



Fact Sheet 5.5

Preventing Firewood Movement



Firewood movement provides a pathway for invasive insects and disease-causing pathogens to move from one area to another, over short or long distances. Natural resource professionals can play an important role in protecting forests and trees from the introduction of nonnative invasive insects and pathogens from transported firewood. In recent years, several regional and national efforts have formed to develop effective and cohesive approaches to prevent the spread of forest health pests by firewood movement. These efforts focus on three main strategies: communication and outreach, regulation, and voluntary compliance.

Resource professionals can use materials and guidelines generated by these efforts and those suggested in this fact sheet to address the needs and concerns of homeowners, outdoor enthusiasts, park and campground staff, and wood processors and producers who work and live in interface areas. Resource professionals can also familiarize themselves with regulations that affect firewood movement. This fact sheet outlines common uses of firewood, gives some basic information about the spread of invasive pests, describes ways natural resource professionals can communicate and engage with different audiences, and explains the role of regulation in preventing firewood movement.

Common Uses of Firewood

Firewood is used for many purposes and by various groups of people living in the wildland-urban interface. Many homeowners use fireplaces and wood-burning stoves for heat during the winter. Others have outdoor wood-burning



Photo used with permission from Microsoft.

Many homeowners use fireplaces or wood-burning stoves for heat during the winter.

fireplaces or fire pits for cooking and entertaining purposes. An estimated 20.4 million households utilize wood for heating residential spaces in the United States, consuming 27.4 million cords of wood per year (Houck et al. 1998). Firewood users generally store firewood on their property for their current and future use (*Box 1*). Outdoor enthusiasts often burn firewood to cook food, generate heat, and create a cozy atmosphere for socializing. For many people, a campfire is an integral part of an outdoor experience.

Basics of Invasive Pest Infestations

Forestry, natural resource, and agriculture agencies alone cannot control invasive pests. These agencies can establish and/or maintain communication and outreach efforts with key audiences who transport and use firewood. This will increase awareness and understanding of the issue and generate support to prevent,

Box 1: Recommendations for Storing Firewood

- Store firewood away from houses and wooden structures to minimize fire hazard and to reduce the risk of exposing wood structures to wood-damaging insects (ants and termites) and wood-rotting fungi.
- Store wood off the ground to facilitate drying and to discourage invasion by insects and pathogens.
- Burn, bury, or chip immediately any wood suspected of harboring invasive insects or pathogens. At a minimum, suspect firewood should be covered with a plastic tarp with all edges secured to the ground to keep insects or spores from escaping.

Source: Personal communication. 2012. Robert P. Trickel, Head, Forest Health Branch, North Carolina Forest Service, 1616 Mail Service Center, Raleigh, NC 27699-1616.

detect, control, and manage invasive pests that are spread by the movement of firewood. Homeowners, outdoor enthusiasts, park and campground staff, arborists and green industry professionals, and wood producers and processors will benefit from learning basic information about pest infestations. This will enable them to help natural resource and agriculture professionals combat the spread of invasive pests and minimize the effects of these pests on the environment, economy, and human health. These basics include

- tree species affected,
- effects of invasive pests on tree species,
- signs and symptoms of infestation or infection,
- existing and potential range of the pest,
- invasive pest management options and approaches, and
- who to contact if they find something suspicious.

Natural resource professionals can begin to equip stakeholders to participate in the effort to prevent the spread of invasive pests by the movement of firewood. Providing key audiences with this general information is a critical first step.

Communicating With and Engaging Different Audiences

Natural resource professionals need to be consistent when relaying information about natural resource issues to different audiences. Each day, people are bombarded with messages to buy products, behave in a certain manner, and adopt a particular point of view. To ensure that the message about firewood movement is heard and eventually leads to the desired change in behavior, the message must be simple, consistent, and tailored for different audiences. Southern forestry agencies are collaborating to develop unified messaging on this topic.

By engaging the key audiences who transport and use firewood, natural resource professionals can slow the spread of invasive pests. Each of the following key audiences can benefit from learning more about steps they can take to decrease the risk of transporting pests through firewood movement. There are several actions natural resource professionals can take to engage each of these audiences.

Informing interface homeowners and outdoor enthusiasts

It is important that homeowners and outdoor enthusiasts (campers, hunters, fishermen) be aware of both the producer and origin of their firewood. The most important action homeowners and outdoor enthusiasts can take is to buy firewood from a reliable local producer who participates in an inspection, treatment, and labeling (certified pest free) program. Homeowner and outdoor enthusiasts are

Photo by: Larry Korbnak



It is recommended that outdoor enthusiasts be aware of the producer and origin of their firewood.

recommended to purchase and use local sources of firewood grown within a 50-mile radius of where it will be burned, even when traveling. Transporting firewood to a campsite or cabin can increase the risk of introducing a new pest to an area. Travelers can increase their fuel efficiency by leaving their firewood at home and thus lightening their load. The money saved can be used to purchase wood from a local producer closer to their destination.

Below is a list of some ways that natural resource professionals can get involved with this group.

