

National Plant Board Firewood Guidelines

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1. INTRODUCTION

A. OVERVIEW

Summary Statement: This document, the National Plant Board Firewood Working Group Guidelines, is a professional resource that compiles current scientific, regulatory, outreach, and management strategies on the issue of forest pest transport within the U.S. firewood pathway. The primary audience of this document is the State Plant Regulatory Officials (SPROs) for all US states and territories. However, all are welcome to use this document to better inform their knowledge and actions on the firewood pathway.

Each of the three major content sections of the document (Regulations, Best Management Practices, and Outreach) contains an overview of the section, followed by individual guidance documents, summaries, and/or case studies. In the regulatory section, these guidance documents are designed to inform the process of drafting new or revised state-based regulations pertaining to firewood. The Guidelines include case-study style analyses of how some states have already approached firewood quarantines. In the BMPs and Outreach sections, these guidance documents provide examples of strategies beyond regulation that could enhance a state's overall response to the firewood pathway, as well as selected recommendations or examples within these strategies. Each section is meant to be used as a curated resource to allow every state to assess, develop, and/or make changes to their firewood programs. Lastly, the appendices contain supplementary materials (scientific references, full text of existing quarantines, etc.). The National Plant Board is providing these Guidelines as a library of resources for voluntary use. The National Plant Board will not, and cannot, require any entity to implement any of the recommendations within this document.

Background:

The National Plant Board (NPB) Firewood Working Group was formed in 2018 to create a reference document containing organized and vetted firewood resources to provide to states, as a result of conversations and concerns that emerged during the process of the USDA APHIS federal proposed rule to deregulate emerald ash borer (EAB). A number of SPROs, and others, expressed the concern that in the absence of federal regulation of EAB there would be no or limited mechanisms for states to continue regulating the movement of firewood. The National Plant Board charged the NPB Firewood Working Group with developing a framework of activities for states to make well informed choices on how they can best prevent or reduce the movement of pests and pathogens on firewood. Information about members of the NPB Firewood Working Group, external reviewers of draft guidelines, and other contributors can be found in [Appendix G](#).

The movement of firewood is a significant pathway for the introduction and spread of invasive forest pests and pathogens, and addressing the issue of firewood transportation is complex. Firewood producers range from large-scale with national distribution networks to local and seasonal producers selling firewood to supplement their income. Firewood is used for both structure heating purposes and recreation. Because of the cross-section of the general public involved in firewood transportation, and challenges of identifying individuals transporting firewood, the firewood pathway is not realistically addressed solely through regulatory approaches.

Section Overview: Regulations

Regulations can be used to prohibit firewood movement or restrict the distance and type of firewood that can be moved into or within a state. Regulations are most effective when they include mechanisms for enforcement with penalties assessed for violations. The NPB Firewood Working Group has created a firewood regulation template and supporting materials for states to use if they are interested in pursuing a new or modified regulation. Supplemental resource materials will assist states to determine how to [define firewood](#), [select a standard to exempt certified heat-treated firewood](#), incorporate [Compliance Agreements](#), consider [Certification Programs](#), require consistent [firewood labeling](#) using plain language, and think about the challenges of [enforcement](#).

Section Overview: Best Management Practices (BMPs)

BMPs primarily address firewood used for structure heating (such as a home or cabin). BMPs can provide tools for industries and consumers to reduce the risk of spreading invasive species. BMPs will reduce, but not eliminate the probability of a pest introduction in firewood. States should promote BMPs to protect within state movement of firewood. Incorporating a focus on improving quality of firewood will help ensure broader adoption. The NPB Firewood Working Group has curated [BMPs targeted to producers and consumers of firewood](#).

Section Overview: Outreach

The [outreach recommendations](#) target campers and users of recreational firewood. Outdoor enthusiasts moving firewood are challenging to target with regulations and BMPs due to their variable destinations, preferred information sources, and motivations. The NPB Firewood Working Group has created materials for states to consider including: developing a key message, working with high-value partners, creating a state-managed [firewood webpage, focusing on outcomes](#), [working with campgrounds](#), and creating a state specific [on-line firewood directory](#).

2. REGULATIONS

A. OVERVIEW

Summary Statement: This document contains information for states considering the development of a new or updated regulation for the movement of firewood. The intent of the regulatory template, accompanied by supporting guidance documents and appendices, is to summarize the experiences of other states that have existing firewood regulations, with a focus on those that have exterior quarantines. States considering implementing a firewood quarantine need to identify the intent of the regulation and the approach. States considering regulating firewood should get meaningful responses from a variety of stakeholders and colleagues and consider the following:

- 1) Do stakeholders or agency staff in your state think/agree that the movement of firewood should be regulated?
- 2) What are your state's primary concerns about firewood movement?
 - a. Intra-state movement from source to area-of-use or sale? (e.g., firewood cannot move intra-state further than 50 miles; see New York or Florida's regulations in Appendices)
 - b. Intra-state movement from known infested areas to uninfested areas? (i.e., firewood from a quarantined portion of your state cannot be moved to a non-quarantined portion)
 - c. Importation of untreated firewood from known infested areas for a specific pest? (i.e., firewood from states with outbreaks of emerald ash borer, Asian longhorned beetle, red imported fire ant, or other pests cannot be imported)
 - d. Importation of untreated firewood from out-of-state? (i.e., out-of-state firewood is prohibited)
- 3) What are the most common forms of firewood typically imported, distributed, and/or sold throughout your state? (e.g., is it cut and split loose, bagged, wrapped, boxed, delivered in cords, as whole logs, or something else?)
- 4) Are you considering exempting certified heat-treated firewood from any quarantine requirements that you develop? If so, what is the minimum treatment level that you would deem acceptable?
- 5) Will your state create and/or maintain a state-based certified treatment program to allow for your states' firewood producers to sell firewood to other states that may be implementing their own regulations?
- 6) Are you open to considering treatment options other than heat treatment to exempt firewood from the regulatory requirements?
- 7) What level of firewood labeling, traceability, and reporting will you require?

When these questions have been considered, the quarantine template and supporting documents can be reviewed to assist development of a firewood quarantine. The template is derived from existing exterior firewood quarantines. Examples of current state regulations are included in the appendices. The template's purpose is to provide a [reference firewood quarantine](#), including the aspects common to most of the reviewed exterior firewood quarantines. This template is not meant to be adopted as written, but to maximize the efficiency and consistency of the process and end products for interested states. It is understood that each state will have their unique regulatory language that will need to be included. This document provides guidance to inform portions of the template regulation. For example, the [definition of firewood](#), the heat-treatment [standard](#), and methods of [enforcement](#) vary between states. Consistency in [labeling](#), in clear language, helps the firewood industry be compliant while informing regulators in others states and consumers that firewood has met requirements. [Compliance Agreements](#) and [Certification Programs](#) can enable the firewood industry in your state or region to comply with new and existing regulations region-wide. The NPB's Firewood Working Group determined it was important

and helpful to provide an explanation regarding specific technical or functional decisions, and hopefully this guidance will help states make the choices that best fit their needs.

B. QUARANTINE TEMPLATE

State of _____

Department of _____

Exterior Firewood Quarantine

Authority and Purpose.

Established under authority of _____, this rule is enacted to protect the State of _____ preventing the movement of invasive pests transported by firewood, including, but not limited to *Agrilus planipennis* (Emerald Ash Borer), *Anoplophora glabripennis* (Asian Longhorned Beetle), and other forest pests of concern transported in or on firewood from outside the State of _____.

Definitions.

- (1) "Certified heat-treated firewood" means {please see [Heat Treatment Standards](#)}.
- (2) "Department" means the Department of _____.
- (3) "Compliance Agreement" means a written and signed legal contract between the state or federal agency and the kiln, processor, facility, or vendor confirming the methods, conditions and procedures that will be followed to meet firewood quarantines, laws, and regulations. A Compliance Agreement may contain general requirements for producing and handling regulated material as well as identify stipulations or measures to effectively address a specific quarantine or other specific certification standard of the destination. {Please see [Compliance Agreements](#).}
- (4) "Firewood" means {please see [Defining firewood](#)}.
- (5) "Labeling" means {please see [Labeling](#)}.
- (6) "Other wood products" means raw or treated wood products including sawlogs, pulpwood or wood chips to facilities for processing into lumber, paper or manufactured wood products and which are excluded from the requirements of this quarantine {states should add which products are excluded and please see [Defining firewood](#)}.
- (7) "Person" means any individual, organization, corporation, or partnership.
- (8) "Uncertified firewood" means any firewood not meeting the definition of "certified heat-treated firewood" or that is not certified through a Compliance Agreement.

Area Under Quarantine.

- (1) All areas outside of the jurisdictional boundaries of the State of _____.

Articles and Commodities Under Quarantine.

- (1) This quarantine applies to all out-of-state firewood offered, exposed, or held for sale in the State of _____.
- (2) This quarantine excludes other wood products as defined in this quarantine.

Restrictions.

- (1) A person may not import out-of-state firewood unless the firewood is certified heat-treated or the person producing the firewood is under a Compliance Agreement.
- (2) All certified heat-treated out-of-state firewood transported, offered, exposed, or held for sale in the state shall be labeled in accordance with _____ {please see [Labeling](#)}.
- (3) Any person that imports certified heat-treated firewood in this state shall maintain records for two (2) years.

Requirements for Certified Heat Treated Firewood Labeling Requirements.

- (1) Heat-treated firewood is heated to 60 °C (140 °F) for 60 minutes at wood core. {Refer to [Heat Treatment Standards](#) for advantages and disadvantages to higher and lower heat treatment standards.}
- (2) Firewood is certified by a federal, state, or 3rd party organization.
- (3) Temperatures are as measured in the core of the firewood during the heat treatment process.
- (4) Records of treatment, origin of firewood, and sales are maintained and auditable by a certifying agency.
- (5) Firewood is labeled with:
 - (a) all information required by the [National Institute of Standards and Technology \(NIST\) Handbook 130](#);
 - (b) identification of the commodity as firewood, unless the contents can be easily identified through the wrapper or container;
 - (c) name and address of the manufacturer, packer, or distributor of the firewood, if the package or bulk shipment was not produced on the premises where it is offered, exposed, or held for sale;
 - (d) the certifying authority and certification number; and
 - (e) statement of the heat treatment standards used to certify the firewood in plain language.

Exemptions.

- (1) Firewood harvested within the State of _____ is exempted from the treatment requirements.
- (2) The department may issue an exemption for firewood certified under an existing program {see [Certification Programs](#)}.

Enforcement.

- (1) Authorized agents of the department shall refuse admittance into the State of _____ any firewood products that do not meet the provisions of this quarantine {please see [Enforcement](#)}.
- (2) Any shipment found within the State of _____ in violation of this quarantine shall be treated to comply with this quarantine, returned to the exporter at once, or destroyed under supervision of the state. The state shall not be responsible for costs incurred for treatment, shipment, or destruction of any non-compliant firewood.

Violations and Penalties.

- (1) Any fraudulent use of incorrect information on any forms used in the enforcement of this quarantine is a violation of this quarantine.
- (2) Any fraudulent representation of state or federal certifications is a violation of this quarantine.
- (3) Any use of state or federal certifications after they have been expired or retracted is a violation of this quarantine.
- (4) Any misrepresentation of untreated firewood as certified firewood is a violation of this quarantine.
- (5) Failure to comply with any provisions of this quarantine shall be a violation of this quarantine.
- (6) Violators of this quarantine shall be subject to penalties_____.

C. HEAT TREATMENT STANDARDS

Summary statement: This guidance will describe the heat-treatment standards that may be used to exempt heat-treated firewood from quarantine requirements.

A heat-treatment standard includes both the time and temperature required to disinfest firewood of insect life stages and viable pathogens. Standardly referenced treatments for firewood are T314-b: 56 °C (133°F) for 30 minutes (commonly known as the gypsy moth or ISPM 15 standard), T314-a: 60°C (140 °F) for 60 minutes (commonly known as the EAB standard), or T314-c: 71.1°C (160 °F) for 75 minutes (commonly known as the “Various Wood Pests” standard). All three standards can impact survivorship of insects and pathogens when appropriately applied and documented, with some studies demonstrating better consistent control of thermotolerant insects and pathogens with use of the higher standards. See [Heat Treatment](#) for more information.

Table: Heat Treatment Standard Comparison in Existing Firewood Regulations (Jan 1, 2020)

STATE	Heat Treatment Standard Referenced	Requirements for Permits or Notification
Florida	T314-c: 71.1 °C for 75 minutes (not explicitly stated in quarantine)	Certification and Master Permit
New Hampshire	T314-a: 60 °C for 60 minutes	Certification
New York	T314-c: 71.1 °C for 75 minutes	Certification
Oregon	T314-a: 60 °C for 60 minutes	Not explicitly stated
Pennsylvania	T314 (any federal treatment therein)	Certification
Utah	T314-c: 71.1 °C for 75 minutes	Certification and Advance Notification
Vermont	T314-c: 71.1 °C for 75 minutes	Certification

ANALYSES

The science and data associated with heat disinfestation, heat-treatment standards, and kiln certification is summarized in the appendices under “[Heat Treatment](#).” Please review for additional background information.

General Benefit: Heat-treatments kill insects and pathogens found in or on firewood. Industry creates a more phytosanitary product. Regional and national consistency in heat-treatment standards benefits states’ abilities to maintain forest products markets and support appropriate regional distribution and sales of firewood.

T314- b: 56 °C for 30 minutes

Advantages:

- Lowest standard and aligned with USDA gypsy moth and ISPM 15 standards.
- If applied correctly is adequate for control of life stages of many insects and pathogens.
- A study found it is adequate for control of life stages of Asian longhorned beetle¹.
- Encourages broad participation by the industry.

Disadvantages:

- Inadequate for control of pests such as emerald ash borer as well as some thermophilic pathogens.

¹Myers, S.W. and S.M. Bailey. 2011. Evaluation of the ISPM-15 Heat Treatment Schedule for Asian Longhorned Beetle, *Anoplophora glabripennis* (Coleoptera: Cerambycidae) For. Prod. J. 61: 46-49.

T314-a: 60 °C for 60 minutes

Advantages:

- T314-a is the current USDA emerald ash borer firewood standard, and is therefore used as a de-facto standard by many states. Emerald ash borer larvae are highly tolerant of elevated temperatures, potentially surviving the levels required by T314-b. T314-a's higher temperature and duration is required to provide adequate heat disinfestation of emerald ash borer².
- Provides security that life stages of more insects and pathogens are controlled when compared to T314-b.
- Standard is achievable by a broad range of firewood kilns, even when seasonal conditions impact heat-treatment of firewood.

