



National Firewood Task Force

Recommendations

March 2010

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Executive Summary

Many forests in the United States are under attack by non-native, invasive species of insects and diseases resulting in millions of trees damaged or killed in recent years. The continued spread and damage caused by these invasive species threatens our forests, their ecosystems and a diverse array of consumable products and services. When people move firewood, it provides a pathway for moving these pests from one area to another often over long distances.

Recently, State and Federal agencies have enacted measures to mitigate the movement of forest pests including broad public outreach campaigns, firewood quarantines for specific pests and State-level firewood regulations. However, there has been an absence of a coordinated response to address outreach, voluntary and regulatory aspects of firewood movement at a national level.

The complexity of a national approach led to the creation of the National Firewood Task Force (Task Force). The Task Force included members from the National Plant Board, USDA Animal and Plant Health Inspection Service, US Forest Service, National Association of State Foresters and the US Department of Interior National Park Service. The Task Force was charged with two primary tasks: 1) collecting stakeholder ideas for addressing firewood as a pest pathway and 2) developing recommendations that if adopted by State and Federal officials and others involved would result in lower pest and disease risks posed by people moving firewood.

The Task Force focused on three primary areas of action: outreach, voluntary, and regulatory. For each of these areas, several strategies were developed to contribute to an overall effective and cohesive national response to the firewood pest pathway issue. Many should be started immediately and most should be implemented in the next three years:

Outreach Strategies:

1. State and Federal agencies should convene a communications steering committee.
2. Develop an online hub of firewood outreach materials.
3. Prioritize the outreach activities.
4. Use diverse methods to get consistent messages out about the risk of moving firewood.
5. Support the voluntary and regulatory efforts.

Voluntary Strategies:

1. Large-scale producers and retailers adopt best management practices.
2. National producers and retailers adopt an industry-run national certification program with labeling and recordkeeping requirements based on best management practices.
3. Public and private campgrounds make local or treated firewood available.
4. Firewood consumers and small-scale local producers adopt best management practices.

Regulatory Strategies:

1. APHIS should promulgate regulations for the interstate movement of firewood as soon as possible with requirements for labeling, recordkeeping and treatment based on best management practices.
2. States should publish intrastate movement regulations with requirements similar to the Federal regulations for labeling, recordkeeping and treatment as needed. Moving firewood 50 miles or less would be exempt from intrastate regulations provided this does not violate any quarantine that may be in place.
3. State, Federal, and private parks, forests and campgrounds should institute policies that encourage campers to use local firewood and to not move firewood out of the local area.

In addition to the three strategic areas, a multi-agency steering committee should be formed to help with implementation and to assess progress annually to determine if any adjustments should be made to these strategies.

The Task Force believes the spread of non-native invasive pests and diseases by moving firewood can be significantly reduced if these outreach, voluntary and regulatory strategies are carried out. The development and implementation of a national program that includes all three strategies is essential for the future health and sustainability of our forests.

Introduction

Invasive insects and diseases are serious threats to the health of our forests. Some of these pests, such as chestnut blight and Dutch elm disease, have nearly eliminated major tree species across the majority of their natural range thus, altering forest ecosystems. State and Federal agencies have recently been fighting the spread of emerald ash borer, Asian longhorned beetle, hemlock woolly adelgid, *Sirex* wood wasp, and gypsy moth. It is possible that new pests and diseases are moving into and around the country yet undetected.

A major pathway for the spread of invasive insects and diseases is firewood. For example, in Michigan, 75 percent of new infestations of emerald ash borer were associated with campgrounds and 80 percent of outlier infestations were traced to firewood¹. The costs associated with control and eradication of these pests can be significant. Since the emerald ash borer was first detected in the United States in 2002 the USDA has spent more than \$200 million to survey and control this damaging pest². A recently published study estimates that the costs associated with the removal and replacement of ash trees damaged or killed by this one insect will exceed \$10 billion by the year 2020³. A major focus on containing the recent detection of the Asian longhorned beetle, which is decimating the urban forests of Worcester, Massachusetts, has been on limiting the movement of firewood across New England and beyond.

Government agricultural and natural resource agencies recognize the importance of firewood as a pathway for the transport of invasive forest pests and, have individually and jointly taken actions to mitigate the movement of forest pests including broad public outreach campaigns, quarantines and state-level firewood regulations. However, there has not been a coordinated response by these agencies to address the related outreach, voluntary, and regulatory aspects of firewood movement at a national level.

¹Based on Michigan Department of Agriculture EAB data

² USDA budget figures 2002 through 2009

³ Kovac, et al. 2009 Cost of potential emerald ash borer damage in U.S. communities, 2009–2019, Ecological Economics September 2009.

National Firewood Task Force

Sparked by resolutions from the National Plant Board and the National Association of State Foresters, leaders from USDA's Animal Plant and Health Inspection Service invited a number of State and Federal agencies to form the National Firewood Task Force (Task Force) in October 2009 to identify key elements of a national strategy to prevent the movement of invasive forest pests in firewood. See Appendix 1 for a list of the Task Force members and the organizations where they work.

The Task Force initiated its work with the collection of stakeholder ideas regarding the best comprehensive strategy for addressing firewood as a pest pathway through a series of regional listening sessions. The Task Force then focused its work on three primary strategic areas of action: outreach, voluntary and regulatory. The goal in addressing firewood movement from these multiple perspectives was to leverage opportunities for collaborative responses across the range of government agencies and stakeholders that might not otherwise be possible.

