



Testimony

Before the Subcommittee on Forests and
Forest Health, Committee on Resources,
House of Representatives

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INVASIVE FOREST PESTS

**Recent Infestations and
Continued Vulnerabilities at
Ports of Entry Place U.S.
Forests at Risk**

Statement of Daniel Bertoni, Acting Director
Natural Resources and Environment





Highlights of [GAO-06-871T](#), a testimony before the Subcommittee on Forests and Forest Health, Committee on Resources, House of Representatives

Why GAO Did This Study

Invasive forest pests have seriously harmed our environment and imposed significant costs on our economy. The U.S. Department of Agriculture (USDA) is the lead agency for responding to forest pests and coordinates with the Department of Homeland Security (DHS) to prevent pests from entering the country. GAO issued two reports in 2006 on these programs. This testimony describes (1) the status of USDA's efforts to eradicate the Asian longhorned beetle, emerald ash borer, and *Phytophthora ramorum*; (2) the factors affecting the success of those eradication efforts; and (3) areas of continued vulnerability in regard to preventing the arrival and spread of forest pests.

What GAO Recommends

GAO recommended in its report on forest pests that USDA (1) expand efforts to monitor forest health conditions in urban areas, particularly those deemed high risk for potential infestations; and (2) regularly update and publish management plans for pests that include status information and funding needs. GAO recommended in its report on port inspections that DHS and USDA (1) establish a process to identify and assess foreign pest risks and implement a staffing model to meet those risks, (2) improve the communication of pest alerts and other policies between agencies, and (3) improve the effectiveness of the canine inspection program.

www.gao.gov/cgi-bin/getrpt?GAO-06-871T.

To view the full product, including the scope and methodology, click on the link above. For more information, contact Daniel Bertoni at (202) 512-3841 or bertonid@gao.gov.

INVASIVE FOREST PESTS

Recent Infestations and Continued Vulnerabilities at Ports of Entry Place U.S. Forests at Risk

What GAO Found

On the basis of the available evidence, it appears that the Asian longhorned beetle will be eradicated in the three states that have infestations, although funding reductions have extended the likely completion date. In contrast, the emerald ash borer and *P. ramorum*—the pathogen that causes Sudden Oak Death—are likely to continue to infest and damage forest ecosystems in the Midwest and on the West Coast, despite efforts to control them.

The success of the federal responses to these infestations has been affected by several factors. First, the unique biological characteristics of each species greatly influences the ability to effectively control them. Second, quarantines have helped contain the spread of the pests, but implementing and enforcing quarantines has been difficult. Third, the only available method for eradicating these pests is to destroy infested trees and plants—a costly and sometimes impractical approach. Fourth, despite budgeting over \$420 million to control these three pests, USDA program managers told GAO that funding has not been sufficient to fully implement their programs. We also found that USDA had not adequately prepared up-to-date management plans to provide decision makers and the public with current information on the extent of the infestation, eradication goals, and long-term funding needs.

We identified areas of vulnerability that we believe increase the risk of future forest pest infestations. Specifically, we found that despite efforts to expand USDA's forest health monitoring programs, they do not adequately provide for comprehensive monitoring in urban forests or other locations considered at high risk from pest invasions. Monitoring in such areas is important because they are common destination points for internationally traded cargo, which is a frequent pathway for pests. Improvements could help prevent situations such as those experienced with the Asian longhorned beetle, the emerald ash borer, and *P. ramorum*, in which years of delay in detection allowed them to become established before control programs began. In our report on port inspections, we found that DHS has not used a risk-based staffing model to assign newly hired agricultural specialists to ports of entry. As a result, DHS does not have assurance that staff are assigned to areas of greatest vulnerability. In addition, despite an interagency agreement intended to facilitate coordination between DHS and USDA, agricultural specialists are not consistently receiving notifications of changes to policies and urgent inspection alerts in a timely manner. We also reported that DHS has allowed the canine inspection program—dogs trained to locate items that might harbor pests—to deteriorate. Dozens of canine units are vacant, and the proficiency scores of the remaining canine units have declined.

