHIS.

Differential utilization of ash phloem by emerald ash borer larvae: Ash species and larval stage effects. Chen, Y., M. D. Ulyshen, and T. M. Poland. 2012. *Agricultural and Forest Entomology*, 14: 324–330.

Occurrence of emerald ash borer (Coleoptera: Buprestidae) and biotic factors affecting its immature stages in the Russian Far East. Duan, J.J., G.Yurchenko, and R. Fuester. 2012. *Environmental Entomology*, 41: 245-254.

Critical rearing parameters of *Tetrastichus planipennis* (Hymenoptera: Eulophidae) as affected by host plant substrate and host-parasitoid group structure. Duan, J.J., and C. Oppel. 2012. *Journal of Economic Entomology*, 105: 792-801.

Potential impacts of emerald ash borer invasion on biogeochemical and water cycling in residential landscapes across a metropolitan region. Fissore, C., J. P. McFadden, K. C. Nelson, E. B. Peters, S. E. Hobbie, J. Y. King, L. A. Baker, and I. Jakobsdottir. 2012. *Urban Ecosystems*, doi: 10.1007/s11252-012-0239-2.

Characterization and virulence of *Beauveria* spp. recovered from emerald ash borer in southwestern Ontario, Canada. Johny, S., G. Kyei-Poku, D. Gauthier, K. Frankenhuysen, and P. J. Krell. 2012. *Journal of Invertebrate Pathology*, doi: 10.1016/j.jip.2012.05.008.

Estimates of the potential cost of emerald ash borer (*Agrilus planipennis* Fairmaire) in Canadian municipalities. McKenney, D.W., J. H. Pedlar, D. Yemshanov, B. D. Lyons, K. L. Campbell, and K. Lawrence. 2012. *Arboriculture and Urban Forestry*, 38: 81-91.

To treat or remove: An economic model to assist in deciding the fate of ash trees threatened by emerald ash borer. McKenney, D.W., and J. H. Pedlar. 2012. *Arboriculture and Urban Forestry*, 38: 121-129.

mRNA profiles of piRNA pathway genes in emerald ash borer, *Agrilus planipennis*. Mittapalli, O., P. Mamidala, and S. P. Rajarapu. 2012. *Insect Science*, doi: 10.1111/j.1744-7917.2011.01466.x.

Toward pest control via mass production of realistic decoys of insects. Pulsifer, D.P., A. Lakhtakia, J. Kumar, T. C. Baker, and R. J. Martín-Palma. 2012. *Proceedings of SPIE - The International Society for Optical Engineering*, Vol. 8339.

Validation of reference genes for gene expression studies in the emerald ash borer (*Agrilus planipennis*). Rajarapu, S.P., P. Mamidala, and O. Mittapalli. 2012. *Insect Science*, 19: 41-46.

Attraction of *Agrilus planipennis* (Coleoptera: Buprestidae) to a volatile pheromone: Effects of release rate, host volatile, and trap placement. Ryall, K. L., P. J. Silk, P. Mayo, D. Crook, A. Khimian, A. A. Cossé, J. Sweeney, and T. Scarr. 2012. *Environmental Entomology*, 41: 648-656.

Could phenotypic plasticity limit an invasive species? Incomplete reversibility of mid-winter deacclimation in emerald ash borer. Sobek-Swant, S., J. C. Crosthwaite, D. B. Lyons, and B. J. Sinclair. 2012. *Biological Invasions*, 14: 115-125.

Potential distribution of emerald ash borer: What can we learn from ecological niche models using Maxent and GARP? Sobek-Swant, S., D. A. Kluza, K. Cuddington, and D. B. Lyons. 2012. *Forest Ecology and Management*, 281: 23–31.

Hypocotyl derived in vitro regeneration of pumpkin ash (*Fraxinus profunda*). Stevens, M. E., and P. M. Pijut. 2012. *Plant Cell Tissue and Organ Culture*, 108: 129-135.

Assessing street tree diversity in four Ohio communities using the weighted Simpson index. Subburayalu, S. and T. D. Sydnor. 2012. *Landscape and Urban Planning*, 106: 144–50.

Differential persistence of blue ash and white ash following emerald ash borer invasion. Tanis, S. R. and D. G. McCullough. 2012. *Canadian Journal of Forest Research*, 42: 1542-1550.

Cold temperature and emerald ash borer: Modelling the minimum under-bark temperature of ash trees in Canada. Vermunt, B., K. Cuddington, S. Sobek-Swant, and J. Crosthwaite. 2012. *Ecological Modelling*, 235-236: 19-25.

Predicting emerald ash borer, *Agrilus planipennis* (Coleoptera: Buprestidae), landing behavior on unwounded ash. Marshall, J. M., M. J. Porter, and A. J. Storer. 2012. *Great Lakes Entomologist*, 45: 29-39.