Disadvantages:

- May provide incomplete control of some thermophilic pathogens, particularly those infecting the sapwood. Please see [Heat Treatment](#) for more information about firewood heat treatment and thermophilic pathogens.
- Firewood originating in a gypsy moth quarantine area is certified to T314-b, which is lower, and therefore states requiring T314-a for entry would need firewood to carry additional certification to comply with this standard.

T314-c: 71.1 °C for 75 minutes

Advantages:

- Highest treatment standard in the USDA's Logs and Firewood T314 series. This is the standard referenced by many of the states that were early adopters of exterior firewood quarantines.
- Greater confidence about control of thermophilic pathogens and insects as well as those pests with undetermined thermotolerance.
- Greater confidence of adequate treatment when wood core temperatures are not measured or recorded.

Disadvantages:

- Inability to certify firewood kilns unable or unwilling to run at these higher temperatures, particularly where seasonality impacts heat-treatment of firewood.
- Regulating the industry to higher standards than necessary for many insects, nematodes, and pathogens – including some that are adapted to survive periodic high heat. Please see [Heat Treatment](#) for more information.
- Requires increased communication to producers and certifying agencies about higher treatment standards.
- Firewood from sources with lower treatment requirements (firewood originating in a gypsy moth or emerald ash borer quarantine area, firewood certified under a T314-a aligned state-based program) would need additional certification to comply with this standard.

HEAT TREATMENT STANDARD RECOMMENDATIONS

1. Explicitly state heat treatment standards by temperature and duration.
2. Explicitly state standards are as measured in the core of the firewood.
3. Require that heat-treated firewood is certified by a federal, state, or 3rd party organization.
4. Require that treatment, supply, and sales records are maintained and auditable by a certifying agency.
5. Consider use of the T314-a: 60 °C for 60 minutes standard as the required standard.
6. Consult with stakeholders if considering the higher T314-c: 71.1 °C for 75 minutes standard.

²Sobek, S., Rajamohan, A., Dillon, D., Cumming, R.C., & Sinclair, B.J. (2011) High temperature tolerance and thermal plasticity in emerald ash borer *Agrilus planipennis*. *Agricultural and Forest Entomology* 13(3): 333-340.

Sample Definitions

(a) "Treated firewood" means any firewood certified as heated to 60 °C (140 °F) for 60 minutes at wood core, OR

(b) "Treated firewood" means any firewood certified as heated to 71.1 °C (160 °F) for 75 minutes at wood core, OR

(c) "Treated firewood" means any firewood certified as heated to 56 °C (133 °F) for 30 minutes at wood core.

D. COMPLIANCE AGREEMENTS

Summary Statement: A **Compliance Agreement** is issued by a state to provide oversight of **firewood in trade in their state**. Compliance Agreements may be issued to processors or transporters of firewood and provide opportunities for industry to continue legal trade in firewood. Compliance Agreements can support a state's regulatory programs and/or best management practices recommendations. But, they may not entirely eliminate risk. A Compliance Agreement may not be recognized by other states. This is particularly true for Compliance Agreements that are based on documenting movement of firewood rather than addressing risk mitigation. Compliance Agreements may be part of a state's firewood [Certification Program](#).

The terms of the Compliance Agreement may allow exclusions based on type of firewood, origin of firewood, timing of delivery, or additional processing of uncertified wood, such as heat-treatment, seasoning, or de-barking. The Compliance Agreement may include use of labels, forms, or other documentation, as well as requirements for treatment records.

ANALYSES

Variability in the use of Compliance Agreements exists between states depending on the pests and pathogens of concern as well as the firewood economy in the area. In most cases, the Compliance Agreement defines what articles are regulated, the state or federal regulations applicable to the quarantine, and the specific conditions under which the materials may be moved. Many states are familiar with Compliance Agreements through their use as part of the emerald ash borer program. States with internal emerald ash borer quarantines have based their Compliance Agreements either loosely or directly upon the USDA APHIS PPQ Emerald Ash Borer Compliance Agreement. This is advantageous when a pest or pathogen is relatively widespread, as the Compliance Agreement is easily understood from state to state. A few states have incorporated the use of Compliance Agreements as part of an exterior firewood quarantine. There are [examples of state Compliance Agreements](#) in the appendices.

Benefit:

Compliance Agreements and associated training/advisory materials are valuable tools to ensure and demonstrate that an entity understands the regulations and the steps required to legally move regulated articles. They clearly describe which articles are regulated, the applicable codes/regs, and the treatment or mitigation required to move the articles.

Advantages:

- States can require training and verify that entities are able to comply with the regulations prior to movement.
- States may require notification and additional documentation of movement in the form of permits.
- Records in the form of permits or chain-of-custody documents allow trace backs in the case of an introduction of a pest or pathogen.
- Producers of firewood have a product that has been treated or mitigated so risk of introduction or spread is decreased.
- Risk mitigation may result in a value-added product.

Disadvantages:

- States must communicate the need for a Compliance Agreement, so investment in outreach is necessary for success.
- State resources are needed to provide training and permitting. This demand may result in fees for cost recovery.
- Costs may result in small producers avoiding Compliance Agreements and attempting to operate outside of the regulations.

COMPLIANCE AGREEMENT RECOMMENDATIONS

1. Consider your answers to the questions in the [Regulatory Overview](#) document. Base Compliance Agreements on risks to trees in your state and whether oversight of origin of firewood, type of firewood, timing of delivery, and additional processing will help to alleviate those risks.
2. Determine the terms and oversight of the Compliance Agreement within the quarantine or departmental policy.
3. Publicize the availability of Compliance Agreements to producers, trade groups, green industry and suppliers of related equipment such as saws, wood splitters and trailers. Focus on the positives – Compliance Agreements allow them to continue to work with regulated articles while mitigating the risk of spreading a pest or pathogen and protecting their industry.
4. Incorporate training when signing an entity up for a Compliance Agreement. During that training, ask questions that demonstrate how the entity can meet the Compliance Agreement requirements.
5. Develop and foster relationships with industry to improve communication and increase the likelihood of reporting suspected outbreaks.

E. CERTIFICATION PROGRAMS

Summary Statement: A **Certification Program** is administered by a state (where firewood is harvested and/or processed) to **provide oversight of firewood entering trade in another state** (where this product is sold and/or distributed). Certification Programs are how states help their own producers meet the regulatory requirements imposed by other states. States considering a Certification Program should consider the level of risk that their state takes on with the program, as well as if it provides sufficient benefits to their states' firewood vendors to encourage participation.

ANALYSES

Certification Programs are currently most appropriate for those firewood producers with kilns that are interested in firewood heat-treatment certification. Exemption of certified heat-treated firewood is relatively consistent among existing external state firewood quarantines, as well as for movement of firewood across international borders. Certification of firewood kilns has been a role that USDA APHIS PPQ has performed in many states, and producers in those states rely on the availability of certification to meet the requirements of other states and purchasing agents. Changing federal regulations could impact the continued federal support of kiln certification, and states should consider whether or not a Certification Program could be part of the state services provided to firewood vendors. States with existing heat-treatment kilns will likely face greater pressure to implement a state-based Certification Program.

Certification Programs can be implemented for certification other than heat-treatment. These programs may not deliver as much impact because the certification of the product may not be as widely recognized by other states or commercial distributors. Certification Programs involve regulatory oversight of treatment conditions, review of documentation, and verification of monitoring equipment. A [Compliance Agreement](#) can be used within a Certification Program to provide enforcement of non-compliance. States requiring certification of firewood for entry or sale will have improved compliance if requirements and standards are provided in clear language within their quarantine.

Benefit:

Certification Programs and associated training/advisory materials are valuable tools to ensure and demonstrate that an entity understands the regulations and the steps required to legally move regulated articles to another state. They clearly describe which articles are regulated, the applicable codes/regs, and the treatment or mitigation required to move the articles.

Advantages:

- States can require training and verify that entities are able to comply with the regulations prior to movement.
- States may require notification and additional documentation of movement in the form of permits.
- Records in the form of permits or chain-of-custody documents allow trace backs in the case of an introduction of a pest or pathogen.
- The [Compliance Agreement](#) in the Certification Program is the enforcement document that assures a receiving state that, in the event of a violation, the state of origin will follow up with regulatory action.
- Producers of firewood have a product that has been treated or mitigated so risk of introduction or spread is decreased.
- Completion of the treatment processes within the certification program may result in a value-added product.

Disadvantages:

- States vary in certification requirements. States with higher standards for certified firewood, such as using 71.1°C (160 °F) for 75 minutes as a heat-treatment standard, requiring pre-notification, or additional reporting requirements may limit participation.
- States vary in their ability to oversee Certification Programs, including limitations on personnel, training, calibration equipment, cost-recovery for the program, etc.
- Costs may result in small producers avoiding a Certification Program and attempting to operate outside of the regulations.

CERTIFICATION PROGRAM RECOMMENDATIONS

1. Determine if there is an industry that would benefit from implementation of a Certification Program, and how the state could implement a Certification Program.
2. Determine the terms and oversight of the Certification Program within the quarantine or departmental policy.
3. Publicize the availability of a Certification Program to producers, trade groups, green industry and suppliers of related equipment such as saws, wood splitters and trailers. Focus on the positives – certification will allow them to continue to legally export their product to another state, or sell to regional wholesalers and distributors.
4. Incorporate training with certification. During that training, ask questions that demonstrate how the entity can meet the certification requirements.
5. Develop and foster relationships with industry to improve communication and increase the likelihood of reporting suspected outbreaks.

F. DEFINING FIREWOOD

Summary Statement: States should consider how firewood is defined. The definition of firewood can include information about intended use, size, and exclusions of other raw wood products. Broad definitions of firewood provide additional protections from pests moved in other raw wood products, but can increase oversight by regulatory agencies. The public has a clear idea of how to define and recognize firewood – it is burned in their fireplaces, wood stoves, and fire pits. Broad definitions that include other raw wood products may confuse wood products industries and consumers.

Table: Elements Included in Firewood Definitions

STATE	INTENTION/USE	SIZE	TYPE OF FIREWOOD COVERED	SPECIFICALLY EXCLUDES OTHER RAW WOOD PRODUCTS
Florida	Cut wood products intended for burning	Any length	Wood of any species	Yes
New Hampshire	That which is destined for use as fuel	Any length	Wood of any species	Yes
New York	That which is destined for use as fuel	Any length	Wood of any species	Yes
Oregon	In a form and size appropriate for use for fuel wood uses such as home heating or campfires	Less than 48 inches	Wood of any species	Yes
Pennsylvania	Meant for use in a campfire or other outdoor or indoor fire	Any length	Wood of any species	Yes
Utah	For use as fuel for fires in open pit, grill, fireplace, stove, or other wood burning furnaces or devices in any form commonly used for burning in campfires, stoves, or fireplaces	Less than 48 inches	Wood of any species	No
Vermont	Used in residential, recreational, or commercial wood burning appliance or fireplace indoor or outdoor	Less than 48 inches	Wood of any species	Yes

ANALYSES

Nearly all states define firewood by intent or use (e.g., firewood is wood that is intended to be used as a fuel). This aligns the regulatory definition of firewood with the commonly understood definition of firewood. Including intent in the firewood definition helps to separate the regulated articles from other raw wood products. However, a definition incorporating intent can result in enforcement challenges. Intent can be difficult to prove unless the article already exists as cut and split firewood. Likewise, intent may change as the product is moved along the supply chain.

Many states include length restrictions when defining firewood (e.g., firewood is less than 48 inches in length). Including length of firewood in a definition may focus the regulation primarily on consumers of recreational or ambiance

firewood, which is typically moved in stove lengths. Firewood purchased by processors or used for structure heating can also be delivered in longer lengths. States where firewood is regularly imported as tree-length may want to consider opening the firewood definition to include any length of wood.

Some definitions of firewood include language based on processing by cutting (e.g., firewood is cut and/or split into pieces/chunks). States should consider other types of wood which are also cut and split, intended to be used as fuel, and less than 48 inches in length, such as smoker chips or wood chips. States should determine if they want to regulate these products as firewood.

Some definitions of firewood exclude species or types of firewood. For instance, firewood under the federal emerald ash borer regulation includes all hardwood firewood as a regulated article. This definition excludes softwood firewood from the regulation. This differentiation can help a state focus on the forest resources currently at risk, but it also presents challenges when considering the long term potential for new threats- which may or may not include the excluded classes of wood. States with diverse urban and/or natural landscape forests, should consider regulating all types of wood. Further, regulating only a species or type can create difficulties and confusion when encountering mixed species loads or debarked products.

Some states also specifically exclude certain other wood products from the firewood definition. For instance, the definition may exclude wood or logs used for dimensional lumber, pulp or paper mills, manufacture of wood pellets or plywood, or wood biomass-using refineries or power plants. Excluding other wood products can help provide a focus on firewood by clearly stating what is not considered firewood.

Benefit:

Defining firewood exclusive of other wood products helps ensure that states are clearly communicating what wood products are regulated by a firewood quarantine. Consideration of how firewood is transported into a state should help a state determine how to maintain the focus on firewood.

Advantages:

- Maintains focus on firewood. Firewood is a high risk pathway compared to other wood products because:
 - It is moved both commercially and recreationally; it is a broad pathway that can be challenging to target.
 - Firewood increases in value if it has been seasoned (aged) for over a year, creating an incentive for storing firewood over a long period of time over which pests may emerge.
 - Firewood is used incrementally, increasing the time over which pests may emerge.
 - Firewood generally undergoes very limited processing, resulting in fewer opportunities to kill or destroy all life stages of pests.
 - Firewood is frequently subdivided and spread to additional destinations, increasing the area over which pests may emerge.
 - Firewood may be abandoned and not used, allowing slow emerging pests to reach maturity.
- The public understands what firewood is – they burn it in their woodstoves and fire rings. Communication about the goal and purpose of the quarantine is facilitated by clearly defining firewood.

Disadvantages:

- Other types of unprocessed wood products may pose a risk, but may be excluded from the firewood definition. For instance, bark-on, log cross-sections sold on craft vendor websites like [Etsy](#) are transported around the country for decorations. Some nurseries use unprocessed wood to support balled and burlapped nursery stock. This may be transported between states without consideration of the risk that it may pose. Excluding these types of products from a firewood regulation does not address these risks.

FIREWOOD DEFINITION RECOMMENDATIONS

Defining firewood can help states clearly communicate the goal and purpose of the regulation.

