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HOUSE COMMITTEE ON RESOURCES

CONCERNING FOREST INSECTS AND DISEASE: A GROWING NATIONAL PROBLEM

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Mr. Chairman and Members of the Subcommittee

Thank you for the opportunity to testify before you today on the role of the Forest Service in protecting forests from insects and disease caused damages. The Forest Service is committed to the detection, control and management of native and invasive species. The Chief has identified invasives as one of the four primary threats to our nation's forests today.

Unlike other issues we frequently discuss that focus on the National Forest System, insects and disease are problems which do not stop at landowner boundaries or state borders. For this reason, the Forest Service organizes our efforts in forest health management in our State and Private Forestry division, which works closely with nonfederal landowners to address such issues across ownership boundaries and landscapes. We also maintain significant research activity on forest insects and disease in support of management.

Background

Native and nonnative insects and pathogens have a significant impact on the 750 million acres of forestland across the country. Based on our risk mapping efforts, the Forest Service estimates that there are 70 million acres of forests at risk to mortality caused by these pests. In 2005 alone, nearly 8 million acres of forest had tree mortality due to forest insects and pathogens. These high levels of tree mortality indicate a greater need to promote the health and resiliency of forest ecosystems through active management.

During the past two centuries, many nonnative species have become established in the United States and affected the environment and the economy of state, private and federal forest lands. While some insects and diseases, such as chestnut blight, Dutch elm disease, hemlock woolly adelgid and gypsy moth, have been here for many years, the increasing rate of introductions of insects and diseases to the United States is of serious concern. Just within the past decade there have been many species of nonnative wood borers, such as the Asian longhorned beetle, emerald ash borer and Sirex woodwasp, introduced into North America through international movement of wood packing material. Sudden oak death, a disease not even known to science just 10 years ago, could possibly devastate our oak forests if left unchecked. With the increased speed and efficiency of our transportation network, these insects and diseases can quickly move from ports of entry to urban forests and then onto rural forests.

Forest Service Programs

The Forest Service has an important role in the research and management of invasive species as well as native pests which occasionally act invasively and in the subsequent restoration of lands and individual species impacted by these pests. Our program focuses on three areas of management; prevention and detection, control and management, and restoration.

Forest Service staff provides professional, technical and financial assistance for the management of forest insect and pathogens on all forests, including national forests, other federal lands, state lands and tribal lands. Assistance is also provided, through state agencies, to private landowners. We work with state partners, such as state agriculture and natural resource organizations, state foresters and universities as well as federal partners including other Department of Agriculture agencies such as APHIS, Department of Interior and Department of Defense in accomplishing our mission.

In addition to our basic authorities (the Organic Administration Act, the Forest and Rangeland Renewable Resources Planning Act of 1974, and the Cooperative Forestry Assistance Act of 1978) we were recently given authority through the Healthy Forest Restoration Act of 2003 (HFRA) to establish an Early Warning System (EWS) for potential catastrophic environmental threats to forests. This system looks at all threats to forest health, including invasives. The EWS provides a model for working with federal, state, tribal and private partners to identify, detect, assess and respond to invasive species and diseases. Subsequent to enactment of HFRA, the Forest Service established in 2005 two regional

Threat Assessment Centers (one in Prineville, OR and one in Asheville, NC) to evaluate, on a broad scale, with our federal state and local partners, the impacts of invasive species and diseases and other threats to the health of ecosystems. These centers will work with our partners to support effective policy for, and management of, potential and existing environmental threats to United States forests. I want to thank the committee for the tools you provided the Agency in HFRA including the Early Warning System. This new authority will allow us to make great strides at early detection of insect and disease problems on the ground and to collaboratively address them in a timely way.

Prevention and Detection

The Forest Service is proactive in identifying potential threats and mitigating pathways that may bring invasives to the United States. In cooperation with APHIS and Russia, we are conducting surveys of ports in the Russian Far East for activity and infestations of the Asian variety of gypsy moth. In 1992 alone, it cost USDA $32 million to eradicate an infestation of Asian gypsy moth in the United States, so our early detection efforts could save millions of dollars in eradication costs.