The Task Force limited its definition of firewood to allay concerns and assure focus on its recommendations. The Task Force chose to keep the definition simple. Products in which processing mitigates the pest risk are exempt.

Task Force Goal: To recommend the most effective, least intrusive and most cost-effective combination of actions to mitigate the pest and disease risks posed by people moving firewood.

Definition of Firewood: All wood, split or unsplit less than 4' in length. This excludes products moving for further processing or otherwise already regulated:

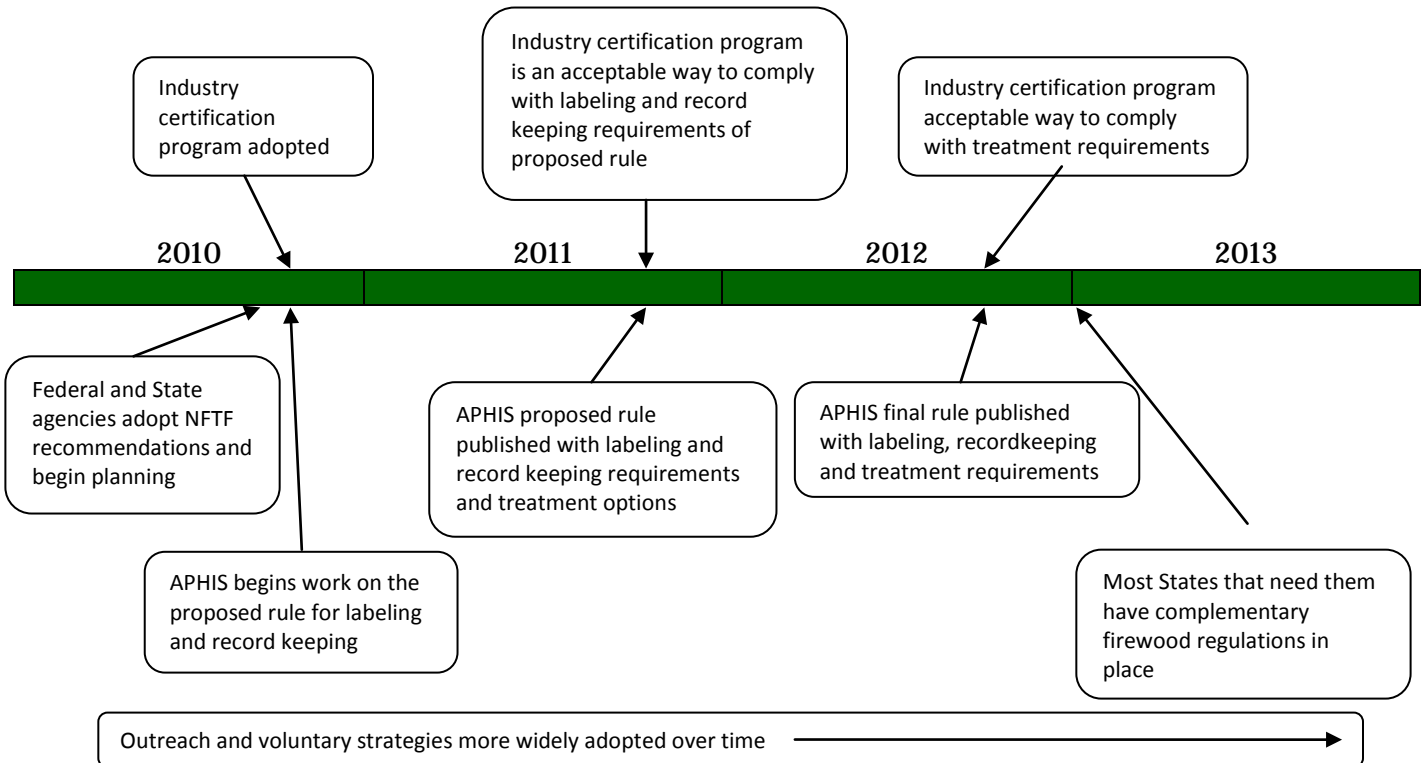
- Primary and secondary forest products (including saw logs, saw timber, chip-n-saw, sawdust, veneer logs, pulpwood, wood for pallets, pole wood, dead pine distillate wood, pellets and chips) transported for processing at mills and plants (including pulp/paper mills, saw mills, plywood plants, oriented strand board plants, pole plants, mulch plants and biomass plants).
- Commercial shipments of processed mulch or processed wood chips for cooking destined for further distribution at retail outlets if the shipments are accompanied by proper bill of lading, proof of origin and any applicable federal certificates for shipments originating from a USDA or State regulated area.

Task Force Recommendations and Timeline

The Task Force recommendations are divided into three strategic areas: outreach, voluntary and regulatory. Many of these actions should be started immediately and most of them implemented in the next three years. See the timeline below.

In addition to our three strategic areas of recommendations, a multi-agency steering committee should be formed to include the agencies originally involved in these efforts along with other stakeholders as appropriate. The steering committee should help with implementation and assess progress annually to determine if any adjustments should be made to these strategies.