1. Firewood definitions should include a statement of intent, e.g. to be used as a fuel.
2. There should be further detail on how firewood is defined:
 - a. Determine how firewood is transported into the state. If longer length firewood is not generally moved into the state, then a length restriction to 48 inches or less makes sense.
 - b. States should put some consideration into whether or not they specifically want to exclude some types of firewood from the regulation. If so, that should be stated through listing species or types of firewood regulated, and whether or not treated firewood is excluded, including the type of treatment.
3. States should consider clarifying the firewood definition by specifically listing types of products not considered as firewood, but rather as “other wood products”.

Sample Definitions

Firewood

(a) "Firewood" means any kindling, logs, timber, or other portions of a tree of any species four (4) feet or less in length, cut or split, or intended to be cut or split, into a form and size appropriate for use as fuel for fires in open pit, grill, fireplace, stove or other wood burning furnaces or devices. OR

(b) "Firewood" means all wood of any species, cut or not cut, split or not split, regardless of length which is destined for use as a fuel.

Not Firewood

Firewood shall not include kiln-dried dimensional lumber, nor wood that has been chipped to smaller than 2 cm diameter. In addition, firewood shall not include logs or wood being commercially transported to, or possessed by, the following operations and facilities for use in their primary manufacturing process:

- i. sawmill for dimensional lumber;
- ii. pulp and/or paper mills;
- iii. wood pellet manufacturing facilities;
- iv. plywood manufacturing facilities;
- v. wood biomass-using refineries or power plants;
- vi. re-constituted wood or wood composite product manufacturing plants;
- vii. wood transported to be chipped for either mulch or compost;
- viii. facilities treating firewood in accordance with heat-treatment standards;

G. LABELING

Summary Statement: States should consider requirements for labeling firewood that are consistent, clear, and in plain language. Labeling can identify heat treatment standards to regulators and the public. Labels also assist in identifying certifying authorities. Firewood distribution companies struggle with meeting varied labeling requirements from multiple states. Where possible, there should be a focus on using plain language in labeling requirements rather than state-specific language.

Table: Labeling Requirements

STATE	Label Language Explicit within Quarantine	Label Requirements
Florida	Allowable firewood in Master Permit System requires a certificate	<p>Certificate indicating compliance with Florida’s Firewood and Unprocessed Wood Products rules, Chapter 5B-65, F.A.C. This shall include:</p> <ul style="list-style-type: none"> Name of the producer/shipper under compliance Compliance Agreement number issued to them by the state of origin Statement indicating that the product meets the requirements of 5B-65 Florida Administrative Code
New Hampshire	Exempted heat treated firewood requires labeling	<ul style="list-style-type: none"> Firewood labeled as treated to standards of 60 °C (140 °F) for 60 minutes Display APHIS or State Department of Agriculture authorization and Compliance Agreement number Company name Bulk firewood shipments also have labeling requirements
New York	Exempted heat treated firewood requires labeling	“New York-approved treated firewood/pest-free”, or phytosanitary certificate, or plant health certificate
Oregon	<ul style="list-style-type: none"> Firewood harvested and sold in the Pacific Northwest does not need to be labeled. There is optional labeling for untreated Pacific Northwest firewood. Treated firewood may be labeled. 	<ul style="list-style-type: none"> “Approved Pacific Northwest Firewood” is sourced wholly within the Pacific Northwest and outside of declared quarantine areas for invasive species. Includes record keeping requirements. “Approved Pest Free” firewood is heat treated to 60 °C (140 °F) for 60 minutes or equivalent treatment approved by Oregon Department of Agriculture.
Pennsylvania	Exempted treated firewood requires labeling	<ul style="list-style-type: none"> Kiln Dried and/or USDA Certified Producers name and address
Utah	Labeling for all firewood, and advance notification of firewood shipments into the state	<ul style="list-style-type: none"> Based on weight and measure of firewood Origin of firewood Treatment of firewood Exporter and importer information
Vermont	Label is one option for certification of treatment	<ul style="list-style-type: none"> Firewood labeled as treated to standards of 71.1 °C (165 °F) for 75 minutes Name and physical address of heat treatment facility Name of certifying agency

ANALYSES

Label requirements by states are mostly associated with information about meeting a heat-treatment certification process, or in some cases, about origin of firewood. Labels can be used by regulators, law enforcement, and the general public to identify firewood that is deemed to be compliant by a certifying authority. Labels should be as easy to read as possible, and consistency in label requirements makes compliance easier.

Labels, certificates, and other documents may be subject to fraudulent use. Labels that require company information, the certifying authority, and certification number make it easier to identify and confirm firewood as legitimately treated and labeled.

Requiring use of the USDA shield on heat-treated firewood can be problematic. Kilns located in areas that are not regulated for a federal pest may not qualify for federal certification and heat-treatment monitoring. Requiring use of a federal shield on labels can have the unintended consequence of favoring firewood originating in known quarantine areas. Although state regulatory agencies may understand the nuances associated with use of the federal shield, purchasing agents and the general public do not. Clear labels with identifying information should be preferred rather than emphases on shields and other graphics.

Benefit: Ready identification of compliant firewood.

Advantages:

- Makes it easy for enforcement officers to identify compliant firewood.
- Makes it easy to perform trace backs.
- Makes it clear that the producer is aware of standards and requirements.
- Consistent information on labels increases adoption by industry.
- Communicates standards to the public.

Disadvantages:

- Inconsistency in labeling requirements, such as state-specific language, makes it challenging for the industry to comply.
- Labels are dual purpose and are used by industry for marketing. Required regulatory information must be legible.
- Claims such as “Bug Free”, “Free of all pests”, or “Seasoned Wood” are not verifiable and don’t reflect the treatment process.

LABELING RECOMMENDATIONS

1. Explicitly state treatment requirements in plain language.
2. Consistency across states will make it easier for the industry to comply.
3. Regulatory language should be of a size to be legible on the label.
4. Plain language indicating the requirements for the applicable Compliance Agreement should be favored over use of shields or graphics.

Clear Sample Language:

This firewood has been certified heat-treated to a core temperature of 60 °C (140 °F) for 60 min [or other preferred standard]. *Certifying agency: State or Federal Department of* _____ *. Certification number* _____.

Unclear Sample Language:

- “[State]-approved treated firewood/pest-free”
- “Product meets the requirements of [regulation #] [State] Administrative Code”
- “Meets State of [State] standards”

H. ENFORCEMENT

Summary Statement: States should consider their potential enforcement approaches. Enforcing a firewood quarantine can be challenging and enforcement capacities can vary widely between states. Some of the regulatory and enforcement strategies commonly used by states may be effective with commercial transporters of firewood, but may be challenging when addressing the movement of recreational firewood. The approach to recreational firewood transportation may require participation from other agencies within your state. However, challenging, the efficacy of the quarantine will be enhanced through transparency about penalties and enforcement. States with Plant Inspection Stations and established inspection programs could readily integrate external firewood quarantines into existing enforcement activities. Other states may need to put some consideration into their approach to enforcement of an external quarantine. [Appendix B](#) includes several state exterior firewood quarantines. These example quarantines contain penalty and enforcement language, and those states' SPROs could serve as references for questions about their enforcement strategies.

Case Study: Maine

Maine has an emergency order that is administered by the Maine Forest Service (MFS) within the Department of Agriculture, Conservation and Forestry. The Maine Forest Service provides forest rangers who enforce state forestry laws, including the firewood emergency order. Most enforcement occurs during events scheduled by the MFS, Division of Forest Health, visits to campgrounds, and inquiries from the public. Events usually occur at public rest areas on the New Hampshire- Maine border and are scheduled to coincide with national holidays including Memorial Day, July 4th and Labor Day. These are the times when people are coming to Maine to open or close summer cottages, or to visit campgrounds throughout the state from early summer through the fall. Rangers also spend the summer season randomly visiting campgrounds, focusing on campers with out-of-state plates. The MFS also has a link and a phone number allowing the forest rangers to respond to reported concerns about out of state firewood.

Case Study: New Hampshire

New Hampshire's quarantine is shared between the Department of Agriculture, Markets & Food and the Department of Natural and Cultural Resources. The Department of Natural and Cultural Resources' forestry laws provide authorities for any law enforcement agency in the state to enforce forestry laws, including the firewood quarantine. While other law enforcement agencies are involved in enforcement of the firewood quarantine, the primary entity involved in planning enforcement events and issuing warnings and summonses is the NH Division of Forests and Lands, Forest Rangers.

The NH Forest Rangers have enforced the state's firewood quarantine on both commercial transporters of firewood and those moving firewood recreationally. While individual Rangers may stop vehicles with out-of-state plates moving firewood, and conduct campground inspections, the biggest impacts have been with scheduled firewood checkpoints. These have included checkpoints during high traffic weekends (like Memorial Day or Labor Day), as well as during the NASCAR races at the New Hampshire Motor Speedway (NHMS), which are the largest camping events in the state. The NHMS has been a critical partner in these events. These events have required substantial planning to ensure enforcement of individual violations while minimizing the impacts to traffic flow. Multiple agency partners, both state and federal, have participated in this effort. Firewood has been intercepted from as far away as Florida and the Pacific Northwest. There have been several interceptions from EAB quarantine areas, but none from ALB quarantine areas. The enforcement events, as required by state statute, are publicized ahead of time. The NHMS has placed information about firewood onto their website and in their mailings. Year after year of continued enforcement has seen a reduction in the number of individuals bringing firewood into the state. Firewood collected during the checkpoint is burned on-site at a monitored location.

Considerations for planning a firewood checkpoint include:

- Is a court petition required for the checkpoint? (For checkpoints along public roads, the New Hampshire Attorney General's Office requires a petition be brought before the Superior Court for approval.)
- How much staff will be needed and is there authorization for their time and potential overtime for the event?
- Will other agencies be involved, like DOT, local police departments, and property jurisdiction and access like the NHMS or the USFS for events that occur in the White Mountain National Forest?
- What can partners contribute? Will there be subject matter experts that can provide identification of insects or insect damage?
- Will there be a facility for staff to process violations and take breaks throughout the event (i.e. a command trailer)?
- What safety equipment will be necessary for those staffing the events?
- What are the confiscation documentation requirements for the violation to have legal standing (i.e. paperwork, photography, etc.)?
- What signage will be required?
- How will the public be notified?
- What permissions are necessary to conduct the event?
- Will there be an outreach component (e.g. brochure) for occupants of all stopped vehicles, regardless of firewood found?
- Will the firewood be confiscated as part of the event?
- If confiscated, how will it be transported and destroyed?
- Are permits needed for destruction of confiscated firewood?
- Will firewood vouchers for replacement firewood be provided, and if so what is the available budget?

3. BEST MANAGEMENT PRACTICES

A. OVERVIEW

Summary Statement: Use of Best Management Practices (BMPs) by firewood producers, firewood consumers, and individuals cutting firewood for personal use is the preferred tool to reduce, but not eliminate, the risks associated with firewood used for **structure heating**. There are essentially two audiences moving and consuming firewood in the USA – those using it recreationally or for ambiance, like campers, and those using it as a primary or secondary energy source to heat their homes or cabins. Minimizing risks for the two audiences requires substantially different information, actions, and management techniques. Reducing risks associated with recreational or ambiance firewood, including cooperative efforts with campgrounds, is covered in the Outreach section.

Background: Incorporation of BMPs into a state’s firewood risk mitigation program reduces the probability of pest introductions on firewood used for structure heating (homes, cabins, garages, and other dwellings or outbuildings). BMPs are measures that can be applied at specific stages of the firewood production process to reduce the risk of having live pests transported in or on firewood. BMPs can be applied at multiple points in the firewood supply chain, from pre-harvest to use by the consumer. BMPs elicit partnerships with firewood producers and consumers in forest health protection activities. Promoting use of BMPs provides the firewood industry with the opportunity to integrate practices that reduce the likelihood of spreading unwanted pests. BMPs are most effective when their use is widely adopted by producers and consumers of firewood throughout a state or region. BMPs that reduce pest risks while promoting high-quality firewood are more likely to be adopted. Consideration should be given as to how the use of BMPs will be encouraged or required by a state.

BMPs FOR CAMPGROUNDS:

Campgrounds represent a special case. They can be a consumer or commercial producer. They are primarily, but not exclusively, dealing with recreational firewood. You may need to incorporate both BMPs and outreach in your approach with campgrounds. Our recommendation is to review [“Work with Campgrounds.”](#) If campground-specific BMPs are deemed necessary, they can be created by using a mixed-audience strategy.

Suggested audiences: States have multiple audiences that may be targeted with firewood BMPs. Information about the application and value of BMPs should be designed for the specific target audience in order to deliver the maximum benefit. Any description of BMPs to the target audience should include why the specific BMP is recommended. While audiences should be encouraged to incorporate as many BMPs as possible in order to provide the greatest reduction of risk, firewood production techniques can vary widely and may limit the number of recommended BMPs that each individual or business may incorporate. Potential audiences include:

- Firewood producers, distributors, and vendors.
- Individuals cutting firewood for personal use in structure heating (i.e. cabin owners, or those with private woodlots that are non-adjacent to their homes).
- Consumers of firewood for structure heating.

Advancing use of BMPs: BMPs are more likely to be incorporated if they are achievable and there is a consistent effort to promote their use. States should consider how to leverage partnerships, cooperating agencies, and existing opportunities in order to encourage broader BMP adoption.

- 1) **Identify partners:** states should identify organizations in their state or region that are already working with firewood producers, vendors, and consumers. This list will vary from state to state. It could include state and federal forest health protection agencies, timberland owners, tree farms, county forestry associations, extension foresters, certified foresters and loggers associations, arborist associations, landscape associations, golf course associations, utilities management crews, city maintenance staff, air quality districts, weights and measures staff, low income resident assistance programs, and any other group regularly involved in cutting trees and selling firewood.
- 2) **Identify opportunities:** states should look for existing opportunities to provide training materials to those involved in the production or consumption of firewood. This could include meetings for foresters, loggers, or arborists, chainsaw trainings, and professional workshops. Private industry associations are valuable partners in promoting BMPs. States could also provide information at locations where consumers go to purchase firewood or firewood-related materials such as woodstoves, chainsaws, wood splitters, or through state or national forest firewood cutting permits, etc.
- 3) **Identify incentives:** states should consider if there is a way to incentivize use of BMPs. For instance, will use of BMPs allow [issuance of a Compliance Agreement](#) or participation in a firewood [Certification Program](#)? Can the state develop materials or a recognition program that a firewood producer could use to demonstrate to customers that they are using BMPs to produce firewood with reduced phytosanitary risk?
- 4) **Post BMPs:** BMP documents should be available on an identified Firewood Pathway Specific webpage ([Develop a Webpage](#)). States could also consider developing rack cards, brochures, or presentations that could be delivered to targeted audiences.