Mr. Chairman and Members of the Subcommittee:

I am pleased to be here today to discuss federal efforts to prevent the introduction of agricultural pests into the United States and to control and eradicate pests once they have entered. As you know, our public and private forests provide enormous value to the nation in the form of raw materials for building supplies and fuel, natural resources for wildlife habitat, air and water purification, and opportunities for recreation. The U.S. Department of Agriculture (USDA) is responsible for protecting the health of the nation's forests from harmful pests. The Animal and Plant Health Inspection Service (APHIS) and the Forest Service are USDA's lead agencies in this regard, and they often work with other federal, state, and local agencies to manage and eradicate invasive species infestations. In addition, USDA and the Department of Homeland Security (DHS) coordinate port inspection programs intended to prevent the entry of new agricultural pests, including those that threaten forest resources.

Forest pests can have substantial impacts on our environment and economy, costing society billions of dollars in lost revenue and restoration expenses. When forest pests kill trees, they reduce the value of timberlands and residential property, harm businesses, increase the risk of wildfire, degrade ecosystems, and place upon homeowners and local governments the costly burden of removing dead trees before they become a safety hazard. Hundreds of nonnative invasive insect and pathogen species have already infested our nation's forests, resulting in huge losses of native tree species. Furthermore, because of the large number of visitors and enormous volume of foreign cargo that arrive in the United States every day, there is the potential that other pests may pass through our borders and cause further damage.

My testimony today is based on two recent GAO reports. The first is a report we provided to the full committee in April on three serious forest pests—the Asian longhorned beetle; the emerald ash borer; and *Phytophthora ramorum*, the pathogen that causes Sudden Oak Death—and other matters relating to forest monitoring.¹ The second is a May 2006 report provided to congressional requesters that reviewed the transfer of agricultural inspection activities at ports of entry from USDA to DHS and

¹GAO, *Invasive Forest Pests: Lessons Learned from Three Recent Infestations May Aid in Managing Future Efforts*, GAO-06-353 (Washington, D.C.: April 21, 2006).

how this transfer has affected the inspection program.² Drawing from those reports, my testimony will discuss: (1) the status of USDA's efforts to eradicate the Asian longhorned beetle, emerald ash borer, and *P. ramorum*; (2) the factors affecting the success of those eradication efforts; and (3) areas of continued vulnerability in regard to preventing the arrival and spread of forest pests.

Summary

In summary, efforts to eradicate the Asian longhorned beetle appear likely to succeed, while efforts against the emerald ash borer and *P. ramorum* do not. The Asian longhorned beetle infests localized areas in Illinois, New Jersey, and New York, and program managers are optimistic that the pest can be eradicated from the United States. In contrast, the emerald ash borer and *P. ramorum* infest much more extensive areas—40,000 and 19,000 square miles in the Midwest and on the West Coast, respectively. Program managers do not believe these pests can be eradicated from the natural environment because of the size of the areas that are already infested and thus have set containment goals for the pest management programs. The impact of these two infestations could reach tens of billions of dollars in damages.

The success of federal efforts to eradicate these pests has been affected by several factors. First, the unique biological characteristics of each species greatly influence the ability to effectively control them. For example, the Asian longhorned beetle is a large, conspicuous bug that does not fly far from the core infestation, while the other two species are more insidious and can spread more rapidly and over greater distances. Second, quarantines have helped contain the spread of the pests, but implementation and enforcement have been difficult. Each of these pests can be transported inadvertently by virtually anyone through activities as seemingly benign as moving firewood to a vacation home; educating the public about the quarantines and enforcing them are daunting tasks. Third, the only available method for eradicating these pests is to destroy infested trees and plants—an obviously costly and sometimes impractical approach when needed over large areas. Lastly—a problem faced by many government programs—according to program managers, funding has not been sufficient to fully implement the pest management programs.