- Use consistent messaging, social marketing, and media kits developed by southern forestry agencies.
- Spread the word by attending community meetings and events, and outdoor-focused trade shows (featuring activities such as camping, hiking, hunting, and fishing) and club meetings.
- Give presentations at Boy and Girl Scouts and other youth group meetings and events to teach new campers and their parents about the risks associated with transporting firewood.

- Urge people to leave firewood at home when they travel and to purchase firewood that is either from a local source or treated.
- Provide brochures, posters, and flyers to community centers, outdoor and sporting goods stores, parks, campgrounds, and retail stores where firewood is sold.
- Use existing networks to send out information about firewood movement.
- Submit articles to local newsletters and press releases to news media to bring attention to the benefits of sourcing firewood locally.

Working with park and campground staff

Parks and campgrounds are highly susceptible to introductions of new firewood-vectored pests (*Box 2*). Park and campground staff members have the most to gain by regulating the wood that is brought onto their property. Park supervisors and campground managers should take active roles in minimizing the risk and spread of invasive pests.



Photo by: Steve Beattie

Treated firewood is often sold in familiar bundles and appropriately labeled.

Box 2: Long-Range Firewood Movement for Recreation

The Bristol Motor Speedway in eastern Tennessee is a popular track of the National Association for Stock Car Auto Racing (NASCAR). Because it is the nation's fourth largest sports venue, fans come from all parts of the country to see racing events there. Many fans camp at one of the nearby campgrounds while traveling the race circuits in the spring and fall.

The speedway was hosting a major NASCAR event when the U.S. Department of Agriculture, Animal and Plant Health Inspection Service (APHIS) and the Tennessee Department of Agriculture conducted a firewood survey and regulatory outreach effort in 2006. At campgrounds near the speedway, the survey revealed that campers from at least 14 states had transported firewood to the race. Four seizures

of firewood were made as a result of violations of the emerald ash borer quarantine (Pentico 2006). The seized firewood came from over 500 miles away.

Venues that attract a large number of camping visitors from across the nation pose a significant risk of the introduction of invasive pests from firewood. Yet, these venues also provide a unique opportunity for interagency collaboration on education and outreach efforts. Natural resource professionals and park and campground staff can work together to prevent the introduction of invasive pests by firewood movement at a variety of events, such as sporting events, festivals, and historical reenactment programs.

Source: U.S. Department of Agriculture, Animal and Plant Health Inspection Service 2011; Pentico 2006.

Here are some ways that natural resource professionals can get involved with this group.

- Encourage park and campground staff to display related brochures, posters, flyers, and other educational materials and distribute these to visitors.
- Encourage parks to ban all firewood that is not treated or produced locally. For example, in 2010 the Shenandoah National Park issued a ban on firewood purchased or brought from outside the park and allows campers to gather dead and downed firewood in the park or purchase it at the park's camp stores (U.S. Department of the Interior 2010).
- Encourage and assist park and campground staff in the development of firewood policies or plans that clearly define the types of firewood allowed on the premises, standards for evaluating firewood risk, and steps to take if an insect or pathogen is suspected or detected. This information should be incorporated into educational materials distributed to visitors. This is an alternative if a ban is not possible.
- Share examples of "wood swaps or exchanges" with park and campground staff. Swaps and exchanges allow visitors from more than 50 miles away to exchange their wood with local or treated wood provided on-site. Staff members then safely dispose of the campers' firewood.
- Encourage park staff to promote local wood sales to incoming visitors prior to their arrival.

- Encourage staff to sell locally produced or treated firewood on-site and explain that if on-site firewood is economically priced, then visitors will be more likely to leave their wood at home.
- Suggest to park and campground staff that the cost of firewood be incorporated into use or access fees and provide local firewood on-site.
- Help park and campground staff develop a recommended list of nearby producers and retailers of locally sourced or treated firewood with contact information. The list could be made available to users in print and online formats to inform visitors of their local firewood sources as they plan their trip.

Working with arborists and green industry professionals

Arborists and green industry professionals such as tree-care providers and landscape architects are often in direct contact with invasive pests. These groups can play an invaluable role in helping to prevent or contain infestations. They can identify and report the occurrence of invasive pests to forestry or agriculture agencies as soon as they are detected. Arborists



Photo by: Andrew Koester, ISA, Bugwood.org

Arborists and green industry professionals are often in direct contact with invasive pests.

and landscape professionals can also be important partners in preventing the spread of invasive pests through eradication efforts in urban areas. These groups can help landowners assess a landscape, choose suitable plants, and outline proper tree care to minimize stress on plants, which can put them at greater risk of infestation or infection (Vitosh, Iles, and Gleason 2008).

Below is a list of some of the ways that natural resource professionals can get involved with this group.

- Encourage arborists and landscape professionals to stay up to date on the invasive pests existing in or threatening to enter their state and neighboring states.
- Host an annual “Invasive Pest Field Day” that includes informative lectures on topics such as how to prevent the spread of invasive pests. Continuing education credits from the International Society of Arboriculture can be made available as well.
- Encourage arborists who cut firewood, either for sale or for the landowner, to avoid transporting firewood more than 50 miles from where the firewood originated.