B. COMMERCIAL PRODUCERS

Summary Statement: Cooperation between state agencies and commercial firewood producers is essential for the continued health of our forests. Best management practices are at the core of that cooperation.

Audience: Commercial producers of firewood are a large and varied group. They range from large scale producers that have milling and kiln capabilities to smaller vendors who cut firewood for extra income. Their product may be used for structure heating, camping, food preparation, or even the occasional outdoor bonfire. The broad spectrum of uses for commercial firewood means that adoption of BMPs by producers can deliver significant benefits.

Identify partners: Maximize impact of BMPs by first identifying who are your states' largest firewood producers; this may include groups like timberland owners, tree farms, or lumber mills. Initial efforts with these high-impact partners could include promoting adoption and consistent use of BMPs. Once high-impact partner efforts are underway, incorporate additional varied partners to promote and normalize use of BMPs, including: federal and state forest health personnel, forestry associations, extension agents, certified foresters and logger associations, arborists associations, landscape associations, golf courses, Weights and Measures staff, and other local groups like farmer's markets.

Opportunities to promote BMPs: States should list BMPs on their firewood webpage (see: [Develop a Webpage](#)). BMPs should be promoted at professional meetings and trainings for commercial producers. These could include professional workshops for loggers, arborists, landscapers, and foresters. Educational materials emphasizing BMPs should be available both electronically and in hard copy at locations where firewood producers go to purchase supplies and equipment. States should consider incentivizing use of BMPs through kiln-certification or other firewood [Certification Programs](#). Certifications provide a benefit to the firewood producer – they recognize participants as engaging in sustainable forestry, can increase the available regional markets for the product, and they are perceived as “eco-friendly” and as part of the “green” industry.

Risk Management Warning: Suggested BMPs are not effective replacements for heat treatment. Use of BMPs can reduce, but not eliminate, the risk of insects or pathogens in and on firewood. Encourage using multiple BMPs to achieve greater risk management.

Regulatory warning: There may be existing federal, state and local regulations about the transport of logs or cut firewood- and BMPs alone may not meet these requirements. States should direct commercial producers to federal and state web pages for further information.

Pesticide warning: Do not use pesticides on firewood. It is a potentially hazardous practice. The commercial producer should not spray any pesticide on their product that might endanger the consumer using the final product.

Example BMPs for Commercial Producers

1. Seek out accurate and timely information about federal, state or local regulations and quarantines concerning the cutting, transporting, and distribution of logs and firewood.
2. Select healthy trees to harvest for firewood. Dead or dying trees may be infested with pests or infected with disease. When forest conditions are such that salvage logging of dead or dying trees is desirable, seek out information from state or federal forestry entities to ensure your harvest practices are following the recommendations and requirements of that specific salvage logging operation.
3. Chip or mulch trees that are showing clear signs of pest or pathogen infestation or damage, especially when removing trees in urban, suburban, utility, or landscaping settings, rather than using them for firewood production. This process can help reduce the risk of spreading pests and disease in high risk landscapes.

4. Where markets allow, invest in a firewood kiln and become a certified kiln with USDA or your state certification agency (usually in the Department of Agriculture). Heat treating firewood to 60°C (140°F) for 60 min [or your preferred heat treatment standard] decreases the survival of insects and diseases and may allow your firewood product to cross certain legal boundaries such as federal and state quarantine lines.
5. Limit delivery range of untreated firewood to within 50 miles of where the firewood was produced. This will limit the spread of possible pests and disease.
6. Seasoning can reduce, but not eliminate, the spread of insects and disease. Firewood needs to be seasoned for a minimum of 1 year. Season firewood in piles away from live trees to reduce risks from pests that lay eggs on firewood, such as gypsy moth and spotted lanternfly.
7. De-bark firewood – this may reduce the pests present on the logs and also helps the wood dry faster, which can reduce the survival of some pests.
8. Maintain good records on locations and dates of harvest, species harvested, and where your product has been sold. Maintaining records can also assist in customer disputes, or where customers request information about harvest practices.
9. Provide receipts to your customers including date of purchase, location of harvest, species purchased, volume purchased, price paid, vendor information, and customer information.
10. Educate your customers about pests and diseases that can be contained in firewood. Encourage them to use locally-sourced firewood and to not move firewood for recreational purposes. Include BMPs for the consumer for optimal firewood storage.

C. CUTTING FOR PERSONAL USE

Audience: Those cutting firewood for personal use, which encompasses a wide range of activities. This can include people who use family woodlots to harvest firewood for their use, or use by friends and family members. It can also include firewood that is “gifted” to friends and family members following tree care activities. Often firewood cut for personal use is for structure heating, but it sometimes includes firewood used for camping, recreation, or outdoor cooking. In areas where firewood is a primary heat source, families may provide firewood to adult children, elderly family members, and others- sometimes transporting it long distances multiple times a year.

Identify Partners: Tree care professionals working with homeowners can be important partners in distributing BMPs to their customers. Additionally, consider working with county extension agencies, timberland owners associations, low income heating assistance programs, and tree farms. In some areas, charity organizations such as churches maintain “wood banks” for neighbors in need, and reaching out to the managers of these social programs would be advised if they are present in your area.

Opportunities to promote BMPs: Include BMPs on each state-specific [firewood webpage](#). Distribute printed materials at locations where consumers go to purchase firewood or firewood-related materials such as woodstoves, chainsaws, wood splitters, or through national forest permits, etc.

Risk management warning: Suggested BMPs are not effective replacements for heat treatment. Use of BMPs can reduce, but not eliminate the risk of insects or pathogens in and on firewood. Encourage using multiple BMPs to achieve greater risk management.

Regulatory warning: There may be existing federal, state, and local regulations about the transportation of firewood. Direct those cutting firewood for personal use to your state’s firewood-specific webpage for further information. This can educate firewood users about following existing rules to avoid introducing a new pest or further spreading a pest to where they work and live.

Pesticide warning: Do not use pesticides on firewood. It is a potentially hazardous practice. Do not spray any pesticide or chemical on firewood that might endanger the person using the final product.

Example BMPs:

Trees not known to be infected or infested with a forest pest:

- 1) Pre-harvest
 - a. Select healthy live trees to harvest as firewood. Dead, dying, or damaged trees may be infested with a pest or infected with a pathogen that makes them high-risk for transporting pests.
- 2) Timing of harvest
 - a. If there is a known pest of concern in the general area, there may be specific recommendations for timing of harvest. This will vary based on the pest or pathogen.
 - b. In parts of the country where there is seasonal variation in temperature and day length, insects go through a period of dormancy. This break in adult insect activity provides an opportunity to plan harvests at lower risk times of year. Firewood should be harvested in the spring to allow it to dry on-site during the summer months. Any pests that emerge from the firewood during that first summer are already present in the area and should not represent any additional risks.
- 3) Seasoning firewood on-site
 - a. Seasoning firewood at or near the harvest site is recommended. Seasoning firewood for 1 – 2 years will allow most developing invasive insects to leave the firewood before it is moved. Seasoned firewood is not

necessarily “insect-free” as it may contain native wood borers that have infested the wood during the seasoning process, as well as hitchhiking pests that attach themselves or their egg masses to the surface of the wood. Seasoning wood on-site does not guarantee that the firewood is free from invasive insects and diseases, but it does reduce the overall risk of introducing pests and pathogens into new areas.

4) Season wood away from live trees and structures

- a. Live trees: where possible, season firewood away from live trees and structures. This can help protect live trees and structures from any insects that may emerge from firewood. It can also protect the firewood from insects that may be feeding on live trees and then deposit egg masses on objects underneath or nearby, like gypsy moth and spotted lanternfly.
- b. Structures: seasoning firewood away from structures can reduce termite and wildfire risks. See www.firewise.org for structure recommendations related to fire safety. One rule of thumb is to store firewood at least 30 feet from structures.

D. CONSUMERS

Audience: Those selling, purchasing, gathering, and consuming firewood. Firewood is often used as an inexpensive fuel for heating homes and businesses. In some parts of the country, firewood is the primary fuel for winter heating. Educated consumers can reduce the risk of spreading forest pests by selecting their supplier based on informed decisions. Communication to consumers and businesses should include questions about selecting a firewood supplier, properly storing firewood, and safety precautions with regard to burning and use.

Identify partners: Organizations that provide consumer protection and education are good partners to promote BMPs. These can include county extension agencies, soil and water conservation offices, firewood relief programs, and Weights and Measures investigators. Professional organizations that produce information for consumers can also be valuable partners in promoting BMPs.

Opportunities to promote BMPs: Post information on state-specific [firewood webpage](#). Connect with trade organizations and certifying agencies to provide information at meetings and/or their webpages. Distribute printed materials at locations where consumers purchase or service tools of the firewood trade such as trailers, chainsaws, wood splitters, etc.

Regulatory Information:

1. There may be existing federal, state, and local regulations about the transportation of logs or cut firewood. Consumers should be directed to state and local resources for information on where quarantines exist.
2. Weights and Measures staff are often responsible for the regulation of how firewood is sold with regard to advertising, volumetric measure, and other local requirements. Consumers should know these requirements before receiving a firewood delivery.
3. In some states, consumer protection offices offer seasonal advice on purchasing firewood, and therefore these offices may be a good avenue for inter-office exchanges of information to ensure they are prepared with accurate firewood regulatory information from the forest pest perspective.

Pesticide warning: Do not use pesticides on firewood. It is a potentially hazardous practice. Do not spray any pesticide or chemical on firewood that might endanger the person using the final product.

Example BMPs for Consumers:

1. Educate yourself before placing an order.
 - a. Check state department of agriculture web pages for quarantine pests or firewood rules present in the state.
 - b. Check the www.dontmovefirewood.org page for listing of regulations and recommendations relating to firewood in your area.
 - c. Note if there are restrictions or recommendations relating to how far firewood can be moved in your state.
 - d. Know the rules for how firewood may be sold in the state, by quantity, and if there are specific quality designations (i.e. green, seasoned, etc.)
 - e. Ask your friends and neighbors about their experience with their firewood supplier.
2. Ask your supplier questions prior to placing the order. Ensure that the answers are consistent with existing state rules and recommendations for pest risk. Questions could include:
 - a. Where was this firewood harvested?
 - b. Has this firewood been seasoned? If so, was it seasoned after it was cut and split, and for how long?
 - c. What information can you provide about the firewood species?
 - d. Have you used any best management practices to reduce the risk of spreading pests?
 - e. How much firewood will you deliver at the quoted price?

- f. Will you leave a signed receipt?
- g. How did you determine the measure of firewood delivered?

3. Purchasing firewood.

- a. Purchase heat treated firewood when available. Heat treated firewood has gone through a certified process to eliminate insect and pathogen risks.
- b. Purchase firewood that has already been seasoned for at least a year. Seasoned firewood has been aged, potentially decreasing emergence of insect pests.
- c. If you must purchase green firewood, ensure that it is locally harvested. The closer the wood was harvested, the less likely it is to introduce a new pest to your area. Research has shown that 10 miles is a good threshold but your region's firewood markets may vary³.
- d. Only purchase the amount of firewood needed for one season. The longer firewood is stored, the greater the opportunity for pests to emerge. Try to burn all firewood from the previous year by spring/summer.
- e. Be present when firewood is delivered, and closely review your firewood prior to accepting the load – check for signs of active insect infestation (sawdust, presence of insects, multiple holes within heartwood or bark, tunnels or grooves seen on the wood below loose pieces of bark, chewing sounds), verify that the correct amount has been delivered, verify the terms on the receipt. Do not accept firewood that has any signs of active insect infestation.

4. Storing firewood.

- a. Stack firewood away from living trees to further avoid potentially spreading pests and diseases from the firewood to healthy trees.
- b. Stack green or wet firewood with the bark facing up in areas that are exposed to the sun to promote maximum drying.
- c. Cover firewood in a well-ventilated area (such as in a woodshed or under a lean-to) or with a tarp or plastic sheeting during the rainy season, leaving the sides of the stack exposed to the open air to avoid locking in moisture.
- d. Avoid stacking firewood directly on the ground. Direct ground contact will expose the logs to moisture, rotting, and could introduce new pests from the soil. If you are stacking it on a hard surface, such as a concrete slab, consider raising the stack on scrap stringers to assist with airflow.
- e. Never stack firewood indoors – in addition to being a fire hazard, insects can emerge from the wood and potentially cause harm to the structure.
- f. Leave a few inches of space to allow for airflow if stacking firewood against a woodshed wall or fence. Similarly, if you are making multiple stacks, leave a few inches of space between the stacks.
- g. Plan for wood to shrink as it dries, which will cause stacks to shift over time.
- h. Store firewood away from buildings (such as home or shed) as wood-boring pests can tunnel directly from the wood into the structure. Recommendations are typically to store firewood at a distance of at least 3 feet from storage or residential structures. Local requirements can be verified with your fire department.
- i. In areas prone to wildfire, it is advised to stack firewood at least 30 feet or farther from all structures, to prevent additional risk during fire season (see www.firewise.org for additional recommendations).
- j. Do not transport firewood for recreational purposes. This can transport pests to your favorite camping site. Instead, use firewood that is locally-available at or near your destination.

³Tobin, P.C., Diss-Torrance, A., Blackburn, L.M., & Brown, B.D (2010) What does “local” firewood buy you? Managing the risk of invasive species introduction. *Journal of Economic Entomology* 103(5): 1569-1576.

4. OUTREACH

A. OVERVIEW

Summary Statement: Outreach programs should focus on the firewood pathway, rather than on a specific pest, to ensure the long term applicability of the message. Outreach needs to provide consistent, accessible, and easy to find information to outdoor recreationalists about the threat posed by the long distance movement of forest pests on infested firewood, and what specific actions they can take to protect forests and trees from this threat. Outreach programs can start with a simple core statement and then build to include many formats, including; advertised websites, use of social media ad campaigns, trainings, signs, billboards, firewood directories, and more. It is not necessary to include all outreach opportunities in initial efforts. Outreach that builds upon a written plan will be more effective in delivering a consistent message.

Recommendations:

First steps:

1. Develop a Core Outreach Statement that contains two key concepts that are simple, brief, and public-friendly, so that any relevant state agencies or related stakeholders can copy and use it for consistent messaging. This statement should be short enough to go onto a postcard. The key concepts should cover (1) what firewood user behaviors are desired by the state in order to minimize the movement of forest pests and pathogens, and (2) why the state cares. Examples include:

*Montana: **Don't Move Firewood:*** Help protect Montana forests! Prevent the spread of tree-killing insects and diseases –buy or gather firewood at or near your destination. Moving firewood across state lines is prohibited in many parts of the United States.

