

Exotic Invasive Pests: A Threat to Texas' Forests

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What is an exotic invasive pest? One definition goes like this: any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem; and whose introduction does or is likely to cause economic or environmental harm or harm to human health.

The invasion of nonnative plants, animals, and other organisms into the United States and Texas has caused and will continue to cause significant problems. The world's global economy and increasing international trade make the likelihood of introductions a constant threat. One study at Cornell University estimates that the total costs of invasive species in the United States amount to more than \$130 billion each year. Usually a nonnative invasive pest is introduced by accident such as in packing material from a foreign country or the "innocent" release into the wild, for instance, of an unwanted aquarium plant or snail. Or maybe an attractive nonindigenous flower was introduced as an ornamental yard plant and then escaped. Exotic pests can enter the country in many ways, but once in the wild, invasive species may continue to reproduce, and displace native species. Human actions are the primary means of invasive species introductions.

Estimates of the number of non-native species that have been introduced into the United States vary widely (from 5,000 to as many as 50,000). The U.S. Congress Office of Technology Assessment estimates that 10 to 15 percent of introduced species will become established and about 10 percent of established species may become invasive.

When an organism is introduced into a new area, it is likely to die out because conditions for survival and reproduction are not favorable. However, some organisms are able to thrive in their new environment and may develop to pest status. The absence of natural enemies for the new pest allows populations of the pest organism to rapidly increase and become a problem. Once a pest becomes established, even over a relatively small area, it is often very difficult and costly to eradicate it.

Some classic examples of exotic invasive pests that have impacted our forests include gypsy moth, balsam and hemlock woolly adelgid, Dutch elm disease, chestnut blight, kudzu, Chinese tallow, and many, many others. Several that have gained recent attention include giant Asian dodder in Houston, Asian longhorned beetle in Chicago and New York, and emerald ash borer in several northcentral states. In particular, eradication projects for the Asian longhorned beetle and the emerald ash borer have caused much heartache and great expense. Avoiding problems like this in Texas must be a very high priority.

When a new pest is found, the identity of the pest must first be made. Then surveys are conducted to determine the geographical area of the infestation, what the pest is attacking, and what kind of damage may be occurring. If the pest is deemed an economic or environmental threat, quarantines are established to slow or halt its spread, efforts to eradicate it may be begun, and research to gain a better understanding of the pest will be initiated. Of course, relatively few of the total pests that are brought to the United States ever develop into a significant problem. But when they do become a problem, they can cause a great amount of harm.

The Texas Forest Service (TFS) is very interested in exotic invasive pests that could impact the forest resources in East Texas or the state. To address the exotic pest problem, recent efforts have involved cooperating with the City of Houston to eradicate giant Asian dodder from several Houston localities and surveys to detect the fungus that causes Sudden Oak Death. With a grant from the USDA Forest Service, TFS Forest Pest Management specialists are developing a web page on Texas invasive forest threats (<http://www.texasinvasives.org>). This web page is a cooperative effort among TFS, USDA Forest Service, the Lady Bird Johnson Wildflower Center (LBJWC) in Austin, and the Houston Advanced Research Center. These partners also are networking with the myriad of other state, federal, and non-governmental agencies involved with invasive plants in Texas to host the state's first Texas Invasive Plant Symposium scheduled for November 17-19, at the LBJWC in Austin.

Here is an example of what should be done when a suspected exotic pest is found. In May 2005, a lady in the Dallas area purchased a piece of wooden furniture from a local discount store. After the item was in her home for a week or so, she noticed "dust" on the floor under the furniture. Not thinking much about it, she removed the "dust," but found more a few days later. It was then that she examined the furniture and found several small holes about the size of a pencil lead in part of it and realized the "dust" was actually fine particles of wood. She also noticed the furniture had been imported from China. She then wrote me asking what to do. I suggested she return the merchandise to the store where she bought it and ask for a refund or replacement. Also, the store manager should be contacted and he/she should check to see if other pieces of this furniture were infested. Finally, they should both make contact with the U. S. Department of Agriculture, Animal and Plant Health Inspection Service (APHIS) Texas headquarters in Austin or Houston to report what they have found. APHIS experts would then investigate the situation and take appropriate action. Ultimately, the wood in question should be destroyed (ideally burned).

In Texas, if you notice what may be an exotic pest, you should contact the APHIS office in Austin at 512/916-5241 or in Houston at 281/233-7100. Who knows, maybe your interest and phone call will prevent the introduction of a serious, invasive pest.

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