The Task Force recognizes it will take a concerted effort from all involved to prevent damaging pests and diseases from spreading through the movement of firewood. Despite our three-year timeline for initial implementation, this is not a short term effort; current and future invasive pests and diseases will continue to threaten our forest resources. It will require sustained effort, funding, and procedural changes to prevent, detect and manage them.



Outreach Strategies

The Task Force's voluntary and regulatory recommendations will not be successful without coordinated outreach efforts to support them. Furthermore, a robust outreach campaign for the general public and small commercial firewood producer sectors is required that emphasizes the risks associated with the movement of untreated firewood. To implement these initiatives:

1. **State and Federal agencies should convene a communications steering committee.** The committee would coordinate firewood messaging at the producer, distributor and consumer levels, along with messages targeted to the public and private school educational system. This committee may initially consist of Task Force members, but should be expanded to include members of the Communication Officials of State Department of Agriculture (COSDA), State Natural Resource Agency communications officials and relevant non-governmental organizations as soon as possible.
2. **Develop an online hub of firewood outreach materials.** State and Federal agencies and organizations⁴ continue to support efforts to develop an accessible online repository of firewood outreach materials that can be shared among agencies and tailored for use in different States. Other relevant agencies (for example County Extension Offices) should be included in this process whenever possible. The steering committee should partner with the Continental Dialogue on Invasive Species to utilize its "Don't Move Firewood" website as a centralized "hub" of firewood outreach and education materials.
3. **Prioritize the outreach activities.** The communications steering committee should review the attached audience outreach chart (See Appendix 2) and prioritize outreach activities that can reasonably be accomplished by March 2011. The committee should begin implementation of these activities as soon as possible.
4. **Use diverse methods to get consistent messages out about the risk of moving firewood.**
 - a. States and Federal partners should agree to a "core" message regarding the risks of firewood movement that is simple to understand and is universally applicable. Options include:
 - i. "Don't Move Firewood"
 - ii. "Don't Move Untreated Firewood"
 - iii. "Firewood can move dangerous tree pathogens and pests"
 - iv. "What's your firewood carrying?"
 - v. "What's in *your* firewood?"
 - vi. "Firewood: A Pathway for The Movement of Forest Pests"
 - b. The core message should be accompanied by an explanation of *why* moving untreated firewood threatens forest health, watershed, air quality, recreation, local economy and wildlife habitat.

⁴ Includes: National Plant Board, (NPB) the National Association of State Foresters (NASF) USDA Animal and Plant Health Inspection Service (PPQ) and US Forest Service (USFS), US Department of Interior, National Park Service (NPS) and organizations like the Communication Organization of State Departments of Agriculture (COSDA)

-
- c. The core message should serve as a basis for regional and stakeholder specific variations that are of relevance to each audience. It is important to recognize that stakeholders in different regions of the U.S. will have varying levels of interest in the issue of firewood movement and the message must be tailored to their situation. Many of these scenarios are listed on the attached audience outreach chart.
 - d. Use methods and channels of communication that are appropriate for the audience. See Appendix 2 for the Audience Outreach Chart.
5. **Support the voluntary and regulatory efforts.** The communications steering committee should support the following voluntary and regulatory strategies by providing communications advice and services that promote and explain the:
- a. Voluntary efforts
 - i. Large-scale producers and retailers voluntarily adopt best management practices
 - ii. Industry-run certification program
 - iii. Mechanisms to provide local or treated firewood at public and private campgrounds
 - iv. Small commercial and personal best management practices.
 - b. Regulatory efforts. State and Federal agencies are working to have a complementary system of regulation in place in the next three years (see the next section of this paper on regulatory strategies). Outreach efforts can help get the word out about who will be covered and what will be required. The communications steering committee should have a representative charged with monitoring regulatory activities to ensure that consistent communications on regulatory developments occur.

Voluntary Strategies

Voluntary Strategies are essential and very effective in gaining momentum for adopting the messages from the outreach strategies and developing the national regulatory framework the Task Force sees as so important for ultimate success. The Task Force recognizes that regulations are ultimately necessary though may take some time to put in place. The Task Force is recommending voluntary measures that when adopted and implemented by targeted businesses and private individuals, they could make an immediate difference. Here are the four recommendations:

1. **Large-scale producers and retailers adopt best management practices (BMPs).** Companies involved in buying and selling of firewood should be provided with an educational package of why their adoption of these best management practices is requested. The package will directly link their procedures to how invasive forest pests have been transported in the past and how reducing and preventing movement by adoption of these best management practices will secure their economic and environmental future. These best management practices consist of three components: 1) record-keeping, 2) labeling and 3) treatments. See Appendix 3 for more details.

First, records should be kept for two years at the place of business. Recorded information should include: a) location and dates of harvest of the trees used to make the firewood, b) type of tree (genus and species when available) c) names, addresses, and contact information for all sellers, d) records of sales including quantity, date of sale, and name and address of purchaser,

Second, each unit⁵ of firewood should have the following information clearly and prominently displayed on a label or bill of sale accompanying the firewood: a) street address(es) of the firewood producer's production facility and business office, b) place of origin where the firewood was grown and harvested, c) amount of firewood in accordance with the requirements of the state in which the firewood is to be sold, d) method of treatment used (the Task Force recommends heat treatment, but any treatment applied should be listed), and e) an "Alert to Consumers" providing direction on how to report any pests they might find associated with purchased firewood..