*New Hampshire: **Protect New Hampshire's Forests:*** Transporting firewood threatens our forests by potentially giving a free ride to insects and diseases. Help protect New Hampshire's wild and scenic beauty and leave your firewood at home when you travel. Don't transport pests – when it comes to firewood, buy it where you burn it.

*Wisconsin: **Protect Wisconsin Trees – Don't Move Firewood.*** Tree-killing pests can travel long distances on firewood so please help protect our beautiful trees and forests by buying certified firewood or local firewood at your destination.

2. Seek input, and ultimately consensus, on the Core Outreach Statement from all relevant state agencies and partner organizations. Critical Partners may include (this will vary by state): State Forester, US Forest Service, State Dept. of Natural Resources, State Dept. of Agriculture, USDA APHIS, State Dept. of Conservation, US Fish and Wildlife, State Fish & Game, Parks & Recreation, National Park Service units within the state, Invasive Species Statewide Councils, Bureau of Land Management, etc.
3. Once the Core Outreach Statement is accepted to the greatest extent possible among the critical partners, move to have all consensus parties (as identified in Step 2) agree to use the statement on their relevant webpages.
4. Establish a Firewood Pathway state-owned webpage within the most applicable existing state agency website featuring a layperson summary of each major need for effective public behavior change. See [Develop a Webpage](#) for information about recommended content.

5. Have all consensus parties (as identified in Step 2) include a link to the established state based [webpage](#) on their various agency/partner sites, as well as consider including the [Don't Move Firewood map](#) page.

Next:

6. States with regulations pertaining to firewood movement can use their Firewood Pathway [webpage](#) as a springboard or landing area to other pages where they can cover any applicable messaging. States may develop sub-pages on interstate import regulations, intrastate movement regulations, certification processes, rules for firewood on state and federal land, how to buy local firewood, etc.
 - States with no significant regulations pertaining to firewood movement may find that a single webpage is sufficient for the message they wish to deliver. To offer more information for curious residents and visitors they can also link to [DontMoveFirewood.org](#) to help provide additional information at no additional cost.
 - States with State Parks, National Parks, National Forest land, and a myriad of other camping facility ownerships can reach out to each entity and encourage them to mirror their states' Core Outreach Statement to provide consistency across land ownerships and firewood consumer experiences.

Consider:

7. Further Audience Outreach targeting messaging to specific audiences. Use the [Audience Outreach Chart](#) from Appendix 2 of the 2010 "National Firewood Task Force Recommendations".
8. Review [Focus on Outcomes](#) to help determine how to deploy limited outreach dollars.
9. Review outreach materials available on [DontMoveFirewood.org](#) for available designs to encourage consistency of messaging between states. Work with Don't Move Firewood to develop state-specific outreach materials. States are encouraged to work with Don't Move Firewood staff at any stage where incorporating outside feedback or case studies of nearby states' approaches is desirable.
10. Develop a firewood directory in your state. See [Create an On-Line Firewood Directory](#) for more information.

B. DEVELOP A WEBPAGE

Summary Statement: Transporting firewood risks spreading invasive forest pests farther and faster than they can move on their own. The firewood pathway can be complex, encompassing: large-scale producers, small-scale producers, those cutting firewood for personal use, and recreational firewood transporters. There may be multiple agencies or entities within a state that have some contact with firewood transportation, and it benefits agencies in the state as well as residents and visitors to the state to have a common source of information about existing firewood regulations, BMPs, and outreach.

Partners: Partners within the state that are responsible for plant health protection, forest health, state-led invasive species council or advisory groups, and outdoor recreation (such as state parks authorities) should have buy-in on the development and wording of the webpage in order to extend the scope and acceptance of the outreach.

Recommendation: Each state should identify an official webpage (or a location where a new webpage may be created within an existing website) for general information about the firewood pathway, within an applicable state agency's existing website infrastructure. This webpage should focus on the firewood pathway rather than on a specific pest, and can simply be a single new or improved webpage off of an existing website. Examples of this type of webpage include: [California's Firewood Task Force](#), [New Hampshire's NH Bugs](#), [New York's Firewood and Invasive Pests page](#), and [Pennsylvania Dept. Agriculture's Firewood page](#). Once the webpage is developed, and the content approved by participating partners within the state, then all of the partners should create their own links to that webpage in order to ensure that those visiting, working, and playing in the state can rapidly find the information they need to reduce the spread and introduction of destructive tree pests in firewood. It is recommended that when the webpage has been developed, the state contact The Nature Conservancy to update the list of links on the individual state summary page of Don't Move Firewood, found at <https://www.dontmovefirewood.org/map/>.

Recommended Content on Page (suggested in order as presented):

Rules and regulations about firewood transport into the state, or within the state, in plain language: If there are state regulations in place about the importation of out-of-state firewood, movement of firewood from quarantine areas, movement of firewood within the state, etc., they should be clearly and simply stated here. Please also include a link or reference to the specific regulations.

- Example language:
 - "It is against Pennsylvania's regulations to bring all types of out-of-state firewood into the state including hardwood, softwood, kiln-dried, seasoned and green. Packaged heat treated firewood with a stamp showing treatment of at least core temperature of 160°F (71°C) for a minimum of 75 minutes is permitted, kiln-dried and fumigated packaged firewood with the producer's name and address on the label is also exempt from the quarantine. "
 - "It is illegal to bring firewood into the state of Oregon from a state outside of the Pacific Northwest (OR, WA, ID). Certified heat treated firewood can be brought into Oregon from states outside of the Pacific Northwest only with proper documentation."

Intra-state **recommendations** or BMP's for moving firewood: In addition to regulations, any agreed upon state-wide recommendations should be listed. These should be simple and bulleted.

- Example language:
 - Do not bring firewood to [STATE] from out-of-state
 - Do not move firewood farther than 50 miles within [STATE]

Risk statement: This should be an approved firewood statement agreed upon by partners within the state. This is the core statement from the [Outreach Overview](#) and explains the risks of the pathway in clear non-technical language.

- Example Language: **Protect [STATE]’s Trees:** Transporting firewood long distances threatens our forests, trees, and neighborhoods by potentially giving a free ride to tree-killing insects and diseases. Forest pests like [one or two state forest pests of greatest concern] that might lurk in your firewood cannot move far on their own, but they can hitchhike to new locations in or on firewood, risking the start of new infestations. Protect [STATE]’s [trees/forests/parks and campgrounds/wild and scenic beauty/natural resources] by buying firewood near where you’ll burn it, gathering firewood on site when permitted, or buying heat-treated certified firewood [include heat-treated firewood as an option only in states where commercially available].

State-specific firewood outreach materials: Include 2-3 downloadable documents or images that are relevant and suitable for a general audience to download and print, that address the risks of moving firewood. Examples of existing outreach materials are available at [DontMoveFirewood.org](#) and additional customized outreach materials can be made by staff at [DontMoveFirewood.org](#) upon request, free of charge.

General advisory statement: Federal lands, tribal lands, private campgrounds, specific state parks, and others, may have implemented their own firewood policies or recommendations. In order to provide the most accurate information to visitors to the site, there should be a statement that encourages visitors to understand the firewood rules in place for their specific plans or destinations, prior to departing for their trip.

- Example Language: Private campgrounds, state lands, federal lands, tribal lands, and other entities may have and enforce their own firewood policies. Know what rules may be in place at your destination before you go. To learn more, visit [DontMoveFirewood.org](#) for a comprehensive list of firewood policies in each state.

Link to find local firewood vendors: Campers, hunters, and other outdoor recreationalists feel that they need firewood because they value the experience of a campfire during their visit. Firewood transportation is reduced when outdoor enthusiasts are confident they can fulfill that need with an alternative to bringing their own firewood, such as readily available local firewood for sale at or near their destination at an affordable price. Making it easier for people to find locally-available firewood will provide them with the tools they need to make a better firewood choice for their trip while protecting the forest resources. If your state has an [on-line firewood directory](#) or participates in [FirewoodScout.org](#), provide a link on the webpage to ensure it is easy to find.

C. FOCUS ON OUTCOMES

Summary Statement: Make the most of your outreach efforts and dollars by delivering consistent and repeated messaging that requests achievable behaviors from your targeted audience(s). Outreach is a steady treadmill, not a straight sprint. Select the outreach tactic and delivery that makes the most sense for your funding and capacity.

Outreach about firewood transportation is most effective when it reaches the targeted demographic when they can absorb and immediately act upon your recommendations. In other words, deliver the outreach when the target audience is thinking about building their next campfire. Outreach for the outdoor recreational user of firewood has multiple potential moments for deploying your outreach, including when your targeted audience is: thinking about planning a camping trip, researching the details of the trip, booking a specific location, packing the vehicle, traveling to the campsite, and arriving at the destination. Keep in mind that outreach delivered at the destination, when firewood may have already been transported, encourages or reinforces the desired behavior for future camping trips- but not the current trip. Whenever possible, take advantage of opportunities to encourage proactive choices long before the firewood is packed into the vehicle.

The Don't Move Firewood campaign has created a strategic plan ([Table below](#)) of how to deliver outreach tied to the various stages of a camping trip. This plan is broken into distinct phases: idea, preparation, decision, and go! Outreach in the idea phase influences firewood decisions before camping choices are made. Outreach targeting the preparation and decision phases influences firewood decisions as camping choices are made. Outreach targeting the go phase happens after the decision to move firewood has been made. In this model, outreach during the go phase can influence future firewood decisions and behaviors for the next trip, but not the current trip.

Recommendations:

- Plan outreach activities to reach the target audience- campers and outdoor recreationalists, rather than the general public. Across the US, less than 30% of the general public uses firewood for camping or other recreational activities. Do your best to avoid wasting time and money on the 70% of the public that does not move recreational firewood.
- State the desired, expected, or required outcome/behavior. Emphasize achievable and proactive behaviors- this is more likely to result in the expected outcome when compared to messaging focused strictly on avoiding certain behaviors. For example, "Buy it where you burn it!" provides an achievable proactive step that can be taken to protect resources. Other messages can include: "Buy certified heat treated firewood", "Buy local firewood", or "Gather local firewood." Ensure that your recommended actions are readily available in your state and region. Relying solely on: "Don't move firewood," without an accompanying suggested positive behavior is not as effective as pairing it with a proactive message that provides an active behavior.
- The targeted demographic should be reasonably able to execute the desired outcome/behavior. Encouraging use of certified heat-treated firewood in areas where it is not generally available will not result in the desired behavioral change. Campers have an emotional attachment to the ambiance of a campfire as part of their experience. If they perceive that the endorsed firewood options are not readily available, they will revert to transporting their firewood. Use messaging that reassures campers that it is easy or convenient to adopt the recommended firewood choices. For instance, incorporating firewood into the cost of a campsite, or listing firewood vendors in an [on-line directory](#) will help campers change their behaviors.
- Provide consistent, repeated, and trusted messages to the targeted demographic. A consistent message, posted on a variety of relevant state, federal, and/or private websites, from multiple entry points, will help recreational firewood users hear, internalize, and adopt the desired behaviors.

Table: Direct outreach to campers.

Phase	Camper Thought Process:	Appropriate Outreach Activities:
Idea	Let's go camping!	<ul style="list-style-type: none"> Any awareness from previous contact with firewood messages, such as brochures distributed at campgrounds or billboards on highways.
Preparation	Where should we go?	<ul style="list-style-type: none"> Social media excels at delivering relevant content to targeted users. Users may search for campgrounds on Facebook, Google, or other online search tools. Use Google AdWords or targeted Facebook Ads to deliver firewood messaging to users while they're exploring places to camp. Use developed messages on Agency websites and social media.
	Reserving our campsite!	<ul style="list-style-type: none"> Use developed messages on Agency websites and social media. Work with Recreation.gov and Reserve America to place or update firewood transportation messaging on their sites for campgrounds in your state. Work with other campgrounds (private, concessionaire) to ensure consistent messaging on their websites.
	Trip's coming up, what should we bring?	<ul style="list-style-type: none"> Work with campgrounds to include firewood outreach in their confirmation emails and within the general information pages of their sites. Direct users to the state agency firewood webpage and the Don't Move Firewood Map for more information.
Decision	Packing the vehicle – what are we going to do about firewood?	<ul style="list-style-type: none"> Use an on-line directory to provide information about availability of firewood. Encourage campgrounds to put information about on-site or local firewood availability on their websites and social media. Firewood must be perceived as available for the public to follow through with the new behavior.
Go!	Going camping!	<ul style="list-style-type: none"> Campground signage or brochures. Billboards on route to Campground. Park Ranger information.

D. WORK WITH CAMPGROUNDS

Summary Statement: The property and livelihood of campground owners is at risk from the introduction of tree-destroying pests. Campgrounds are critical partners in educating the camping public about the source and pest risks of firewood. Campground policies on firewood work best when clearly communicated in reservation and campground materials.

Recommendations:

- Partner with federal, state, and private campgrounds on firewood messages. Campgrounds and campground owner associations are important partners for firewood outreach because they have multiple points of access to their campers and can target outreach to the camper's preparation, decision, and go phases of planning. Campgrounds can provide outreach when making reservations, confirming registrations, on social media pages, during check-in, and monitoring activity during the stay.
- Make campgrounds comfortable with the outreach. Emphasize that firewood quarantines and regulations are not about the use of firewood, but about sourcing of firewood and protection of trees from invasive pests. Firewood sourcing options will vary between states and regions, but firewood from local vendors, gathered at or near the camping area, or that has been certified heat-treated, is considered safer from a pest perspective.
- Encourage campgrounds to have a consistent policy when firewood is brought to their property. Emphasize that campgrounds are not being asked to enforce state rules, but rather to educate campers to protect forests.
- Campgrounds can ask their guests if they have brought firewood to the campground. If the guest has, the campground could adopt a variety of strategies for addressing potential risks. The strategies can range from an outreach only policy to an enforcement policy. The campground should determine what approaches work best for them, how to communicate to guests in advance of their arrival, and how to apply consistently. It may be that campgrounds modify their approach based on other factors.
- Encourage campgrounds to think creatively. Campgrounds can have a significant impact on how likely campers are to transport firewood far beyond just the single visit. There are educational and persuasion tools that campgrounds have at their disposal that regulators do not. Finding a campground or association willing to try a firewood pilot program, or institute new rules, could assist adoption of better firewood transportation behaviors across the state.

Suggestions for outreach by campgrounds:

Reach the camper before the camper gets to the campground:

- Place information about firewood requirements on their website. This should include the [Core Outreach Statement](#), state rules, campground rules, and whether or not firewood is available locally or at the campground. The information should be listed on the same page as the Campground Policies page (this name may vary), alongside other rules having to do with campfires, fire restrictions, and/or cooking.
- Place links to the [Firewood Pathway webpage](#) on their campground webpage.
- Place links to an [on-line firewood directory](#) on their campground webpage, as appropriate.
- Include information about firewood requirements (as above) in email messages sent to campers when they book their reservations alongside all other campground rules and regulations. Include similar information in any paper mailers or follow-up emails that are sent to registered campers.
- Put reminders about firewood policies and availability of local or heat treated firewood on social media posts.