The Forest Service is looking to expand this program to Japanese ports in the near future. Forest Service scientists are teaming up with international collaborators in China and Europe to understand the biology, and develop the technology for early detection, rapid assessment and eradication of potential threats before they arrive on our shores.

When invasive species do get past the borders, the next line of defense is early detection. If a new invasive species infestation is detected before it becomes widespread, the chances for its successful eradication are greatly enhanced. A rapid and coordinated response can reduce environmental and economic impacts, resulting in lower costs and less resource damage than implementing a long term control program. For example, the Forest Service has pilot tested and will begin implementation of a National Early Detection Rapid Response project for bark beetles in 2007. Another early detection project the Forest Service is working on is the coordination of a national survey to detect the pathogen that causes sudden oak death in forests and outside of nurseries. Both of these projects are cooperative efforts with State Foresters, state agriculture agencies, universities and APHIS. The GAO report, “Invasive Forest Pests”, identified an example of successful early detection and response to the citrus longhorned beetle found in Washington State. The early detection and rapid response to this infestation likely saved millions of dollars in damage and eradication.

As the GAO report pointed out, many of these new invasive pests have become established in our urban forests. Partly in response to the GAO report, the Early Detection and Rapid Response project for bark beetles will focus on these high risk urban forests. Because arborists and citizens are often the first to detect new pests affecting their trees, we have begun a project working with local and municipal arborists on the identification and reporting of invasive forest pests.

Control and Management

The management of invasive species and native pests acting invasively poses many challenges. The Forest Service addresses these challenges in several ways, providing technical assistance and information to land managers, using chemical and vegetative treatments as well as establishing public education programs. An example of managing an invasive species that became established in the United States is the gypsy moth. This pest has impacted the urban and rural forests of the Northeast for more than a century, however, the Slow-the-Spread Program has reduced the spread of gypsy moth into new areas by 50%. Through cooperation with APHIS and other partners, we have prevented the gypsy moth from getting established in western and most southern states for the last twenty years.

Research on the gypsy moth supports the Slow-the-Spread Program by assessing the economic impacts of the program, improving trapping and survey technology, and producing, maintaining, and improving the quality of the viral pesticide Gypchek. A new strain of Gypchek is being developed for control of the gypsy moth that is less labor intensive and less costly to produce.

The Forest Service is also making progress in managing the hemlock woolly adelgid. We have supported chemical treatments of high priority hemlock stands, and the development of biological control agents, which are looking more promising than ever. It will be a race against time to develop effective biological control agents while there are still some hemlock trees to save.

The Forest Service, APHIS and New York State are cooperating on the survey, quarantine and use of biological control agents for the newly discovered Sirex woodwasp. A technique using DNA was developed by Forest Service researchers to identify Sirex woodwasp larvae to speed the identification process by eliminating the long wait for adult emergence. Our Forest Health Technology Enterprise Team was instrumental in getting an effective biological control agent for this insect in Brazil. This cooperation is now helping us with the establishment of this agent in the United States.

The emerald ash borer may pose our greatest challenge. Unknown just five years ago, it now infests parts of three states and

has killed several million ash trees. Our inability to rapidly detect this small insect affected our management efforts, and still does. We do not yet have effective tools to survey for this pest; Forest Service and APHIS researchers are working to develop traps and lures to identify infested areas before extensive tree mortality has occurred. Forest Service and APHIS are also working with state authorities in the development and implementation of a containment strategy.

Our Research staff is addressing a variety of challenges on the biology, ecology, and management of the emerald ash borer, the *Sirex* wood wasp and sudden oak death. These studies provide the scientific basis for a collaborative APHIS/FS pathway risk analyses, an early detection and response system for invasive species, and risk maps.

The Forest Service also supplies technical assistance to forest land managers for invasive species and disease management. We have developed a national risk map which identifies areas that are threatened by invasive and native species. The Forest Service in partnership with Federal and State scientists has produced susceptibility maps that highlight areas at risk of introduction and establishment by specific invasive species. These maps are tools to direct survey and monitoring efforts, and can be used for strategic purposes, such as directing funding and allocation of resources, as well.

