



High Cost and High Risk:

Asian Longhorned Beetle

The Asian longhorned beetle is native to China. It reached the United States with wooden pallets and crates used in trade. In North America, the beetle attacks dozens of species from 15 plant families, but especially maples, elms, and willows. Northern hardwood forests reaching from the Atlantic to the Great Lakes and beyond are made up of vulnerable species – approximately 48 million acres in the United States, plus the majority of Canada’s hardwood forests. The Asian longhorned beetle belongs to a group of introduced, foreign wood-boring insects. Together, the group imposes costs of more than \$3 billion per year in the United States, primarily on municipal governments and homeowners.

The Basics: When, Where, and How

When. The beetle was discovered in Brooklyn, New York, in 1996. Its introduction occurred within a dozen years of the opening of U.S. trade with mainland China. By 2013, nine outbreaks of the Asian longhorned beetle had established in North America as the result of at least eight separate introductions. Multiple introductions are unusual; most pests have been introduced to North America only once or a few times. This beetle has also been introduced to at least eight sites in Europe.

Where Asian Longhorned Beetles Have Been Found in North America	
August, 1996	Brooklyn, NY
July 1998	Chicago, IL
October 2002	Hudson Co., NJ
September 2003	Toronto, Ontario
August 2004	Middlesex & Union Cos., NJ
August 2008	Worcester Co., MA
July 2010	Suffolk Co., MA
June 2011	Clermont Co., OH
September 2013	Tortonto, Ontario

Where. In the United States, Asian longhorned beetle outbreaks have been in the East and the Midwest. In Canada, an outbreak occurred in Toronto. Thanks to the efforts of local, state, and federal officials, the beetle has been declared eradicated from Chicago, New Jersey, parts of New York City, Islip, New York, and Toronto, Ontario. Eradication is under way elsewhere. So far, U.S. and Canadian authorities have cut down more than 100,000 trees and treated tens of thousands more with insecticide.

Unfortunately, in 2013 authorities discovered that the Long Island, NY, infestation of the Asian longhorned beetle is much larger than known earlier. Also, a new outbreak was detected in the City of Mississauga, Ontario. As a result, eradication of North American populations will be more difficult than earlier believed.

How. The Asian longhorned beetle and its relatives continue to be found in packaging materials made of wood, despite international efforts aimed at preventing this risk. The rate at which pests associated with solid wood packing material are detected in the U.S. has increased since 1990, unlike the rate for forest pests, overall.

Millions of Dollars

Experience shows that populations of Asian longhorned beetles can be eradicated – at least when they are detected in cities. But the effort is costly. USDA’s Animal and Plant Health Inspection Service (APHIS) has spent more than \$500 million to eradicate four of the outbreaks in the United States. The Canadian Food Inspection Agency has spent another \$35.5 million (Canadian) to eliminate the initial outbreak in Toronto.



Anoplophora glabripennis (Motschulsky) photo by Kenneth R. Law, USDA APHIS, Bugwood.org

Public Involvement, or “Citizen Science”

Almost all of the U.S. infestations of the Asian longhorned beetle were found by homeowners, which caused officials and non-profits to step up outreach to the public. They developed materials showing how to inspect nearby trees and distinguish Asian longhorned beetles from look-alikes. Information was developed for classrooms. States set up toll-free hotlines and websites, so beetle sightings could be reported quickly. CFIA set up an *ALB Simulation Site* in one town so that members of the public can get ‘hands on’ experience in detecting Asian longhorned beetle through a self-study approach. In 2013, APHIS declared August to be Tree Check Month. The Forest Service, The Nature Conservancy, and American Forests joined in, urging people to examine their trees when adult beetles are most active. Public involvement has grown in the past two decades, partly as a way to supplement declining government staff and funding.

Cause for Concern

The situation in Massachusetts and Ohio is of particular concern because both outbreaks occur in areas of susceptible trees and woodlands. The Massachusetts infestation is on the edge of the highly vulnerable northern forest, dominated by maples, birches, and other host trees.

In 2013, authorities discovered that the Long Island outbreak is larger than thought. Also, a new outbreak was found in the City of Mississauga, Ontario. Eradication efforts presumably will be expanded.



Asian longhorned beetle larva; photo by Dennis Haugen, USFS; Bugwood.org

What Can be Done

- USDA APHIS and DHS Bureau of Customs and Border Protection strengthen enforcement actions targetting shipments from companies with records of pest-infested shipments.
- USDA APHIS and its Canadian and Mexican counterparts work with Chinese government to improve Chinese companies’ compliance with the international wood packaging standard (ISPM#15).
- The Congress ensure that USDA APHIS has sufficient resources to both eradicate currently known outbreaks of the Asian longhorned beetle and detect additional populations. Determined efforts have succeeded in eradicating outbreaks of the Asian longhorned beetle at several locations.
- Importers require that their foreign suppliers comply fully with the international wood packaging standard.
- Importers implement pest surveillance programs in their warehouses and promptly report signs of pest infestation to state and federal phytosanitary authorities.
- Citizens learn the symptoms of Asian longhorned beetle infestation in their trees, and report suspicious symptoms to state and federal phytosanitary authorities.

For more information: <http://asianlonghornedbeetle.com/> ; <http://healthytreeshealthycities.org>; www.dontmovefirewood.org

Source: Campbell, F.T. and S.E. Schlarbaum. 2013. *Fading Forests III American Forests: What Choice Will We Make?* The Nature Conservancy, Arlington, VA, and the University of Tennessee, Knoxville, TN. Online at www.dontmovefirewood.org



**SPOT THE BEETLE.
SAVE A TREE.**

Once the Asian longhorned beetle infests a tree, there is no cure. What you can do is look for and report it before it destroys more trees. So take 10 minutes to check your trees for the beetle and any sign of the damage it causes. Then, report your findings at AsianLonghornedBeetle.com.

Find it. Report it. Save trees.
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