

# *What is at stake?*

## *Impacts of Non-Native Insects and Diseases*

### The Benefits of Healthy Forests

America's forests provide a host of benefits upon which we all depend – and that economists measure. When forests are damaged by non-native insects and diseases, benefits drop. These losses, as well as the cost of managing or eliminating pests, will grow as today's pests spread and new ones arrive.

#### **Forest Jobs**

In 2011, the U.S. forest products industry harvested almost 13 million cubic feet of timber, providing nearly 900,000 jobs. In 47 states, the industry is among the top 10 employers in the manufacturing sector.

#### **Timber**

In the continental United States, non-native pests that are already present threaten timber resources valued at \$152 billion. This figure skyrockets when the value of southern pines and black walnut is added. If introduced pests reduce southern pine harvests by just 10%, losses would approach \$2 billion.



Our native black walnut is the most valuable American tree. Those growing on timber land were estimated to be worth more than \$500 billion, in 2002.

#### **Drinking Water**

About 60 million people get their drinking water from sources that originate on national forest land. In the Northeast and Midwest, forests protect the reservoirs and water supplies for more than 1,600 drinking water systems, serving more than 52 million people.

#### **Carbon Sequestration**

U.S. forests contain over 19,000 million metric tons of carbon. This is equivalent to the carbon produced by roughly 3.8 billion cars per year.

Black walnut: Vern Wilkins,  
Indiana University, Bugwood.org

#### **Saving Energy and Cutting Pollution**

Urban trees remove air pollutants and sequester atmospheric carbon. They shade buildings, lower summer air temperature, and reduce wind speed – saving energy used for heating and cooling. Urban forests in the United States have a structural (or compensatory) value of \$2.4 trillion, a carbon value of \$14 billion, and carbon sequestration value of \$264 million. In some cases, the highest-value service supplied by urban trees is reducing storm-water runoff; in Bismarck, North Dakota, for example, street trees provided an estimated \$496,000 each year in storm water reduction.

## Tranquil Neighborhoods

Polls conducted by The Nature Conservancy's Forest Health Protection Program in 2005 and 2010 show that over 90% of poll respondents value trees as an important part of the character of their neighborhood and for providing a sense of peace and tranquility.

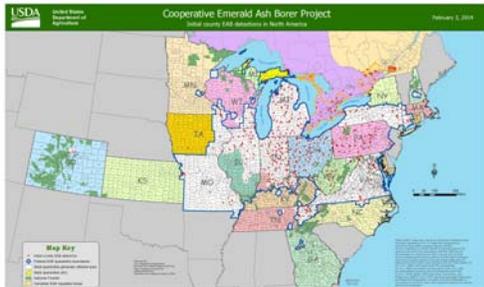
Chicago: Asian longhorned beetle eradication; before & during removal; photos by USDA APHIS



## Loss of Urban Trees Tops Costs

Non-native forest pests impose their highest costs when dead and dying trees in the urban forest must be managed. Local governments across the country spend an estimated \$1.7 billion each year to remove trees killed by the emerald ash borer or other foreign insects or diseases. Homeowners spend an additional \$1 billion to remove and replace trees. They also suffer an additional \$1.5 billion per year in lost property value.

These amounts will rise substantially as the emerald ash borer and other pests continue to spread.



Map showing locations of emerald ash borer outbreaks; USDA APHIS

## What Can be Done

- USDA APHIS and its Canadian and Mexican counterparts work with foreign governments through the International Plant Protection Convention to improve foreign 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 tree-killing pests and diseases and detect additional pest outbreaks.
- USDA APHIS adopt regulations to implement the international standard on living plants (ISPM#36), under which APHIS can require foreign suppliers of plants to apply hazard identification and mitigation practices to ensure plants are pest-free.
- Importers require that their foreign suppliers comply fully with appropriate international standards and US regulations.
- Importers implement pest surveillance programs in their warehouses or nurseries and promptly report signs of pest infestation to state and federal phytosanitary authorities.
- Citizens learn the symptoms of key pests in their trees or shrubs, and report suspicious symptoms to state and federal phytosanitary authorities.

For more information: <http://healthytreeshealthycities.org>; [www.dontmovefirewood.org](http://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](http://www.dontmovefirewood.org)

Sources of economic data: timber harvest figure, value of pine harvest, water supplies, carbon sequestration, value of urban trees: USDA Forest Service; wood products jobs: American Forest & Paper Association; value of walnut timber: USDA APHIS; public attitudes: polling by Fairbank, Maslin, Maullen, and Associates; urban tree costs: Aukema et al. 2011