Third, there are several types of treatments that would decrease the risk of moving viable pests in firewood such as heat, kiln drying and bark

Recommended Treatment – Firewood should be treated at a temperature of 71.1 degrees Celsius (160 degrees Fahrenheit) for 75 minutes.

removal. Where possible, companies should use the heat treatment protocol of 71.1 degrees for 75 minutes⁶ as described in Appendix 3. The Task Force is aware that some recent research suggests that some pests may be killed at 60 degrees for 60 minutes. If future research shows that all pests (including pathogens) are killed with this treatment, the Task Force would recommend moving to that lower standard. Until that research is complete, the Task Force suggests that heat treatment be at 71.1 degrees for 75 minutes.

⁵ A unit of firewood is the quantity of the firewood sold, typically a cord or bundle

⁶ Accepted PPQ treatment standard

2. **National producers and retailers adopt an industry-run national certification program with labeling and recordkeeping requirements.** A certification program could be implemented with the help of a core team of industry representatives and Federal and State regulatory officials. There are a variety of certification programs that could be adopted, many of which may reduce the risk of pest movement. The Task Force recommends that those national producers and retailers interested in being leaders in this effort be the first to adopt the three BMPs described in recommendation 1 on the previous page as an industry-run certification program. Ideally, a national certification program will be established to ensure uniformity and broad recognition. Even though a national program would be ideal, industries in certain states or groups of states could develop a similar program or programs that would also reduce risk. The Task Force encourages those efforts too. A certification program could work like this:

All firewood moved under the National Firewood Certification Program must be accompanied by a highly visible certification label bearing a proprietary mark or device. A brightly colored label posted in a visible location on the vehicle can be used as a self monitoring tool. Other producers and haulers will look for it on respective firewood loads so that vehicles without the label could be reported to a monitoring team. Each firewood producer will have a unique serial number to allow trace back to the physical location of the firewood producer⁷.

All producers would be required to receive a CD or gain access to a password-protected web site that will contain several documents related to the self-certification program. Training materials on the CD or website must be reviewed by key employees involved in firewood production for a firm. Training should focus on firewood as a pest pathway and the best management practices producers and retailers need to follow to reduce the pest and disease risk. Training should also include topics about the consequences of invasive species such as Asian longhorned beetle or emerald ash borer and the resulting damage to forests and ecosystems.

After completion of the training, a sign-off sheet must be completed by the employees and kept in a central location for retrieval as needed for auditing purposes. The CD or website will also have web links to several documents including a “Request to Participate in a Firewood Self-Certification Program”, “Complete a Compliance Agreement” and “Obtain Authorization to Print Pre-numbered Certification Labels/Stickers”, “Labeling Elements for Firewood Units” and “Record Keeping Form.”

The request to participate will be sent to the appropriate industry certification authority for review and approval.⁸ Prior to acceptance into the program an initial visit to the firewood producer by authorized personnel will take place. During this visit, verification that the appropriate treatment and other facilities are in place and fully operational will occur.

⁷ A web site could be built to generate a sequential unique number per producer inquiry which would eliminate regulatory intervention.

⁸ A central federal office or a state office is envisioned.

Upon successful completion of these steps, the authorizing body will approve the printing of labels bearing the proprietary mark and the firewood producer's unique identifying number. The firewood producer will be responsible for ensuring that the labeling mark and their identifying number are applied only to eligible firewood produced by that producer. In addition to the proprietary labeling device and the producers identifying number, each unit of firewood's label should also contain statement to the effect of: "This shipment of firewood meets the requirements of the National Firewood Certification Program" and contain a unique package identifier to allow retrieval of production information and delivery information. Regular visits to each participant by the authorizing body of the program will occur to ensure on-going compliance with all requirements and standards of the program.

Each participant must complete and retain the web-provided compliance agreement. A compliance agreement will contain specific elements from the best management practices with a focus on labeling requirements and record keeping.

3. Public and private campgrounds make local or treated firewood available.

As many are already doing, the Task Force encourages all campgrounds to make locally sourced or treated (appropriately heat treated as suggested in the BMPs) firewood available to campers. By ensuring that locally-sourced or safe firewood is available, campers may be less likely to bring their firewood with them, thereby reducing the risk of new pests being introduced into the area. These efforts would be consistent with and would reinforce the outreach messages the Task Force is recommending. In addition, a key element of these programs will be outreach efforts to ensure the public is aware of this alternate source of firewood at or near the campgrounds. There are a number of ways of doing this:

- a. **Sell local or treated firewood on site.** Make local or treated firewood available from the park or campground at a nominal cost to campers. Parks or campgrounds can develop contracts with local or national firewood suppliers. If parks and campgrounds are making firewood available, they should include that information on their websites. Their websites should include their policy on firewood, sources for firewood and other relevant information. This information should also be presented when campers make a reservation and when they arrive. An example of local or treated firewood for sale on site is occurring at the Great Smoky Mountain National Park.
- b. **Make available a list of nearby retailers of locally sourced or treated firewood.** Again, including this list with information packets sent to campers when they make reservations and upon arrival would increase the likelihood that these sources of firewood are used. If parks and campgrounds ensure that the retailers on their list are using only locally sourced or treated wood, the whole system becomes more mutually reinforcing.
- c. **Institute a firewood exchange program.** Visitors with firewood are asked to exchange their wood with that provided by the park or campground. A park or campground can collect downed trees or other sources of local trees that are free or available to them at a modest cost and convert them into firewood. When

campers arrive with their own firewood from more than 50 miles away⁹ or from a quarantine area, the park or campground would exchange their local wood for the wood brought by the camper. The park or campground would then safely dispose of the camper's firewood by immediately burning it or other appropriate disposal method. The moment of the exchange provides a good opportunity to educate these individual campers and reinforce the key messages about the risk of moving firewood. A firewood exchange program is in place and has been very successful at Yosemite National Park.