Working with wood processors and producers

Firewood producers range from individuals selling wood locally out of their pickup trucks to very large distributors that ship firewood from coast to coast. In addition to the effects that firewood movement can have on forest and tree health, there can also be consequences to industries responsible for harvesting, processing, transporting, and selling firewood. However, best management practices for wood processors and producers are available to minimize the risk of spreading pests. These include

harvesting and marketing firewood only from locally grown trees and using appropriate treatments to produce safe, clean firewood that is easier to handle and transport. The preferred treatment for firewood depends on the type of pest to be eliminated and can include heat treating, kiln drying, or debarking. For certain pests, removal of all the bark is acceptable, but for others heat treatment or kiln drying is necessary to make firewood safe to transport. In some locations, these practices are voluntary. However, specific treatment is required by regulations when wood is moved out of a quarantined area. Some states also have nonvoluntary within-state regulations that apply.

Here are some ways that natural resource professionals can get involved with this group.

- Become familiar with the guidelines and regulations in the state, and refer questions and express concerns about firewood movement to the state's plant health director at the following Web site (www.aphis.usda.gov). Report a pest by selecting the "Report a Pest" link on the right side of the screen. The state plant regulatory official in each state (www.nationalplantboard.org/) can also provide useful information on movement of both federally-regulated and state-regulated materials (including firewood) into and within each state.
- Inform firewood processors and distributors that they can contact U.S. Department of Agriculture, Animal and Plant Health Inspection Services (APHIS) or their state agriculture department to find out more about compliance agreements necessary to move firewood into or out of regulated areas.
- Encourage wood processors and producers to adopt best management practices for firewood (National Plant Board 2010).

- Encourage national producers to adopt a voluntary certification program with labeling and recordkeeping for firewood (National Plant Board 2010).

Regulation of Firewood Movement

Firewood movement regulations can be complex. The movement of items (including firewood) that can harbor damaging or destructive insects or pathogens may be regulated by the federal government (APHIS) and/or by state agriculture departments. These regulations are usually expressed as quarantines. A quarantine is established to contain a dangerous or destructive insect or pathogen to an affected area and/or to prevent the spread of a insect or pathogen to an unaffected area. Federal and state departments of agriculture work together to establish and enforce these regulations. The following are examples of species that have prompted federal or state quarantines: Asian longhorned beetle, emerald ash borer, gypsy moth, pine shoot beetle, sudden oak death pathogen, sirex wood wasp, hemlock woolly adelgid, and European larch canker pathogen (U.S. Department of Agriculture 2011).

In the case of emerald ash borer, APHIS cooperates with agriculture departments in the affected states to enforce quarantines to prevent the spread of emerald ash borer out of affected areas by restricting the movement of certain items, including firewood. In the case of thousand cankers disease (TCD), which infects walnut trees, there are no federal quarantines. Since TCD was found in Tennessee in August 2010, the Tennessee Department of Agriculture has enacted a quarantine to regulate the movement of walnut logs from any affected counties into unaffected counties within the state. At the same time, the North Carolina Department of Agriculture has established a quarantine to prevent the movement of potentially infected logs from Tennessee into North Carolina.

There are usually stipulations written into quarantine regulations that allow for the movement of regulated items when it has been determined that the items are uncontaminated or, alternatively, are processed to make sure damaging insects or pathogens are destroyed. To make this determination, the firewood must be inspected and certified by regulating agencies. Firewood processors can work with their states' agriculture departments to find out the best way to distribute uncontaminated firewood. A state can then enter into a "compliance agreement" with a processor to allow shipment of treated firewood out of affected areas or into unaffected areas. These processors are then allowed to indicate on their firewood labels that their product has been treated for pests in compliance with applicable laws.

Some states have enacted broader firewood regulations regarding the import and movement of untreated wood rather than targeting a specific pest. For example, a Florida statute regulates untreated wood, including firewood, moving more than 50 miles. It requires firewood producers and distributors to be inspected and certified. As firewood movement is increasingly recognized as a pathway for invasive pests, this type of law may become more common in the region. Natural resource professionals can contact their state plant health director at the following Web site: (www.aphis.usda.gov). The state plant regulatory agency in each state (<http://www.nationalplantboard.org/>) can also provide useful information on movement of both federally-regulated and state-regulated materials (including firewood) into and within each state.

Summary

Agencies and forestry professionals cannot predict the next major forest pest introduction nor foretell the pest's ultimate range or preferred hosts. Therefore, the long-range movement

of firewood cut from all tree species should be discouraged, not just those associated with known pests. Emerging and existing voluntary compliance practices, and federal and state outreach and regulatory efforts will help prevent firewood movement, and thus the introduction and establishment of invasive pests. Natural resource professionals can play a significant role by educating interface homeowners and outdoor enthusiasts. They can also work with park and campground staff, arborists and green industry professionals, and wood processors and producers to prevent the spread of invasive pests by firewood movement.

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