

## Detecting tiny invasive insects early can make a big difference

### The Challenge

The issue of invasive insects is a significant and growing concern. Globalization is serving to speed up the rate of introduction of exotic and invasive insects in America. Unchecked and growing invasive insect populations can create potentially devastating environmental problems for our nation's forests and local economies.

Once established, invasive insect populations are very difficult to control. The emerald ash borer (EAB) has already cost our government, industry and people millions of dollars and killed 8-10 million ash trees in several Midwest states. People also help to inadvertently spread invasive insects. Many areas where EAB has been found are associated with human activity. For example, campers can spread EAB inadvertently by moving infested firewood from home for campfires.

Other particularly problematic invasive insect species found in parts of the Northeastern U.S. include the gypsy moth, winter moth, hemlock woolly adelgid, Asian longhorn beetle and the recently introduced woodwasp, *Sirex noctilio*.

### The Solution

If detected early, before their numbers have a chance to grow into the millions, invasive insect populations can be monitored, managed and sometimes even eradicated. The Early Detection Rapid Response (EDRR) system is a trapping program with the goal of detecting newly arrived invasive species soon after their introduction into the United States. Doing so will help to provide natural resource managers with the best chance to eradicate populations when they are still low.

*Small, isolated insect populations are much easier to manage and control.*



Massachusetts entomologists first spotted the Asian beetle *Xyleborus seriatus* in North America in 2005.

### Resulting Benefits

Detecting introduced invasive species quickly not only significantly reduces the costs of controlling invasive insect populations, it also dramatically increases the likelihood of success. When insect populations are small and isolated, aggressive management has the best chance of eradicating an unwanted invasive from our native ecosystems.

### Sharing Success

The USDA Forest Service Northeastern Area recently gave the State of Massachusetts a \$15,000 grant to test the EDRR system for invasive insects in the state in 2005. Entomologists tried out the system in the spring searching for invasive bark beetles. They detected for the first time in North America the presence of a tiny, Asian bark beetle, *Xyleborus seriatus*. There has been no sign to date of this insect killing native trees. However, it is not known what the long-term consequences of its presence in our native ecosystems will be. Additional field work will try to gauge the population and assess the risk this insect poses on local forests. The Massachusetts test is one example of the potential widespread use of the EDRR system to detect invasive insect populations early before they have a chance to do extensive damage to our nation's forests.



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