- 4. Firewood consumers and small-scale local producers adopt best management practices.** These practices include: 1) using and buying firewood locally 2) guidance on producing and using firewood and 3) guidance on what to do if you must transport firewood more than a few miles. See Appendix 4 for more details on these best management practices.

⁹ Maximum natural movement of most pests

Regulatory Strategies

Several states have developed or are developing firewood regulations which vary in their requirements. Many national firewood producers have called for more consistency at a national level. A Federal regulation would provide much needed consistency yet should allow States the flexibility to develop regulations as needed to complement federal regulations and address their own specific concerns. The Task Force agreed on three regulatory recommendations:

1. **APHIS should promulgate regulations for the interstate movement of firewood as soon as possible with requirements for labeling, recordkeeping and treatment.** APHIS should publish a proposed rule focused on labeling and record-keeping requirements to provide a consistent national framework for interstate firewood movement. In doing so, APHIS should also describe its intent to publish a rule which would add a

Labeling/Recordkeeping

A Federal labeling rule would require this label information for interstate movement:

- Producer name
- Production location
- Alert to consumers
- Origin of tree
- Treatments (if any)

A Federal recordkeeping rule would require that the following information be kept:

- Location of harvest
- Date of harvest
- All sales
- Vendors/contractors

- treatment requirement for all firewood moved interstate. APHIS would write a final rule with requirements on labeling, recordkeeping and treatment based on the public comments received. This approach will move the regulations through as expeditiously as possible. The Task Force believes that without a federal rule, compliance will never reach the levels needed to sufficiently reduce pest risk. These rules would follow the labeling and recordkeeping requirements outlined in the BMPs for large-scale producers and retailers found in Appendix 3. By using the BMPs as the basis for our voluntary and regulatory strategies, those who voluntarily adopt the BMPs will have no trouble complying with these Federal and State regulations. Those who develop a certification program based on these BMPs will be in compliance when these regulations go into effect.
2. **States should publish intrastate movement regulations with requirements similar to the Federal regulations for labeling, recordkeeping and treatment as needed.** If they have not done so, these state regulations would require labeling and recordkeeping for intrastate movement following the guidance in the box above and in the BMPs in Appendix 3. Also, State regulations should require that firewood moved more than 50 miles would need to be heat treated according to the BMPs on page 8 and consistent with the Federal requirement. Local movement of firewood of less than 50 miles within states should be permitted provided this does not violate any quarantine that may be in place.
3. **State, Federal, and private parks, forests and campgrounds should institute policies that encourage campers to use local firewood and to not move firewood out of the local area.** At the very least, these camping areas should encourage the use of local firewood while camping by making use of the outreach efforts described earlier. If possible they would develop and implement one of the programs to make local firewood available at the camp site similar to the ones described in the voluntary strategies on pages 10 and 11.

Appendix 1—National Firewood Task Force Members

Name	Organization
Chris Asaro	Virginia Department of Forestry
Wendy Beltz	APHIS, Plant Protection and Quarantine
Michael Buck	National Association of State Foresters
Paul Chaloux	APHIS, Plant Protection and Quarantine
Carol DiSalvo	National Park Service
Wayne Dixon	Florida Department of Agriculture and Consumer Services
Ann Gibbs	Maine Department of Agriculture
Jacob Hegeman	APHIS, Legislative and Public Affairs
Paula Henstridge	APHIS, Plant Protection and Quarantine
Dan Hilburn	Oregon Department of Agriculture
Craig Kellogg	APHIS, Plant Protection and Quarantine
Les Koch	Wyoming State Forestry Division
Gary Man	U.S. Forest Service
Phil Marshall	Indiana Department of Natural Resources
Ron Murray	Michigan Department of Natural Resources and Environment
Scott Pfister	APHIS, Plant Protection and Quarantine
Julie Twardowski	APHIS, Plant Protection and Quarantine
Ken Waters (Facilitator)	APHIS, Policy and Program Development