Educate the camper upon arrival:

- Have signage about firewood near to the check-in or entrance area.
- When feasible, ask if visitors have brought firewood with them to the campground. If firewood has been brought in violation of state or campground rules, inform visitors of the risks associated with firewood movement and follow campground policy about disposal of firewood. There can be several strategies for campgrounds:
 - Outreach approach: Request that campers burn all of the wood they brought against policy ASAP, not to move the wood further, and not to bring firewood again.
 - Regulatory approach: Confiscate and secure firewood. Consider offering a voucher, trade, or a discount on firewood for sale within the campground.
 - Enforcement or Emergency approach: Contact enforcement personnel.

Reinforce education during their stay:

- Post signage indicating trees at risk from invasive pests transported in firewood in the campground.
- Consider hosting programs about invasive pest threats to trees, recognizing the signs and symptoms of invasive insects, and how to report suspect insects and/or damage.

Alternates to Selling Bundled Firewood:

Note that these methods all work best when clearly communicated before arrival via reservation and campground policy materials, so that campers understand firewood will be available to them.

- Incorporate the cost of supplying firewood into the cost of a campsite.
- Provide an area where campers can collect their own firewood from a bulk area for free or per voucher.
- Have a policy where firewood accompanied by a receipt from a local vendor is exempted from campground rules prohibiting outside firewood.
- Have an exemption for certified heat treated firewood if in its original unopened bundle.

E. CREATE AN ON-LINE FIREWOOD DIRECTORY

Summary Statement: States can encourage better firewood practices by consumers by providing information about local firewood vendors through use of a searchable online directory. When the directory is accurate and reliable, consumers are more likely to adopt its use.

Basic Requirements for the Directory:

- Easily accessible by the user.
- Usable on mobile devices.
- Directory is regularly updated and reviewed by the state.
- Availability of on-line directory is promoted by the state.
- Firewood vendors are searchable in the database by location.
- Firewood vendors are located either throughout the state or throughout high-traffic camping areas.
- There are sufficient vendors to provide choice to consumers.

Adding Vendors to the Directory: It can be daunting to create a firewood directory, particularly in states where firewood vendors are not registered. An on-line directory is most useful when it provides ample choice of firewood vendors spread geographically through the state. States are encouraged to set low minimum standards for inclusion of a vendor on the directory in order to increase accessibility of local firewood. There are a variety of ways to quickly populate a vendor list.

- Contact certified firewood kilns or heat treatment facilities in your state and ask for their product distribution information.
- Reach out to regional or national chain grocery, gas, truck stop, hardware, or home improvement stores to inquire if they can provide a spreadsheet of their locations that typically sell firewood.
- Use targeted internet searches to identify lists of businesses. Vendors found on public directories can be listed on the directory without an opt-in process. Targeted internet searches might include:
 - All entities that maintain campgrounds (state, federal, or private).
 - In Google Maps do a search for: firewood, firewood seller, firewood distributor, firewood for sale, etc.
 - Tree care or tree service companies.
 - Craigslist, social media auctioning sites, classified ads, and other e-commerce used in your state to search for firewood sales.
- Utilize Cooperative Agricultural Pest Survey (CAPS) crews, agricultural inspectors, or other employees that travel widely to find firewood vendors during normal field work. Develop an outreach item that can be left at roadside stands with instructions for vendors to contact you to be added to the list. Roadside vendors should not be added to the directory without their approval, as many sell from their private homes or property.

Budget for Creating and Maintaining the Directory: The largest portion of the budget for the on-line directory will be personnel costs to create and maintain the directory. Costs and effort can be distributed across cooperating agencies in your state. States have also been successful obtaining funding through Plant Protection Act § 7721 Goal 5 funds. Funding for an on-line firewood directory might also be appropriate for other federal grant sources, such as Forest Service Wood Products Promotion Grants.

Promote the Directory: Encourage widespread adoption of use of the directory by promoting it. Partner with campgrounds, use social media campaigns, include information about availability of outreach items, promote it at targeted expos and tradeshow, and provide outreach items for firewood vendors to display at check-out counters.

You can develop whatever tool works best for your state. One tool that already exists is [Firewood Scout](#), a pay-for-service modeled directory that is managed by a small non-profit in Michigan. Currently, Firewood Scout is the only multi-state public on-line firewood directory available, and consumers may be more likely to adopt the use of a firewood directory that is available regionally or nationally. The [Firewood Scout membership packet](#) is available in the appendices.

5. APPENDICES

A. HEAT TREATMENT

Firewood kilns are ovens, run at high temperatures for long periods of time, typically powered by burning wood waste or natural gas, and filled with combustible fuel (green or seasoned firewood). There are potential fire risks associated with firewood kilns. Kiln operators may have operational concerns about the temperatures at which the kilns are run. Energy costs are significant drivers of production costs of kiln-dried or heat-treated firewood, and kiln operators try to produce their product with the lowest possible energy costs. Sometimes, the processor will only dry seasoned firewood in the kiln in order to reduce the energy needed to reach the desired temperature or moisture content. Lower ambient temperatures outside of the kiln (whether due to winter conditions or generally colder regions) increase the amount of energy required to process firewood within the kiln. Sometimes the preferred temperature that a given kiln operates at may be below that required by for a regulatory treatment. This guide will introduce the basics of firewood heat-treatment and includes selected references.

Kiln-dried versus heat-treated firewood:

Kiln-dried and heat-treated firewood are terms that are often used interchangeably, which is problematic as they have significantly different meanings. The processes are similar, but the end product, legal implications, and commercial goals are different. Kiln-dried is an industry term without any accompanying standard, norm, or certification- it simply refers to the fact that the end product has had some level of exposure to heat within a kiln with the intent to make a low moisture content product. Kiln-dried does not necessarily mean that the wood has been disinfested. Heat-treated references a certifiable treatment sufficient to disinfest wood, with the certification overseen by a qualified entity (state, federal, or third-party). Heat-treated does not reflect on the moisture content or other quality of the resulting product. A given bundle of firewood may be kiln-dried, heat-treated, or both- but neither process technically has any bearing on the other.

Producers of kiln-dried firewood are using this process to market their firewood as a dry wood product that is more desirable by consumers for uniformity, cleanliness, ease of lighting, and reduction in smoke and creosote when burned. Generally, kiln dried firewood commands a higher price on the market than seasoned or green firewood. Once loaded into a kiln, the firewood takes a day or more to come up to sufficient temperature and then run long enough to drive the desired amount of water weight out of the firewood and render it properly kiln-dried. In many cases, but not all, kiln-dried firewood could simultaneously meet the requirements for heat-treatment, if the kiln operator obtained the appropriate documentation, Compliance Agreements, and/or certification(s).

The purpose of firewood heat treatment, or heat disinfestation, is not about the dryness of the wood, but rather that the internal wood temperature has reached levels sufficient to destroy pests and pathogens on or in the wood. When wood is heat-treated, the primary motivation is typically that the wood will comply with local or regional regulations. In some cases, secondary motivations are that the wood is more marketable to regional distributors and/or regional consumers who believe that heat treated firewood is cleaner, better, etc. A subset of kiln operators will only reach heat treatment standards for their wood and then not continue to heat it long enough to reduce the moisture content and therefore also kiln-dry it. Heat treated wood that has not been kiln-dried may retain significant water weight and will not have the same value-added benefits to the consumer as kiln-dried firewood. If the market doesn't support the sale of kiln-dried firewood, and regional distributors are not requiring heat treatment to sell on the wholesale market, investing in a kiln to comply with heat treatment requirements may not make economic sense to a small scale firewood producer.

Certification process:

The goal of certification is to ensure that firewood that is processed in a kiln reaches a set internal wood temperature for a specific period of time in order to kill pest and pathogen life stages and thereby reduce the risk of transporting pests. Fundamentally, this means that the heat treatment facility must be set up to monitor and record temperatures within the center of large pieces of firewood, and that these temperatures and processes are auditable by regulators.

Facility certification requirements typically include that operators need to regularly monitor their processing of firewood by having temperature probes that record ambient kiln temperature, as well as temperatures within the center of three pieces of firewood placed in pre-determined cold spots within the kiln. The probes are inserted into holes drilled into firewood and secured with putty in order to measure true temperatures in the wood rather than kiln ambient temperature. Probes should be capable of recording data at least once every five minutes and data should be stored for review for at least one year. Firewood kiln operators tend to replace probes on a regular basis as malfunctioning monitoring probes do not record data.

Regulators should periodically review a kiln's data records for heat-treating firewood as part of the certification process. It is highly recommended that regulators annually observe a kiln being loaded and probes placed to ensure that probes are being used accurately. The USDA has found that when kilns fail a certification test it is most often because; there is poor air flow because the fans are not working, packing materials or bins are restricting air flow, the facility sensors are not properly located in the center of stacks of firewood, or the facility sensors are not working and accurately recording data (Mitchell Dykstra, USDA APHIS PPQ). Due to the insulating qualities of wood, internal wood temperatures often do not come to the same temperature as the dry bulb temperature. All monitoring probes reaching the determined level at the same time, or within a very short interval, indicates that the probes monitoring wood temperature were not sufficiently isolated from the kiln's ambient temperature.

It is recommended that certification include calibration of kiln temperature readings. Firewood kiln probes are generally not calibrated in the same way that lumber kilns are. Probes are assumed to be calibrated when they leave the manufacturer and are replaced when they malfunction. USDA federal certification has included calibrating the kiln using independent temperature thermocouples, and this is an effective way to verify the temperatures that the kiln is reaching as well as the temperatures measured within the wood. Some states have used other processes to calibrate kiln probes during certification.

Dykstra, Mitchell. 2019. [Heat treatment certification programs: essential elements and how to conduct](#) (pgs. 328-346). *Presentation prepared for the 94th Annual Meeting of the Eastern Plant Board.*

Heat Disinfestation

Hansen et al., 2011 provides a thorough overview of heat disinfestation. When heat is used as a disinfestation treatment, it is used to cause thermal death of the pests or pathogens that may be present. Thermal death may be caused by denaturation or coagulation of proteins or accumulation of toxic products due to a metabolic disturbance. Thermal death point can be altered by a variety of factors, including humidity, degree of starvation, temperature acclimation, or age. For invertebrates, application of heat can cause acute mortality or long-term lethal effects (chronic mortality). Firewood kilns use a dry heat strategy, which has the disadvantage of being a slow process with the surface heating before the interior of the wood.

Hansen, J.D., Johnson, J.A., Winter, D.A. 2011. History and use of heat in pest control: a review. *International Journal of Pest Management*. 57(4): 267-289.

Pathogens

Pathogens present additional considerations when determining a heat treatment regimen. There are some thermophilic fungi that create special structures that make them more heat tolerant. These thermophilic fungi tend to be located in the heartwood rather than sapwood. It should be noted that some of the experiments on required temperatures for fungi vary the minutes that the heat is applied from 1 min to 75 minutes or more. Fungi that survive elevated temperatures for shorter durations may not survive longer durations.

The conditions for fungi to thrive on timber/wood include:

1. The temperature must be between 10°C and 54.5°C. The optimal temperature for fungal growth occurs between 21°C and 32°C. Below 10°C, fungi are dormant and above 54.5°C they are killed.
2. There must be sufficient oxygen present.
3. There must be sufficient moisture available. Generally, there is sufficient moisture when the moisture content in wood is > 22%.
4. Food, in the form of sugar, must be available. There is generally inadequate food supply in the heartwood, so fungi are found predominantly on sapwood.

Elimination of one of these elements will control the fungus.

Armstrong, J.W., Brash, D.W., Waddell, B.C. 2014. Comprehensive literature review of fumigants and disinfestation strategies, methods and techniques pertinent to potential use as quarantine treatments for New Zealand export logs. A report prepared for: Scion. Plant Food Research Contract No. 279714. Milestone No. 1.3.1. Job code: P/332016/01. SPTS No. 10678. 190 pgs. See especially page 102 discussing Gan (2005).

Treatment standard information

While there are some studies that directly measure heat-disinfestation of firewood, more information exists about disinfestation of lumber and wood packing material (WPM). Results from work done in lumber can inform decision-making about standards for firewood, but firewood is a much less consistent product than lumber. Additionally, lumber and WPM is often de-barked during processing, whereas bark is generally not removed purposely from firewood. The presence of bark may impact the ability of pests and pathogens to survive heat treatment as well as make the treated product more attractive for post-treatment infestation or infection. It is critically important that when discussing the heat-treatment standards that the standard refers to the temperature and time as measured in the center of a piece of firewood, not the ambient kiln temperature. Throughout studies of heat disinfestation of wood and firewood, there is some inconsistency with whether temperatures are measured within the core of the wood. This can make it challenging to compare studies and efficacy of standards. Regulators should encourage measuring and reporting wood temperatures within the core of firewood in order to create a standard with greater reproducibility.

There are three different treatment regimens commonly referenced for heat disinfestation of wood:

- T314-b: 56°C (133°F) for 30 minutes as measured in the interior of treated wood (All logs (including firewood) from gypsy moth quarantine areas)
- T314-a: 60°C (140°F) for 60 minutes as measured in the interior of treated wood (Regulated wood articles, including *Fraxinus* (ash logs and firewood) and all hardwood firewood from emerald ash borer quarantine areas)
- T314-C: 71.1°C (160°F) for 75 minutes as measured in the interior of treated wood (Regulated wood articles: various wood pests)

T314-b: 56°C (133°F) for 30 minutes standard information

T314-b is the ISPM 15 standard for international shipment of wood packing material (WPM) implemented in 2002. This standard was meant to have broad efficacy against a range of pathogens and pests without the specific goal of eliminating all phytosanitary risk for every potential pest. Revisions to ISPM 15 for WPM included that wood is free of bark and that treatment was that the core temperature of the wood is maintained at 56 °C for 30 *continuous* minutes. Reviews of ISPM 15 standards found that heating wood to 56°C for 30 min is sufficient to kill many insects, nematodes, and pathogens, with emerald ash borer noted as being more heat-tolerant than most species studied and therefore requiring a higher standard (T314-a: 60°C for 60 min). This standard has been shown to be lethal to fungi, although other variables like an extended drying period prior to heat treatment can result in greater thermotolerance. Thermophilic fungi can tolerate and grow at temperatures higher than 50°C, and may require heat treatment at higher temperatures for longer durations.