²GAO, *Homeland Security: Management and Coordination Problems Increase the Vulnerability of U.S. Agriculture to Foreign Pests and Disease*, [GAO-06-644](#) (Washington, D.C.: May 19, 2006).

Although USDA has spent over \$420 million to control these pests, a decline in recent funding levels will likely result in a longer time frame for eradicating the Asian longhorned beetle, and current funding may be inadequate to even contain the emerald ash borer and *P. ramorum*. With respect to program funding, we also found that USDA had not adequately prepared management plans that account for the extent of the current infestations, long-term funding needs, and the implications of known or anticipated funding levels on the schedule for control activities. We believe that better management plans would provide decision makers at the state and national levels with important information about the short- and long-term costs associated with pest management programs. Accordingly, we recommended that the Secretary of Agriculture routinely prepare and update pest management plans with such information.

In our reports on forest pests and the coordination of agricultural inspections, we identified areas of vulnerability that we believe increase the risk of future forest pest infestations. With regard to the three forest pests we reviewed, we found that delays in detecting the presence of the pests in the United States allowed them to become established in the environment before control programs began. For example, while the Asian longhorned beetle was detected at several ports, no additional monitoring was done to determine whether the pest had entered the natural environment; had such monitoring been done, the pest might have been more easily and quickly eradicated, and the cost to do so may have been considerably less. USDA has taken steps in recent years to expand some of its forest monitoring programs. However, the programs still do not adequately cover urban areas and other locations at high risk of receiving infested cargo. To help detect forest pests, we recommended that the Secretary of Agriculture expand current efforts to monitor forest health conditions, particularly in urban areas that are at high risk of receiving invasive insects and diseases. While timely detection of potentially harmful pests in the environment is important, preventing their entry into the United States is the first line of defense. However, in our report on USDA and DHS coordination of port inspections, we identified several problems that raise questions about the ability of the agencies to effectively protect the United States against forest pests and other harmful organisms. First, we found that less than one-quarter of agricultural specialists conducting inspections routinely receive urgent alerts about potential agricultural threats in a timely manner. Second, we found that the agencies did not have staff assigned to ports and other inspection locations on the basis of an assessment of the potential vulnerability of those locations to the arrival of new, potentially harmful pests. Finally, DHS has allowed the number and proficiency of agricultural canine units—which are used to

target passengers and cargo for agricultural inspections—to decline. We made several recommendations to USDA and DHS to address these and other deficiencies to strengthen the programs intended to prevent the entry of harmful agricultural pests into the country.

Background

The impact of invasive species in the United States is widespread, and their consequences for the economy and the environment are profound.³ Invasive species are nonnative plants, animals, and microorganisms intentionally or unintentionally brought into a new environment. Once in that new location, these species may be able to crowd out native species, multiply at a rapid rate, and spread to other locations. These invaders can also affect people’s livelihoods and pose a significant risk to industries such as agriculture, ranching, and fishing. The cost to control invasive species and the cost of the damages they inflict are estimated at billions of dollars annually.

With respect to our nation’s forests, the history of harmful invasive species is long. For example, starting in the early 1800s, American chestnut trees were devastated by a succession of two nonnative pathogens—ink disease and chestnut blight. Chestnut trees were a major component of the nation’s deciduous forests, were valuable to wildlife, and had wide use as a source of lumber. Today, chestnut trees still survive in much of their former range, but only as sprouts from the old root systems. The gypsy moth is another serious invasive forest species that continues to harm our nation’s forests more than 130 years after its accidental release by an amateur entomologist studying silkworms.