Appendix 2—Audience Outreach Chart

Audience	Method of Outreach	Don't Move Firewood Message	Point of Contact
Air Travelers to High Risk Areas	Airport public service announcements (those seen in baggage claims) in high risk areas	“Going Camping? Going to have a campfire? Buy your firewood where you’re going to burn it!” Why? Firewood may carry dangerous forest pests that could destroy the forest	American Association of Airport Executives
Big Box Retailers selling firewood and/or fire pits	PSAs in areas of stores selling firewood/fire pits	“Getting ready to use the fireplace? Be sure your firewood is from local sources.” Why? Firewood may carry dangerous forest pests that could destroy the forest	National Retail Hardware Association
Campers	Campground websites DNR websites; campers’ organization websites	“Going Camping? Going to have a campfire? Buy your firewood where you’re going to burn it. Don’t bring wood from home!” Why? Firewood may carry dangerous forest pests that could destroy the forest	National Association of RV Parks and Campgrounds; National Recreation Reservation Center (NRRC); State Campground Authorities Woodall’s Camping and RV Guide
Campground Operators	Outreach to campground operators through industry groups to put messaging on campground websites	“Going Camping? Going to have a campfire? Buy your firewood where you’re going to burn it. Don’t bring wood from home!” Why? Firewood may carry dangerous forest pests that could destroy the forest	National Association of RV Parks and Campgrounds; NRRC; State Campground Authorities
Construction/Clearing/Clean-up companies/Arborists	Outreach to tree care professionals through industry groups	“Got wood residue from a job? Going to sell it as firewood? Don’t! It’s not worth the risk to your industry- tree pests could be inside!”	Tree Care Industry Association International Society of Arboriculture
Outdoor Equipment rental centers (log splitters, etc)	Placement of “Don’t move firewood” brochures in rental centers and stickers for equipment	“Going to split some wood? Burn it near where you split it- That wood may contain invasive tree pests that could be spread with the movement of the wood”	American Rental Association
Fall Tourism websites	Website banner ads	“Going to look at the leaves this fall? Help ensure they’re here next year- Don’t bring firewood with you” “Firewood may carry dangerous forest pests that could destroy the forest.	U.S. Travel Association State and National Tourist Bureaus and Chambers of Commerce
Furniture and other Wood Processors (scrap wood)	Outreach to manufacturers: Tags, or stickers attached to products and banners on store/manufacturers’ websites	Got scrap wood? Going to sell it as firewood? Don’t! It’s not worth the risk to your industry- tree pests could be inside!” “The wood used to make this furniture comes from forests that are in danger of being destroyed by invasive forest pests commonly carried in firewood. Don’t Move Firewood!”	Wood Product Manufacturers Association; Hardwood Federation
Future Farmers of America/4H	Conservation education	Invasive agents in firewood destroy range, forests, etc.	Future Farmers of America/4H

Audience	Method of Outreach	Don't Move Firewood Message	Point of Contact
Local and National Firewood Dealers and Producers	Self-Certification System; Permit systems. Place informative literature within permit or certification	Don't lose your National Heritage. Follow firewood rules as designed by your state agriculture department, etc. Sell firewood where you get it! Encourage customers to burn it locally. Otherwise, there may not be any firewood left.	National Retail Federation
Gas Station / Convenient Stores	Gas pump videos	Leave your firewood at home. Buy from local sources instead.	National Association of Convenience Stores
Hardwood Federation	Annual Meetings	Keep the hardwood trees healthy! Alert your members of the risk of tree pests.	
Homeowners	TV, radio, billboards, newspapers, magazines, store bags (grocery, retail, etc.), school brochures,	Pests in firewood could kill your landscape trees and your neighbor's trees and thus lower your property values Variation of above: Pests in firewood could kill your neighborhood trees and thus lower your property values.	News Media
Hunters	Literature placed with License	Protect your National Heritage. Invasive insects in firewood will destroy crucial wildlife habitat.	DNR License Agents
Local Park and Forestry Departments	Placard in park barbeque areas?	Protect your forest/park! Don't allow visitors to bring firewood. Encourage local use.	National Recreation and Park Association
Logging companies	Trade journal articles	Got scrap wood? Going to sell it as firewood? Don't! It's not worth the risk to your industry- tree pests could be inside!"	American Forest and Paper Association; Michigan Association of Timbermen
Nurseries	Trade journal articles	Keep your nursery stock pest free! Don't move firewood from more than 50 miles away.	American Horticultural Society American Nursery and Landscape Assoc.
Outdoor Equipment Manufacturers	Trade journal articles	Burn it where you cut it.	Outdoor Power Equipment Institute
Outdoor-type Stores (REI, LL Bean, Outdoor World, etc.)	Trade journal articles, T-shirts; Caps; etc.	"Going Camping? Going to have a campfire? Buy your firewood where you're going to burn it!"	Outdoor Industry Association
Railway Companies	PSA on rail cars?	Move the goods not the hitchhikers. Don't move firewood with hitchhiking pests.	Association of American Railroads US DOT
Realtors (those that focus on vacation homes)	Brochures; Annual Meetings	Save the trees and protect home values! Encourage current and former clients to use only local firewood.	Nat'l Assoc. of Realtors
RV Associations	Trade Shows/ Industry Publications	Protect your National Heritage. Firewood may carry insects and pathogens that kill trees. Protect your campgrounds, fishing spots, etc.	Nat'l RV Dealers Association Woodall's
RV Manufacturers	Trade Shows/ Industry Publications		Recreation Vehicle Industry Association