Haack, R.A., Brockerhoff, E.G. 2011. ISPM No. 15 and the incidence of wood pests: recent findings, policy changes, and current knowledge gaps. *Paper prepared for the 42nd Annual Meeting of the International Research Group on Wood Protection*. IRG/WP 11-30568.

Juzwik, Jennifer. USFS. *Personal comment*. Oak wilt fungus was eradicated from red oak logs taken from western Wisconsin trees using the 56°C for 30 min treatment standard as measured at 2 inches into the wood with vacuum steam heat treatment.

NAPPO Science and Technology Documents. ST 05: Review of heat treatment of wood and wood packaging. 2014. *Prepared by the members of the NAPPO Forestry Panel*. 35 pages.

Ramsfield, T.D., Ball, R.D., Gardner, J.F., and Dick, M.A. 2010. Temperature and time combinations required to cause mortality of a range of fungi colonizing wood. *Canadian Journal of Plant Pathology*. 32(3): 368-375.

Uzunovic, A., and Khadempour, L. Heat disinfestation of MPB-affected wood. *Mountain Pine Beetle Initiative. MPBI Project # 8.41*. 27 pgs.

T314-a: 60°C (140°F) for 60 minutes standard information

T314-a is the federal emerald ash borer (EAB) standard for certifying firewood originating in EAB-regulated areas. EAB expresses heat-shock proteins making it tolerant to heat and requiring standards higher than T314-b. Because of EAB's ability to withstand less stringent standards, T314-a should be considered the minimum standard used to certify heat-treated firewood. This standard can be effective against EAB, *Agrilus bilineatus*, walnut twig beetle, and the thousand cankers disease pathogen. Some fungi that have been shown to survive the T314-b standard are controlled by the T314-a standard. Highly thermophilic fungi, however, may create specialized structures that allow them to survive periodic high heat exceeding 60 °C.

Haack and Petrice (*not yet published, personal comment*): Recorded 99% *Agrilus bilineatus* mortality in oak logs subjected to 56°C for 30 minutes, when ambient kiln temperature was at a constant 65°C or less. There was 100% mortality when the ambient kiln temperature was held at 70°C or more, or when the core temperature was recorded at 60°C, regardless of ambient kiln temperature. This re-iterates the importance of describing the target temperature as measured within the interior of the firewood, rather than the ambient kiln temperature.

Juzwik, Jennifer. USFS. *Personal comment*. Oak wilt fungus was eradicated from red oak logs taken from western Wisconsin trees using the 60°C for 60 minutes treatment standards as measured at 2 inches into the wood with vacuum steam heat treatment. Viable propagules of one or both of the rapid ohia death pathogens (*Ceratocystis lukuohia* and *Ceratocystis huliohia*) were eliminated from ohia logs during vacuum steam trials at a regimen of 60°C for 60 min, where the temperature was monitored at 70% of log radius and logs were 12-18 inches in diameter. These pathogens form aleurioconidia (thick-walled spores).

Mayfield, III, A.E., Fraedrich, S.W., Taylor, A., Merten, P., and Meyers, S.W. 2014. Efficacy of heat treatment for the thousand cankers disease vector and pathogen in small black walnut logs. *Journal of Economic Entomology*. 107(1): 174-184.

Myers, S.W., Fraser, I., and Mastro, V. 2009. Evaluation of heat treatment schedules for emerald ash borer (Coleoptera: Buprestidae). *Journal of Economic Entomology*. 102(6): 2048-2055.

Ramsfield, T.D., Ball, R.D., Gardner, J.F., and Dick, M.A. 2010. Temperature and time combinations required to cause mortality of a range of fungi colonizing wood. *Canadian Journal of Plant Pathology*. 32(3): 368-375.

Sobek, S., Rjamohan, A. Dillon, D., Cumming, R.C., and Sinclair, B.J. 2011. High temperature tolerance and thermal plasticity in emerald ash borer *Agrilus planipennis*. *Agricultural and Forest Entomology*. 13: 333-340.

T314-c: 71.1°C (160°F) for 75 minutes standard information

T314-c is the highest treatment standard in the USDA's Logs and Firewood T314 series. This is the standard referenced by many of the states that were early adopters of exterior firewood quarantines. This standard could control highly thermophilic pathogens, like *Schizophyllum commune*, which has been shown to be able to withstand an exposure temperature of 60°C for 60 min. The current Asian longhorned beetle regulated areas within the USA use T314-c as the required disinfestation treatment level, although a study has found T314-b to be adequate.

Myers, S.W. and S.M. Bailey. 2011. Evaluation of the ISPM-15 Heat Treatment Schedule for Asian Longhorned Beetle, *Anoplophora glabripennis* (Coleoptera: Cerambycidae) For. Prod. J. 61: 46-49.

Ramsfield, T.D., Ball, R.D., Gardner, J.F., and Dick, M.A. 2010. Temperature and time combinations required to cause mortality of a range of fungi colonizing wood. *Canadian Journal of Plant Pathology*. 32(3): 368-375.

Uzunovic, A., and Khadempour, L. Heat disinfestation of MPB-affected wood. *Mountain Pine Beetle Initiative. MPBI Project # 8.41*. 27 pgs.

Uzunovic, A., Khadempour, L., and Leung, K. 2008. Heat disinfestation of decay fungi found in post-mountain pine beetle wood. *Mountain Pine Beetle Working Paper 2008-14.MPBI Project #8.61*. 12 pgs.

Summary

Regulators establishing heat-treatment certification standards should consider their ultimate goal. Many insects and pathogens are controlled with temperature standards of 56°C for 30 min as measured in the interior of heat treated firewood. A 60°C for 60 min temperature treatment standard results in additional control of thermotolerant insects and pathogens. Some highly thermophilic pathogens that form protective structures may require the 71.1°C for 75 min treatment regimen to achieve 100% control. When reviewing established literature and when communicating about heat-treatment requirements, it is critically important to note whether temperatures are measured within the interior of large pieces of firewood or are ambient kiln temperature.

B. STATE REGULATIONS AS OF JANUARY 1, 2020

Summary statement: Several states have developed external firewood quarantines. Some of these quarantines also incorporate restrictions and requirements for within state movement of firewood. Florida was the first state to pass a state external quarantine on firewood. These examples are not exhaustive of all firewood regulations across the country. The quarantines selected for inclusion were those that focus on the firewood pathway rather than those that include firewood as a regulated article for a specific pest quarantine.

CHAPTER 5B-65

FIREWOOD AND UNPROCESSED WOOD PRODUCTS

5B-65.001	Purpose
5B-65.002	Definitions
5B-65.003	Wood Boring Pests and Wood Inhabiting Pests that are Harmful to Florida Agriculture, Landscape Plants, and Native Plants
5B-65.004	Plant Disease Pathogens Infecting Firewood and Unprocessed Wood Products
5B-65.005	Movement of Regulated Articles

5B-65.001 Purpose.

The purpose of this rule chapter is to establish procedures to prevent the introduction of wood boring pests, wood inhabiting pests, and plant disease pathogens into the state, and prevent the spread of these pests within the state by regulating the movement of firewood and unprocessed wood products that can harbor wood boring and wood inhabiting pests and plant disease pathogens.

Rulemaking Authority 570.07(23), 581.031(1), (4), (5), (7) FS. Law Implemented 570.07(2), (13), 581.031(1), (4), (5), (6), (7), (9), (20) FS. History—New 8-10-10.

5B-65.002 Definitions.

For the purpose of this rule chapter, the definitions in Section 581.011, F.S., and the following definitions shall apply:

- (1) Commercial Shipments. Shipments of regulated articles intended for public or private sale or distribution within the state.
- (2) Compliance Agreement. An agreement, meeting the requirements of subsection 5B-65.005(1), F.A.C., between a shipper and the state of origin pursuant to the Master Permit of the state of origin.
- (3) Firewood. Cut wood products intended for burning.
- (4) Infected. Regulated articles found with plant disease pathogens.
- (5) Infested. Regulated articles found with plant pests.
- (6) Master Permit. A permit issued by the department to the state of origin allowing the movement of regulated articles into and within the state and specifying the conditions under which the regulated articles are allowed to be moved.
- (7) Plant Disease Pathogen. Any organism that can infect plants and cause plant disease.
- (8) Producers. Individuals or companies responsible for cutting, packing or distributing regulated articles into or within the state.
- (9) Regulated Articles. Firewood or unprocessed wood products including palm products and cut Christmas trees.
- (10) Shippers. Individuals or companies responsible for sending or transporting regulated articles into the state.

- (11) Unprocessed wood products. Bark, trunks, limbs, stumps or other woody plant material that results from yard waste, tree trimming, tree removal including wood, incorporated into the construction of furniture, handicrafts, planting containers or other products that have not been treated, processed or finished to eliminate plant disease pathogens, wood boring pests, and wood inhabiting pests as defined in subsections 5B-65.002(7), (12) and (13), F.A.C.
- (12) Wood boring pest. Any organism that physically bores into or through the woody part of a plant, including either the outer bark, the inner bark, and/or the stem wood.
- (13) Wood inhabiting pest. Any organism that spends part of its life cycle within the woody part of a plant, including either the outer bark, the inner bark, and/or the stem wood.

Rulemaking Authority 570.07(23), 581.031(1), (4), (5), (7) FS. Law Implemented 570.07(2), (13), 581.031(1), (4), (5), (6), (7), (20) FS. History—New 8-10-10.

5B-65.003 Wood Boring Pests and Wood Inhabiting Pests that are Harmful to Florida Agriculture, Landscape Plants, and Native Plants.

The following wood boring and wood inhabiting pests are known to infest firewood and other unprocessed wood products and can be transported through the movement of these products to areas where they can infest and damage live host trees and other plants and are therefore considered to be a nuisance:

- (1) *Agrilus planipennis*, emerald ash borer;
- (2) *Anoplophora glabripennis*, Asian longhorned beetle;
- (3) *Bursaphelenchus cocophilus*, red ring nematode;
- (4) *Dinapate wrighti*, giant palm borer;
- (5) *Hylurgus ligniperda*, red-haired pine bark beetle;
- (6) *Hylurgops palliates*, exotic bark beetle;
- (7) *Metamasius hemipterus*, silky cane weevil;
- (8) *Orthotomicus erosus*, Mediterranean pine engraver beetle;
- (9) *Rhynchophorus cruentatus*, palmetto weevil;
- (10) *Rhynchophorus ferrugineus*, red palm weevil;
- (11) *Rhynchophorus palmarum*, American palm weevil;
- (12) *Scaphoideus luteolus*, whitebanded elm leafhopper;
- (13) *Scolytus schevyrewi*, banded elm bark beetle;
- (14) *Sirex noctilio*, Sirex woodwasp;
- (15) *Tomicus piniperda*, pine shoot beetle;
- (16) *Xyleborus glabratus*, redbay ambrosia beetle;
- (17) *Xyleborus similis*.

Rulemaking Authority 570.07(23), 581.031(1), (4), (5), (7) FS. Law Implemented 570.07(2), (13), 581.031 (1), (4), (5), (6), (7), (20) FS. History—New 8-10-10.

5B-65.004 Plant Disease Pathogens Infecting Firewood and Unprocessed Wood Products.

Pathogens that cause the following plant diseases are known to infect firewood and unprocessed wood products and can be transported through the movement of these products to areas where they can infect and damage live host trees and other plants and are therefore considered to be a nuisance:

- (1) *Nectria coccinea* var *fagiuata* and *N. galligena*, beech bark disease;
- (2) *Discula destructiva*, dogwood anthracnose;
- (3) *Ophlostoma ulmi* and *O. novo-ulmi*, Dutch elm disease;
- (4) *Candidatus Phytoplasma ulmi*, elm yellows;
- (5) *Raffaelea lauricola*, laurel wilt disease;
- (6) *Ceratocystis fagacearum*, oak wilt disease;
- (7) *Phytophthora ramorum*, sudden oak death.

Rulemaking Authority 570.07(23), 581.031(1), (4), (5), (7) FS. Law Implemented 570.07(2), (13), 581.031 (1), (4), (5), (6), (7), (20) FS. History—New 8-10-10.

5B-65.005 Movement of Regulated Articles.

- (1) In order to prevent the introduction and spread of nuisance pests and diseases listed in Rules 5B-65.003 and 5B-65.004, F.A.C., the movement of commercial shipments of regulated articles into the state is prohibited except under a Master Permit (Master Permit For Firewood and Unprocessed Wood Products, FDACS-08444, Rev. 01/12) issued by the Department. Such permit will stipulate the conditions under which the regulated articles can be moved into the state. The Master Permit for Firewood and Unprocessed Wood Products, FDACS-08444, Rev. 01/12, is incorporated herein by reference and may be obtained from the Division of Plant Industry, Bureau of Plant and Apiary Inspection, by writing to P.O. Box 147100, Gainesville, FL 32614-7100 or from the following website: <http://www.flrules.org/Gateway/reference.asp?No=Ref-02368>. The Master Permit will require all shippers of regulated articles to be under compliance with the state of origin's plant regulatory organization. A Compliance Agreement issued under a Master Permit shall indicate the requirements for inspections and/or treatments. Only heat, fumigation, or chemical treatments in accordance with the United States Department of Agriculture, Animal and Plant Health Inspection Service, Plant Protection and Quarantine Treatment Manual (Rev. 05/2012), Treatment Schedules T312 – Oak Logs and Lumber and T314 – Logs and Firewood, shall be required in the compliance agreement. The Treatment Schedules are herein incorporated by reference and may be obtained from the following website: <http://www.flrules.org/Gateway/reference.asp?No=Ref-02370>.
- (2) Any shipment of firewood or unprocessed wood products found infested or infected with a wood boring or wood inhabiting pest or plant disease pathogen listed in Rule 5B-65.003 or 5B-65.004, F.A.C., shall be quarantined and returned to the shipper or producer or destroyed by the Department at the expense of the shipper. Infested or infected regulated articles will be placed under Stop Sale Notice and Hold Order FDACS-08016, Rev. 2/10. FDACS 08016, Rev. 2/10 is hereby incorporated by reference and may be obtained from the Division of Plant Industry, Bureau of Plant and Apiary Inspection, by writing to P.O. Box 147100, Gainesville, FL 32614-7100 or from the following website: <http://www.flrules.org/Gateway/reference.asp?No=Ref-02366>. Commercial shipments entering the state through the Department's agricultural interdiction stations without certification of compliance with the Master Permit of the state of origin shall be issued a Report of Plant and Plant Material in Transit Interdiction Stations, FDACS Form 08003, Rev. 5/10. FDACS Form 08003, Rev. 5/10 is incorporated herein by reference and may be obtained from the Division of Plant Industry, Bureau of Plant and Apiary Inspection, by writing to P.O. Box 147100, Gainesville, FL 32614-7100 or from the following website: <http://www.flrules.org/Gateway/reference.asp?No=Ref-02365>. Non-commercial shipments entering the state through the Department's agricultural interdiction stations without certification will be allowed entry

only when issued and accompanied by a Report of Non-Commercial (Homeowner) Plants or Firewood Without Certification in Transit from Other States FDACS-08105, Rev. 11/10, issued at the station. FDACS form 08105, Rev. 11/10, is incorporated herein by reference and may be obtained from the Division of Plant Industry, Bureau of Plant and Apiary Inspection, by writing to P.O. Box 147100, Gainesville, FL 32614-7100 or from the following website: <http://www.flrules.org/Gateway/reference.asp?No=Ref-02367>. Commercial shippers found in violation of the rule will be suspended from shipping under the master permit issued with the state of origin. The suspension shall remain in effect until the Department of Agriculture of the state of origin has notified the Division of Plant Industry in writing that the shipper is in compliance with all requirements for treatment of firewood or unprocessed wood products.