Each of the three forest pests we reviewed in our April report likely entered our country in the last 20 years. The Asian longhorned beetle likely entered in the mid-1980s, currently infests areas in Illinois, New Jersey, and New York, and affects hardwood trees such as maple and elm. The emerald ash borer likely entered the United States in the early 1990s and infests about 40,000 square miles in Indiana, Michigan, Ohio, and some parts of Canada. A small infestation was confirmed just last week in Illinois. The borer affects all 16 species of North American ash trees. It is thought that the pathogen that causes Sudden Oak Death, *P. ramorum*,

³GAO, *Invasive Species: Cooperation and Coordination Are Important for Effective Management of Invasive Weeds*, [GAO-05-185](#) (Washington, D.C.: Feb. 25, 2005); and *Invasive Species: Clearer Focus and Greater Commitment Needed to Effectively Manage the Problem*, [GAO-03-1](#) (Washington, D.C.: Oct. 22, 2002).

entered the country as early as the mid-1990s, although how it arrived is unknown. Of the three pests we reviewed, *P. ramorum* affects the widest range of species, including various species of oak and ornamental plants such as rhododendrons and camellias. The pathogen has affected more than 19,000 square miles in California and one county in southwestern Oregon. Together, according to USDA, these forest pests have the potential to cause the loss of trees valued at trillions of dollars.

APHIS is the lead federal agency responsible for responding to insects and diseases that have entered the country and that might harm U.S. agriculture. APHIS conducts detection surveys, issues quarantines, directs eradication efforts such as removing infested trees or applying pesticides, develops control technologies, and performs public outreach. The Forest Service—which has federal responsibility for protecting the nation’s forests—conducts surveys and research and undertakes reforestation of areas affected by pests. DHS plays a critical role in protecting agricultural interests—including the nation’s forests—by coordinating activities with USDA designed to keep pests out of the country. DHS inspects ships, airplanes, vehicles, cargo, and passengers and their baggage for prohibited agricultural materials that may serve as carriers for pests and disease. USDA conducted agricultural inspections in the past, but the Homeland Security Act of 2002 transferred this function, among others, to DHS.⁴ Funding for pest management activities comes through annual appropriations and the Commodity Credit Corporation (CCC), which is a government-owned entity that finances farm commodity, conservation, and trade programs and provides funding for agricultural-related emergencies.⁵ The Secretary may transfer funds from the CCC (or other available USDA appropriations) for the arrest, control, eradication, and prevention of the spread of a plant pest and related expenses.

State agencies also play an important role in managing invasive species. For example, state agencies impose quarantines to prevent the movement of infested materials within their state and take actions to eradicate pests. Working with APHIS, state agencies also monitor for specific plant pests, including some that have already arrived in the country and others that have not but are believed to pose a threat. In addition, APHIS and the Forest Service enter into cooperative agreements with states to jointly

⁴Pub. L. No. 107-296, 116 Stat. 2135 (2002).

⁵The corporation has the authority to borrow up to \$30 billion. The borrowed funds are repaid through periodic congressional appropriations.

carry out eradication programs and provide funding assistance for these programs.

Eradicating the Asian Longhorned Beetle Appears Likely, While Success on the Emerald Ash Borer and *P. ramorum* Is Less Promising

Evidence suggests that the Asian longhorned beetle will be eradicated, while the emerald ash borer and *P. ramorum* are likely to continue to infest and damage forest ecosystems indefinitely, despite efforts to control them.

- **Asian longhorned beetle:** Efforts to eradicate the Asian longhorned beetle appear likely to succeed in New Jersey, New York, and Illinois. Over 8,000 trees infested with the beetle have been removed, and over 600,000 trees have been chemically treated to protect against beetle infestations. As a result of these and other actions, federal and state agencies have been able to reduce the size of the infested areas. APHIS's current goals for Illinois and New Jersey are to confirm eradication and end the management programs in 2008 and 2012, respectively. The current goal for declaring eradication in New York is 2021.
- **Emerald ash borer:** In contrast, we reported in April that it is unlikely that the emerald ash borer can be eradicated in the United States. Its small size, inconspicuous habits, and flight capabilities have aided the spread of the borer. In addition, human activities, such as moving infested firewood, have amplified the natural spread of the insect. Current management goals call for eradicating the borer in Indiana and Ohio and containing it in Michigan, which has the most extensive infestations. The pest has killed an estimated 15 million trees. USDA estimated that the cost of removing and replacing dead ash trees in urban and suburban areas could reach \$7 billion over a 25-year period.
- ***P. ramorum*:** Similar to the borer, it is unlikely that *P. ramorum* can be eradicated in the United States. Managing the pathogen is difficult given the size of the infestation and the many ways it can be spread—through movement of plant material, soil on car tires, and possibly even fog. APHIS and state agencies have attempted to eradicate the pathogen from forests in only a few situations where the infestations were relatively small, such as in Curry County, Oregon. While seemingly impossible to eradicate from the natural environment, APHIS and state agencies are hoping to eradicate the pathogen from nurseries to reduce the risk that infected ornamental plants will spread the pathogen to other locations in the country. *P. ramorum* has killed tens of thousands of trees and led to the destruction of over 1 million