Audience	Method of Outreach	Don't Move Firewood Message	Point of Contact
Saw mills	Trade Shows; Industry Publications	Got scrap wood? Going to sell it as firewood? Don't! It's not worth the risk to your industry- tree pests could be inside!"	American Forest and Paper Association; State Timber Associations
Schools	School curriculums Work with marshmallow companies?	Protect the trees! Use local firewood to toast your s'mores!	North American Association for Environmental Education; Dept. of Education?
Scouts	National heritage message: "Trees are a treasure" Marshmallow Company PSAs Firewood Badge/Merit Badge	Protect the trees! Use local firewood to toast your s'mores!	BSA-probably start with a local council
State Agriculture Departments	Printed brochures and fact sheets	Protect your state resources. Encourage the use of local firewood.	NPB, NASDA USDA
State Forestry Departments	Printed brochures and fact sheets	Protect your forest! Don't allow visitors to bring firewood. Encourage local use.	President of group USDA
Watershed managers	Annual Meetings	Protect your watershed! Only allow local firewood or else you may reduce your water quality when the trees are gone.	States "Friends of" groups
Municipalities	Websites and literature	Protect park, street, and private trees; save your property values, tree canopies, energy gains	National League of Cities; International City/County Management Association
Communications Officers of State Departments of Agriculture	Annual Meeting, Conference Calls	Work with COSDA to deliver various messages to the audiences listed on this chart / Develop and share online repository of firewood outreach materials	COSDA President
Master Gardeners/ Naturalist	Education, literature, handout material	Invasive agents in firewood destroy range, forests, ecosystems	
Outdoor Sports Magazines	PSA, inserts, websites		
International Society of Arborists	Seminars, material, certification programs		
Arbor Day Foundation	Seminars, material, certification programs		
Non-Industrial Private Landowners (NIPL)	Direct contacts (consultants, NRCS, DNR Stewardship, etc.) Websites, literature, meeting, farm radio, news media, etc.	Cut and market dead wood carefully to avoid spreading dangerous pests Don't move firewood long distances; it might contain dangerous pests.	NRCS, DNR Stewardship, Dept. of Ag. Consulting foresters, University Extension Agents, Farm Bureau, and State Forestry Associations.

Appendix 3—Best Management Practices for Large-Scale Producers and Retailers

Production and Interstate Movement of Firewood

The best management practices (BMPs) described here for the production and interstate movement of firewood specify actions that can be taken by firewood producers in order to reduce the risk of pest movement on or in firewood. Recommendations include treatment options designed to lower pest risks associated with firewood, labeling information, and records that should be maintained.

By making use of one of the recommended treatments, firewood producers can help prevent the spread of destructive forest pests. Some pests are able to survive air-curing for long periods of time, which means simply seasoning wood for one or more years does not reduce pest risk enough to make firewood safe to move outside the local area (more than 50 miles). In addition to addressing the pest risks, using one of the treatment options will also provide firewood consumers with a higher quality, cleaner product that is easier to handle and transport.

Labeling is an important way by which information about a product, including firewood, is communicated. Following the labeling recommendations included in these BMPs will inform consumers and others about where firewood was produced and the type of treatment used. As consumers become increasingly conscious of how their decisions and actions impact our environment, businesses are benefiting by providing products and services that minimize negative environmental impacts. Firewood producers can maximize their opportunities to realize these benefits by incorporating the labeling recommendations into their label designs.

Please note that the labeling of goods for sale is regulated by each State, and the requirements can vary slightly from state-to-state. Individual states determine how the weight/volume of the firewood must be indicated, and may have additional labeling requirements. Check the labeling requirements in the final state of sale to ensure you are in compliance. Go to <http://www.ncwm.net/state/> for a complete directory of weights and measures officials in each state.

Maintaining accurate records of where the wood used to produce firewood was grown, who it was purchased from, what species of wood were included, sales made and data about treatment procedures applied is also important. This information can be used to track wood from the woodlot through the production and distribution process.

If firewood is produced or grown in an area quarantined for one or more pests, all applicable quarantine regulations and requirements must be followed. These BMPs do not supersede import or domestic quarantine regulations.

Recommended Treatments

All firewood should be treated using one of the methods listed below (in order of preference):

- Heat Treatment – Maintain a temperature of 71.1 degrees Celsius (160 degrees Fahrenheit) in the center of the largest piece of wood for 75 minutes. Some recent

research suggests that some pests may be killed at 60 degrees for 60 minutes. If future research shows that all pests (including pathogens) are killed with this treatment, the Task Force would recommend moving to that lower standard especially since costs could be reduced by about a third with the lower treatment. Until that research is complete, the Task Force suggests that heat treatment be at 71.1 degrees for 75 minutes

- Kiln Sterilization – Procedures for kiln sterilization are given in the United States Forest Service’s Dry Kiln Operator’s Manual, Schedule 7-31 on page 176, available on line at <http://www.fpl.fs.fed.us/documnts/usda/ah188/ah188.htm> or call the USDA Emerald Ash Borer Hotline at (866) 322-4512 for additional guidance. The maximum thickness of wood that can be kiln-sterilized is three inches.
- Debarking – Removal of all bark and the outermost ½ inch of wood. Debarking is the least preferred treatment option because some pathogens and insects are not affected by this treatment.

Labeling

Each unit of firewood offered for sale should have the following information clearly and prominently displayed on a label or bill of sale accompanying the firewood:

- The street address(es) of the firewood producer’s production facility and business office.
- The place of origin where the firewood was grown and harvested. This information should be as specific as possible, but at a minimum should indicate the country (if outside the US), state and county.
- The amount of firewood in accordance with the requirements of the state in which the firewood is to be sold.
- The method of treatment used. The following abbreviations using upper case letters may be used in lieu of the full wording:
 - HT - heat treatment
 - DB - debarking and removal of the outermost ½ inch of wood
 - KS - kiln sterilization
- An “Alert to Consumers” providing direction on how to report any pests they might find associated with firewood they have purchased. An example alert is:
 - “Alert to Consumers” If you should find an insect or other pest associated with this firewood please report it to the USDA State Plant Health Director or the State Plant Regulatory Agency where it was purchased. Directions for reporting plant pests can be found at www.aphis.usda.gov by clicking on the “Report a pest or disease” link under “Related Topics”.