The effect of bark thickness on host partitioning between *Tetrastichus planipennis* (Hymen: Eulophidae) and *Atanycolus* spp. (Hymen: Braconidae), two parasitoids of emerald ash borer (Coleop: Buprestidae). Abell, K. J., J. J. Duan, L. Bauer, J. P. Lelito, and R. G. Van Driesche. 2012. *Biological Control*, DOI: 10.1016/j.biocontrol.2012.08.009.

Impacts of the emerald ash borer (*Agrilus planipennis* Fairmaire) induced ash (*Fraxinus* spp.) mortality on forest carbon cycling and successional dynamics in the eastern United States. Flower, C. E., K. S. Knight, and M. A. Gonzalez-Meier. 2012. *Biological Invasions*, DOI: 10.1007/s10530-012-0341-7.

Potential impacts of emerald ash borer invasion on biogeochemical and water cycling in residential landscapes across a metropolitan region. Fissore, C., J. P. McFadden, K.C. Nelson, E. B. Peters, S. E. Hobbie, J. Y. King, L. A. Baker, I. Jakbsdottir. 2012. *Urban Ecosystems*, 15:1015-1030.

Motivation for compliance with environmental regulations related to forest health. Peterson, K. and A. Diss-Torrance. 2012. *Journal of Environmental Management*, 112:104-119.

From the States:

Illinois:

Illinois Department of Agriculture:

Field Staff activities – During the reporting period, EAB field staff members were focused on conducting inspections and outreach visits in the Cook, Kane, DuPage, Livingston, and Lee counties. During the reporting period, 16 compliance inspections with 16 people present, and 27 outreach contacts were made with 30 people present. Staff visually inspected 206 trees. No EAB confirmations were made during the reporting period.

www.IllinoisEAB.com activity – Visits to the Emerald Ash Borer page on the Department's website totaled 548 during the reporting period.

EAB quarantine compliance agreements – The Department issued 3 new compliance agreements and discontinued no existing compliance agreements during the reporting period. The total number of current compliance agreements is now 1,489.

State Firewood Importer Certification – During the reporting period, the Department issued 2 firewood importer certificates bringing the total number of certificates issued for the 2013 calendar year to 3.

Previous year totals – 2012: 44 firewood importer certificates issued;
2011: 43 firewood importer certificates issued; and
2010: 45 firewood importer certificates issued.

U.S. Department of Agriculture:

Illinois PPQ participated in a meeting of the IL Wood Utilization Team in Chicago, IL. The team has been a resource for arborists and community managers seeking to harvest urban trees for timber. Urban ash trees represent 20% of IL urban forests and the Wood Utilization Team's goal is to market these urban trees for higher end uses such as face veneers, cabinets, furniture, millwork and flooring.

From the States:

Minnesota:

Regulatory

PPQ Report:

PPQ is following up on information provided by the MDA regarding ash material that was found in a rental truck driven to North Dakota. The material was appropriately disposed of (chipped) by a city forester. However, more information is needed to determine the extent of the quarantine violation.

PPQ and MDA conducted five joint regulatory inspections in Southeastern MN. The sites included a sawmill, a pallet producer and three tree disposal sites. Firewood is produced at both the sawmill and pallet operation. The owners of both operations claim not to work with ash material. No ash material was found during the inspections. The owners at all the locations visited were aware of the EAB quarantine.



Houston County sawmill



Houston County sawmill



Pallet stock material



Pallet stock material

From the States:

Minnesota (continued):

Minnesota State Websites:

Minnesota Department of Agriculture:

<http://www.mda.state.mn.us/en/plants/pestmanagement/eab.aspx>

University Of Minnesota Extension Service:

<http://www.extension.umn.edu/issues/eab/>

Minnesota Department of Natural Resources:

<http://www.dnr.state.mn.us/invasives/terrestrialanimals/eab/index.html>

New York:

New York Program Activity

Outreach:

New York State Department of Environmental Conservation (NYSDEC) Division of Lands and Forests outreach staff provided EAB community preparedness training to the planning, highway, recreation, and public works departments in Rensselaer County. The information presented included insect life cycle, identifying signs of infestations, the ecologic and economic costs of EAB infestations, and how to prepare in advance to reduce negative impacts.

DEC Lands and Forests outreach staff set up a display with outreach information on the emerald ash borer, community impacts, and related state and federal regulations for the Region 3 Re Leaf Workshop “Emerald Ash Borer – Best Practices for Communities. Staff also gave a presentation on EAB identification, signs and symptoms at the Region 7 Re Leaf Workshop “Tips of the Trade”.

Credits and Contact Info

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