nursery plants. These trees and plants were worth millions of dollars in ornamental, timber, wildlife, and environmental value.

Many Factors Affect the Success of Eradication Efforts

The success of efforts to eradicate the Asian longhorned beetle, the emerald ash borer, and *P. ramorum* has been affected by factors relating to species biology, quarantines, detection and control technologies, and funding.

Species Biology

Specific biological characteristics of each of the three pests greatly influence the potential success of eradication efforts. The Asian longhorned beetle is a large, conspicuous bug that does not fly far from the core infestation. As a result, it is fairly noticeable and does not spread quickly, making it easier to detect and control. Conversely, the emerald ash borer and *P. ramorum* are more insidious and can spread over greater distances and more rapidly, making control efforts more difficult.

Quarantines

Officials involved with all three pests believe that the use of quarantines has helped to reduce the spread of the pests but we observed that implementing quarantines can be difficult. Quarantines help limit the spread of an invasive species by regulating the movement of potentially infested materials—such as firewood, nursery plants, and wood debris. However, the effectiveness of quarantines is limited by the prevailing knowledge about how the pest spreads and about the extent of its infestation. Since the Asian longhorned beetle infestations were relatively small, identifying the geographic boundaries for quarantines was fairly easy. In contrast, the boundaries for the quarantines for the borer were revised several times in response to information that indicated the infestations were much larger than originally thought. As a result of the incorrect quarantine boundaries, there was a greater risk that people would move infested material to unaffected locations. Similarly, the quarantines for *P. ramorum* had to be revised after learning that a nursery outside the quarantined area had become infested and had shipped plants to at least 22 states.

The success of quarantines can also depend heavily on effectively educating the public about the ways in which pests can be spread. For each of the three forest pest species we reviewed, certain normally harmless actions—such as moving firewood or tracking soil in hiking boots—can result in transporting the pests to new locations. Because nearly any individual can engage in such actions, including residents

traveling to campgrounds or vacation homes and small firewood dealers, it is hard to define and reach target audiences with information about quarantines and enforcement efforts. Educating the public about activities that could spread the pests and then enforcing compliance with quarantines are thus daunting tasks. While stakeholders believe that outreach efforts by the three pest management programs have helped educate the public about the dangers of individual actions, all it takes is one piece of infested firewood or contaminated soil to start a potential infestation.

Detection and Control Technologies

Successful control and eradication of the three forest pests we reviewed have been constrained by a lack of cost-effective tools for detecting and eliminating the pests. Detection methods for the three pests consist largely of visual observations, and in the case of *P. ramorum*, costly laboratory diagnostics. Such methods are not always effective and, given the size of the infestations, are resource intensive and time consuming. Research is ongoing into various technologies to develop better detection capabilities, such as chemical lures for the beetle and borer.