Recordkeeping

Firewood producers should maintain records of the following information for at least 2 years:

- Location and dates of harvest of wood used to produce firewood.
- Species of wood from which firewood is produced.
- Vendors, contractors, brokers or landowners from which raw inventory stocks are purchased (if applicable), including names, addresses and contact information.
- All sales of firewood, including quantity sold, date of sale and name and physical address of purchaser.
- Data recorder charts or log books from kiln operations.

Appendix 4—Best Management Practices for Firewood Consumers and Small-Scale, Local Producers

Never assume untreated firewood is safe to move. Even experts cannot always find signs of infested wood, such as a couple of pin-head sized insect eggs, or a few microscopic fungus spores, in a pile of wood. Although State departments of agriculture and departments of natural resources and the U.S. Department of Agriculture work hard to survey for and understand where destructive forest pests are located, one cannot be certain of the actual distribution. For these reasons, even firewood produced in an area not known to harbor one or more forest pests of concern should be handled with the same care used for firewood from known infested areas.

By following the recommendations below you can be certain that you are producing and using your firewood in a responsible manner.

Use and buy firewood locally

- Firewood from trees that grew less than fifty (50) miles (maximum natural movement of most pests) away can be considered “local firewood.”
- Don’t transport firewood from home (e.g., across county lines, especially to second homes such as summer houses, cottages, cabins and hunting shacks)
- Don’t take firewood home that you got elsewhere.

Producing firewood for personal or local use

- Inspect all dead or dying trees used to produce firewood for signs of insects or disease. Suspect insects or diseases should be saved and reported to your local agricultural extension agent.
- Living trees used for firewood also may have hidden insects or diseases present.
- Exotic insect and disease problems often arrive first in urban areas. Arborists and citizens should pay particular attention to dead or dying landscape and street trees when cut for firewood because these trees are most likely to harbor invasive forest pests.
- Never stack firewood against a house, other wooden structures or standing healthy trees. Firewood should also be stored at safe distances from propane and heating oil tanks.
- Split firewood as soon as possible and stack it in loose piles raised off the ground to promote drying.
- Never treat firewood with an insecticide or pesticide. Doing so could result in exposure to toxic fumes when the wood is burned.

If you must transport firewood more than a few miles--here are some precautions to take:

- Only firewood that is dry split and with loose bark should be moved within or between states, if allowed by State or Federal regulations. State departments of agriculture and the U.S. Department of Agriculture routinely establish quarantine zones from which certain plant materials, such as firewood, cannot leave. It is important to be familiar with those regulations.
- Information on applicable regulations and quarantines can be obtained from the State Plant Health Director or State Plant Regulatory Official in each State. Contact information for each State Plant Health Director's office can be found on the internet at www.aphis.usda.gov, (select the "Report a Pest" link on the right side of the screen).and the State Plant Regulatory Official at <http://www.nationalplantboard.org/>

Appendix 5: Existing Web Resources

State	Website
Florida	http://www.doacs.state.fl.us/pi/caps/firewood.html
Maine	http://www.maine.gov/doc/mfs/fhm/pages/firewood.html
Michigan	http://www.michigan.gov/mda/0,1607,7-125-1568_2390_18298-115218--,00.html http://www.michigan.gov/dnr/0,1607,7-153-10365-95931--,00.html
Minnesota	http://www.dnr.state.mn.us/firewood/index.html http://news.dnr.state.mn.us/index.php/2009/06/11/firewood-restrictions-in-effect-on-state-land/
North Dakota	http://www.cityoffargo.com/CityInfo/Departments/Forestry/Firewood/
New York	http://www.dec.ny.gov/animals/28722.html
Ohio	http://ashalert.osu.edu/userfiles/EAB_1.pdf http://ourohio.org/magazine/past-issues---2006/nov-dec-2006/check-before-moving-firewood/
Rhode Island	http://www.dem.ri.gov/news/2009/pr/0522091.htm
Wisconsin	http://invasivespecies.wi.gov/awareness/category.asp?linkcatid=649&linkid=333
FEDERAL /International	
APHIS	http://www.aphis.usda.gov/newsroom/hot_issues/invasive_species&firewood/index.shtml http://www.aphis.usda.gov/newsroom/hot_issues/invasive_species&firewood/state_firewood.shtml
USFS	http://www.na.fs.fed.us/firewood/ http://www.na.fs.fed.us/fhp/eab/firewood/supplemental/transporting_firewood.pdf
CFIA	http://www.inspection.gc.ca/english/corpaffr/newcom/2008/20080613e.shtml
NGO/Multi-agency	
Continental Dialogue / Nature Conservancy	http://www.Dontmovefirewood.org http://www.nature.org/initiatives/forests/features/art22189.html
Good Camper	http://www.goodcamper.info/
State Firewood Quarantines for EAB-APHIS/MSU	http://www.emeraldashborer.info/firewood.cfm