Restoration

Sometimes following infestations by invasive or native pests many trees are killed, leaving sparse forest cover. We have been actively working with our partners to restore both rural and urban forests by replanting damaged forests and developing more resistant stock. In New York, Chicago and New Jersey we have worked with community forestry groups to restore areas devastated by Asian longhorned beetles. In several states impacted by emerald ash borer, we have provided funds to communities to replant non-host trees. In our rural forests we are also encouraging more beetle-tolerant longleaf pine in areas devastated by southern pine beetles. We have also worked with several partners to develop trees resistant to some of our most devastating invasive pathogens. We have supported work introducing pest resistant chestnut and elm, and research at the Forest Service's Dorena Genetic Resource Center in Oregon is developing blister rust resistant white pine.

Beetles

You specifically asked us to talk about the southern pine beetle and the western bark beetle. Both of these beetles are native pests. There is a subtle but key distinction between invasive species and native pests which occasionally act in an invasive manner. The difference between these two types of pests is that native species eventually return to equilibrium because their natural controlling agents respond to the infestation. Invasive species do not have controlling agents because by definition they are an introduced species. This difference can change the way we manage an infestation. However, both situations may require management and control actions.

Our native southern pine beetle and western bark beetle often develop into outbreaks as devastating as a nonnative infestation. Unhealthy forest conditions often lead to these outbreaks, and we are implementing prevention programs to make forests more resistant to bark beetle outbreaks. Scientists also are conducting research to better prevent, control, and recover from future outbreaks of these native species. In 2005, the Forest Service scientists and their partners produced 35 bark beetle and invasive species publications.

The southern pine beetle prevention program is a model that we think will be paying dividends for many years. We are targeting 150,000 acres each year over the next 15 years. This will treat nearly all of the highest priority areas at risk for southern pine beetle across 13 states. We have partnered with State Foresters and non-industrial private landowners to support thinning of overstocked pine stands, and lessen the extent and severity of future beetle outbreaks. Linked to the management effort is the *Southern Pine Beetle Initiative,* a model collaborative research and development grants program that provides information and funding to better understand and manage the southern pine beetle. The initiative competitively awarded funding through cooperative agreements, to cooperators outside of the Forest Service for a total of nearly $580,000. The initiative also awarded funding for 11 internal projects for a total of about $580,000. These agreements produced a variety of tools, including hazard risk maps that help resource managers identify the forests most vulnerable, guidelines for managers for restoring southern pine beetle impacted forests, and compounds designed to protect trees from southern pine beetles and prevent future attacks.

In the West, we are supporting thinning efforts to prevent future western bark beetle outbreaks. In 2005, there were 6 million acres of forest with mortalityfrom western bark beetles. The Forest Health Protection staff of the Forest Service has utilized the National Fire Plan to preventively thin stands, restore ecological conditions and reduce fuels to lessen fire and beetle threats. This type of work is also accomplished using timber sales, stewardship contracts, and precommercial thinning work by service contracts and force account crews.

We appreciate the chairman's leadership in working to provide us with additional authority to address some of these concerns through H.R. 4200, the Forest Emergency Recovery and Research Act, which recently passed the House, with the Administration's strong support. This bill would expedite the response of Federal land management agencies to catastrophic events on national forests and other public lands.

A wealth of scientific knowledge supports the large variety of vegetation management practices for preventing, suppressing and/or mitigating forest insect pests including bark beetle damage. These tactics range from biological control to manipulative techniques such as thinning differ by insect, tree, climatic conditions, and region. However, this scientific knowledge appears in many forms in the literature and can be difficult for land managers to access, and to use in management decisions. A team of Forest Service, state, and university scientists synthesized existing knowledge on the use of vegetation management in the management of forest insect pests. This synthesis provides forest land managers with the information needed to enhance their ability to make science-based decisions to mitigate and control the spread of forest insect pests. This synthesis includes forest and landscape level considerations of the effect of stand density-silvicultural treatments on bark beetle and defoliator dynamics in United States forests.

Conclusion

This concludes my statement and I would be happy to answer any questions you may have.