Eradication methods are similarly limited.⁶ Currently, the only option is to destroy the infested tree or plant material as well as nearby trees and plants suspected of being infested, usually by cutting, chipping, or burning. This approach has been used to eradicate infestations of the Asian longhorned beetle. Although we refer to the beetle's infestations as "relatively small," over 8,000 infested trees have been removed. Such efforts, however, are not practical given the size of the infestations of emerald ash borer and *P. ramorum*. As a result, managers have used selective removal of trees infested with the emerald ash borer and *P. ramorum* to eradicate small outlying infestations. Trees are also being removed along the perimeter of large emerald ash borer infestations in hopes of containing them. The most extensive eradication efforts for *P. ramorum* are occurring in nurseries for plants that are infested or suspected of being infested; these are routinely destroyed according to quarantine regulations. Although removal of trees with emerald ash borer and *P. ramorum* has been selective, hundreds of thousands of infested or potentially infested trees have been destroyed. Unfortunately, there are no

⁶By eradication, we mean the actual killing of pests that are infesting trees and plants. We recognize that there are other important components of a management program, including surveys, quarantines, preventive treatments, and public outreach, that may help reduce the spread of pests.

chemical or biological treatments available to effectively kill the pests on a broad scale, although research is ongoing to develop methods of killing these pests without requiring the removal and destruction of infested trees and plants. Preventive chemical treatments have been used extensively for the Asian longhorned beetle—over 600,000 trees have been treated—but only to a limited extent for the other two pests and primarily by home owners to protect valuable landscape trees.

Funding Levels

The federal government has provided over \$420 million for programs to control the three infestations we reviewed, primarily through the CCC fund and appropriations to APHIS's emerging plant pest program. States have also provided funding for management actions, although it has generally been less than the federal investment. However, program officials involved with managing the three pests told us either that funding has not been what was needed or that they are concerned about the prospects for maintaining existing efforts in light of funding constraints. Some management officials also noted that the unpredictable timing of funding, particularly the transfers from the CCC fund, hamper their ability to plan and implement control activities.

Over the years, USDA has allocated about \$249 million to control the Asian longhorned beetle, \$112 million for the emerald ash borer, and \$61 million for *P. ramorum*.⁷ For the beetle and borer, program managers told us that funding shortfalls will limit the control and eradication actions that can be taken. We reported in April that funding reductions for the beetle during fiscal years 2002 and 2003 resulted in moving the target date for completing the eradication program from 2009 to 2014, but current funding levels placed that date in question. In June 2006, APHIS issued a revised strategic plan that projected a completion date in New York of 2021. For the emerald ash borer, state officials in Michigan and Ohio have announced that programs for removing trees in infested areas have been significantly reduced because of a lack of federal funding. Nearly all stakeholders we interviewed regarding *P. ramorum* raised concerns that funding has not been adequate to contain the pathogen.

⁷Funding for the Asian longhorned beetle program began in fiscal year 1997, for the *P. ramorum* program in fiscal year 2000, and for the emerald ash borer program in fiscal year 2002.

Related to funding concerns, we found that timely updates to pest management plans for the three species have not always been available to provide decision makers and the public with current information about how recent developments—including funding reductions—will affect the prospects for success of the containment and eradication of these pests. We recommended that the Secretary of Agriculture prepare, publish, and regularly update management plans for pests for which the department has initiated a management program. The plans and their updates should incorporate and describe changes in the extent of the infestations, progress to date in control and eradication efforts, and long-term funding needs.

Other Areas of Continued Vulnerability in Regard to Preventing the Arrival and Spread of Pests

In our work on the three forest pests and, more broadly, the coordination between USDA and DHS on invasive species prevention activities, we found vulnerabilities that we believe should be addressed to reduce the risk that new forest pests will arrive and spread. These vulnerabilities involve USDA's overall forest health monitoring program and USDA's and DHS's management of port inspections.

Monitoring of Urban and Other High-Risk Locations

Many forest pests, including at least two of the three we reviewed, were first introduced in urbanized environments. Urban areas are at high risk because they are common destinations for cargo and travelers that might be transporting pests. With the three pests we examined, as well as others, we have seen that delays in detection and identification allowed them to become established and spread before control efforts could begin. USDA has recognized the need to conduct more monitoring and has increased the level of resources devoted to monitoring for new forest pests. However, those efforts have been limited in scope, as illustrated by the following:

- The Forest Service's bark beetle survey was started in 2001. The program has placed traps on a temporary basis at more than 300 high-risk sites around the country, including in urban forests. While this program has demonstrated that it can detect new pest species, we found that it does not comprehensively cover high-risk sites and that it focuses on a limited set of insect species. The Forest Service told us that the agency was considering expanding the program.

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- The Forest Service initiated a pilot project in several states to improve urban forest health monitoring in 1999. The project has two components. The first seeks to extend the agency's normal forest sampling program, which traditionally has not sufficiently sampled urban forests. The second component seeks to implement a roadside tree assessment using plots established within public rights-of-way in urban areas. To date, the agency has implemented pilot projects in Colorado, Indiana, Maryland, Massachusetts, New Jersey, Tennessee, and Wisconsin. Since only seven states were covered by this pilot, systematic monitoring of urban areas is still not adequate. According to the director of the agency's Urban and Community Forestry Program, there is a strong case to be made for expanding monitoring to cover urban areas that are now classified as nonforest but that have trees and are at risk from such pests as the emerald ash borer.

As a result of the limited nature of these and other USDA monitoring efforts, there are still many high-risk locations that are not adequately covered. To reduce these risks, we recommended that the Secretary of Agriculture expand current efforts to monitor forest health conditions, particularly in urban and suburban areas that are at high risk of receiving invasive insects and diseases. In response to this recommendation, USDA noted that other governmental and nongovernmental organizations have a role to play in combating invasive species, including monitoring. We agree that other entities have that role, but also believe that USDA has an important leadership role to play in developing and supporting the forest health monitoring capabilities of nonfederal entities.

Port Inspections

The infestations of the three species we reviewed, as well as others, began when the pests passed through U.S. ports of entry, hitchhiking in vehicles, cargo, or travelers' personal belongings. That pests have become established indicates that the first line of defense at the border has been breached over the years. In May 2006, we reported that DHS and USDA face management and coordination problems that increase the vulnerability of the United States to foreign pests and disease. For example, we found that DHS has not developed or used a risk-based staffing model to ensure that adequate numbers of agricultural inspectors are staffed to ports and other areas of greatest vulnerability. In addition, despite an interagency agreement intended to facilitate coordination and communication between DHS and USDA, agricultural specialists are not consistently receiving notifications of changes to inspection policies and urgent inspection alerts. For example, we estimated that 20 percent of agricultural specialists do not regularly receive notices that policy manuals

have been updated, and only 21 percent of agriculture specialists always receive urgent inspection alerts in a timely manner. These breakdowns in communication could hamper inspectors' ability to search for and detect new pest threats. We also found that DHS has allowed its canine detection program (dogs trained to sniff out items that may harbor pests) to deteriorate. The number and proficiency of canine teams has decreased substantially over the last several years. This limits the essential contributions these dogs can make to prevent the entry of prohibited agricultural items.

We made several recommendations to address these deficiencies that we believe would help reduce the likelihood that new pests will enter the country. For example, we recommended that the agencies establish a process to identify and assess the major risks posed by foreign pests and disease, and develop and implement a national staffing model to ensure that staffing levels at each port are sufficient to meet those risks. We also recommended that USDA and DHS ensure that urgent inspection alerts and other information essential to safeguarding U.S. agriculture are more effectively shared between the departments and transmitted to DHS agriculture specialists in the ports. In addition, we recommended that the agencies improve the effectiveness of the canine program by reviewing policies and procedures regarding training and staffing of canines and ensure that these policies and procedures are followed in the port. USDA and DHS generally agreed with the report's recommendations and noted that various initiatives are either planned or underway to address them.

Mr. Chairman, this concludes my prepared statement. I would be happy to answer any questions that you or other Members of the Committee may have.

**GAO Contact and
Staff
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For further information about this testimony, please contact me at (202) 512-3841 or bertonid@gao.gov. Trish McClure, Ross Campbell, and Terry Horner made key contributions to this statement.

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