- (3) The destruction or return of shipments in violation of this rule chapter shall be at the expense of the shipper.
- (4) Prior to the intrastate movement of commercial shipments of firewood or unprocessed wood products, the owner of the articles must submit FDACS 08459, Rev.01/13, Compliance Agreement for Firewood and Unprocessed Wood Products Movement Within the State of Florida to the Division of Plant Industry unless exempted in subsection (7). The form Compliance Agreement for Firewood and Unprocessed Wood Products Movement Within the State of Florida, FDACS 08459, Rev.01/13, is incorporated herein by reference and may be obtained from the Division of Plant Industry, Bureau of Plant and Apiary Inspection, by writing to P.O. Box 147100, Gainesville, FL 32614-7100 or from the following website: <http://www.flrules.org/Gateway/reference.asp?No=Ref-02369>.
- (5) The importation or movement of non-certified, commercial or non-commercial shipments of firewood or unprocessed wood products within or into the state is prohibited except as permitted in subsection (7).
- (6) Cut Christmas trees may enter the state provided they are accompanied by a federal certificate required for movement from regulated areas of the United States or a certificate of inspection issued by the Department of Agriculture in the state of origin.
- (7) Exemptions:
 - (a) Locally produced or harvested firewood and unprocessed wood products harvested or produced within a 50-mile radius of the distribution point and not moved more than 50-miles from the point of origin. Regulated articles from locations in states contiguous to Florida that are harvested or produced within 50 miles of a Florida distribution point may enter Florida for direct transport to the distribution point without a certificate of treatment if the articles are accompanied by a proper bill of lading, proof of origin, and any applicable federal certificates for shipments originating from a USDA-regulated area. No locally produced firewood outside Miami-Dade County may enter Miami-Dade County unless treated and certified in accordance with Rule 5B-65.005, F.A.C., by the Department.
 - (b) 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) originating from Florida or states contiguous to Florida and transported for processing at mills and plants (including pulp/paper mills, saw mills, plywood plants, OSB plants, pole plants, mulch plants, and biomass plants).
 - (c) 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-regulated area.

Rulemaking Authority 570.07(23), 581.031(1), (4), (5), (7) FS. Law Implemented 570.07(2), (13), 581.031(1), (4), (5), (6), (7), (9), (20) FS. History—New 8-10-10, Amended 4-4-13.

Emergency Order

Restricting Transportation of Firewood into the State of Maine

Background

Emerald ash borer (EAB), recently found in Maine, and the Asian longhorned beetle (ALB) found nearby in Massachusetts are among dozens of destructive organisms that move readily in tainted firewood. Singly and collectively, these non-native species have the potential to cause significant harm in Maine's forests. The introduction and spread of these tree killers through transportation of firewood aids long-distance spread of damaging forest insects and diseases from infested areas to other states and regions and increases the spread beyond their normal biological dispersal rate. Although Federal quarantines on the export of certain firewood are in place in a number of states, the spread of these damaging agents continues.

Since many campers come to Maine transporting firewood from their home states, the Legislature determined that these facts together create an emergency. The Legislature passed legislation effective April 1, 2010 addressing this emergency. In PL 2010, Chapter 585, the Legislature specifically instructed the Director of the Bureau of Forestry to impose restrictions on the transportation of firewood as may be required to preserve the public peace, public health and public safety. The Director of the Bureau was directed to work closely with the Director of the Bureau of Parks and Lands to protect the state's forests from introduction of the EAB and the ALB.

On August 31, 2010 the Director of the Bureau of Forestry, pursuant to the authority granted by 12 M.R.S. § 8305 (as amended by PL 2010, Ch. 585), issued the initial Emergency Order regulating import of firewood. That initial Order, which was slated to expire after 120 day has been periodically reissued, most recently in March 2019.

Where the final regulations have not yet been put in place, in order to protect f Maine's forest resources and wildlife from the introduction and spread of these destructive insect pests, the Director of the Bureau of Forestry must take immediate action and hereby reissues and amends the Emergency Order pursuant to the authority granted by 12 M.R.S. § 8305 (as amended by PL 2010, Ch. 585).

EMERGENCY ORDER TO VISITORS, RESIDENTS AND ANY OTHERS TRANSPORTING FIREWOOD INTO OR THROUGH MAINE

1. **Regulated Article.** All firewood that is being, or has been, transported into or through Maine.
2. **Prohibition on Importation of Certain Firewood.**
 - A. No person shall bring firewood into Maine unless it has been treated so that its core temperature has reached at least 160 degrees Fahrenheit for 75 minutes and is accompanied by a treatment certificate or label from a United States Department of Agriculture (USDA) qualified treatment facility, or similar documentation of treatment from an analogous state agency in accordance with the USDA Plant Protection and Quarantine (PPQ) Treatment Manual, or from analogous Canadian authorities attesting such treatment. Any person stopped at the New Hampshire border with firewood who cannot demonstrate its prior treatment, or prove that the firewood originates from a local Maine source, may be required to turn such firewood over to Maine Bureau of Forestry officials.
 - B. All retail sellers of firewood in Maine must be able to demonstrate by bill of sale, harvest notification report, trip ticket, and/or other mechanism that any firewood they are selling came from an in-state source, or if the firewood originated from out-of-state that it was accompanied by a treatment

certificate or label. If the retail seller is not able to produce evidence of either, the firewood is subject to confiscation by the Maine Bureau of Forestry.

- C. The Maine Bureau of Forestry may issue case-by-case variances. Variances will only be approved if, after review, the Maine Bureau of Forestry in its sole discretion determines that the firewood does not pose a threat of importing the EAB, ALB, or similar regulated pests because of verifiable local origin and handling, or having been otherwise treated so as to eliminate any threat.

3. **Prohibition on Intrastate Movement of Certain Firewood.** Persons transporting firewood within Maine may be required to identify the source of the firewood in order to show compliance with this Section.

4. **Inspections and Disposal of Firewood.**

- A. All firewood originating outside of Maine, of undisclosed or unknown origin, and lacking treatment certificates or labels shall be disposed of with the least amount of movement possible. Such firewood shall be burned on site, if possible, or driven to the nearest Bureau of Forestry or Bureau of Parks and Lands facility for responsible disposal.

5. **Notices to be Posted.**

At all campgrounds where campers are likely to burn firewood, the owners are requested to conspicuously display at a central location a sign with the following information:

WARNING: Persons with firewood that was not originally purchased in this State may be unknowingly transporting Asian long-horned beetles and/or emerald ash borers, insects that are highly destructive to forests. Unless your firewood has a treatment certificate or label, it should all be burned within 24 hours, or driven directly to Bureau of Forestry or Parks and Lands facility for responsible disposal. All camper firewood, brought into this campground is subject to inspection and potential confiscation by Maine Bureau of Forestry or Maine Bureau of Parks and Lands personnel.

Private campground owners are strongly encouraged to immediately post this notice on their websites and, if possible, to notify expected out-of-state guests of the State's requirements.

6. **Penalty.** In accordance with 12 M.R.S. § 9701, any person who violates any requirements of this Emergency Order commits a civil violation for which a forfeiture not to exceed \$1,000 may be adjudged. Each day of a violation shall be considered a separate offense.

7. **Authority.** The authority for this Emergency Order is 12 M.R.S. § 8305.

8. **Effective Date.** This Emergency Order is effective upon signature by the Director of the Maine Bureau of Forestry and shall remain in force for 180 days, unless extended by a subsequent Order.

STATE OF NEW HAMPSHIRE

DEPARTMENT OF NATURAL & CULTURAL RESOURCES

DEPARTMENT OF AGRICULTURE, MARKETS & FOOD

FIREWOOD EXTERIOR QUARANTINE

JOINT QUARANTINE NO. 2

Amendment No. 3

August 2018

Section I.	Definitions
Section II.	Statement of Concerns
Section III.	Statutory Authority
Section IV.	Specific Purpose and Factual Basis
Section V.	Firewood Quarantine
Section VI.	NHDNCR and NHDAMF Firewood Compliance Agreement Regulations
Section VII.	Violations

Section I: Definitions

1. "Compliance Agreement" means an agreement between the state of New Hampshire Department of Natural & Cultural Resources (hereto referred to as NHDNCR), the New Hampshire Department of Agriculture, Markets & Food (hereto referred to as NHDAMF), and complying parties for movement of raw, unprocessed firewood to certified facilities in the State of New Hampshire (see Section VI).
2. "Control" means eradicating, suppressing, reducing, or managing target insect or plant pathogen populations, their host and habitat, and preventing the spread of these insects and plant pathogens.
3. "Destructive insect or plant pathogen" means an insect or plant pathogen whose introduction and establishment causes or is likely to cause economic or environmental harm, or poses human health risks.
4. "Exotic pest" means an insect or plant pathogen of foreign origin that has been introduced into a novel location where it is not native.
5. "Firewood" means all wood of any species, cut or not cut, split or not split, regardless of length which is destined for use as a fuel. Firewood shall not include kiln-dried dimensional lumber, nor wood that has been chipped. In addition, firewood shall not include logs or wood being transported to, or possessed by, the following operations and facilities for use in their primary manufacturing process:
 - i. sawmill for dimensional lumber;
 - ii. pulp and/or paper mills;
 - iii. wood pellet manufacturing facilities;
 - iv. plywood manufacturing facilities;
 - v. wood biomass-using refineries or power plants;
 - vi. re-constituted wood or wood composite product manufacturing plants;
 - vii. facilities treating firewood in accordance with heat-treatment standards (see Section VI).
6. "Person" means any individual, governmental entity, firm, partnership, corporation, company, society, association, or any organized group of persons whether incorporated or not, and every officer, agent, or employee thereof."
7. "Processor" means an entity engaged in performing a series of mechanical or chemical operations on firewood in order to reduce its risk of transporting destructive forest pests.
8. "Quarantine" means a legal instrument duly imposed or enacted by a government agency as a means for mitigating pest risk.
9. "Treated firewood" means any firewood having been heated to 140 °F (60 °C) for 60 minutes.
10. "Uncertified firewood" means any firewood not meeting the definition of "treated firewood" or that is not certified through a Compliance Agreement.

Section II: Statement of Concern

WHEREAS, RSA 227-K empowers NHDNCR, Division of Forests and Lands, to take measures to monitor the status of changes in the health of New Hampshire's forest, and reduce the incidence and severity of forest insect infestations and plant pathogen infections; and

WHEREAS, many exotic invasive forest pests and pathogens have gained entry into North American forests through the human-induced movement of goods and other plant material such as recreational firewood for camping, landscape trees, and solid wood packing material; and

WHEREAS, the contribution of forest-based manufacturing and forest-related tourism and recreation to the New Hampshire economy is more than \$2 billion annually and provides more than 13,000 jobs; and

WHEREAS, New Hampshire forests are at risk from pests moved in firewood; and

WHEREAS, eradication and tree removal costs to the local, state, and federal governments are extremely high.

THEREFORE, the State of New Hampshire is hereby establishing this exterior firewood quarantine against uncertified firewood from out-of-state for the protection of natural and landscape forest populations.

Section III: Statutory Authority

The Statutory Authority for this quarantine is RSA 433:34, RSA 227-K:2 III, RSA 227-K:14; K:15; K:17, and RSA 227-G:3.

Section IV: Specific Purpose and Factual Basis

The specific purpose of these regulations is to protect New Hampshire's forest resources by preventing the introduction of a destructive insect or plant pathogen into New Hampshire and spread thereof within the state.

NHDAMF and NHDNCR have determined that this exterior quarantine is necessary based on the following:

1. Many destructive exotic forest pests including, but not limited to, Asian longhorned beetle, emerald ash borer, oak wilt, and spotted lanternfly are readily moved long distances through human transportation of host material.
2. Exotic forest pests have the potential to cause irreparable harm to North American forests and the conservation of healthy, diverse native ecosystems.
3. Human-assisted spread of exotic forest pests is attributed, in part, to the movement of firewood, landscape material and other raw, untreated wood products.

Section V: Firewood Quarantine

1. This quarantine is hereby established against uncertified firewood movement into New Hampshire.
2. Quarantined Areas: All lands outside the jurisdictional boundaries of New Hampshire.
3. Articles and Commodities Covered: All wood products meeting the definition of "firewood."
4. Articles and Commodities Not Covered:
 - A. Firewood that is labeled as kiln dried or heat treated to standards of 140 °F (60 °C) for 60 minutes. Labels shall state:
 1. Firewood certified heat treated to the standards of 140 °F (60 °C) for 60 minutes; and

- a. Display the USDA-APHIS seal and compliance agreement number for the heat treatment facility; or
 - b. Display the State Department of Agriculture compliance agreement number and certifying authority for the heat treatment facility; and
2. Company name; and
 3. Bulk shipments of kiln-dried or heat-treated firewood must have the above labeling information clearly attached to the receiver's receipt of delivery and all subsequent smaller bundles of the bulk shipment shall be labeled according to the above requirements.
- B. Raw, untreated firewood moving under the jurisdiction of a New Hampshire compliance agreement (see Section VI).

Section VI: NHDNCR and NHDAMF Firewood Compliance Agreement Regulations

1. Firewood dealers who harvest firewood in New Hampshire and take it out of state to cut, split, season, or package shall obtain a compliance agreement before moving firewood of New Hampshire origin back into the State of New Hampshire. A firewood dealer shall be eligible for a compliance agreement if they meet the following conditions:
 - a. Firewood origin is documented through trip tickets, sales slips, load slips, or any other verifiable documentation showing chain of custody from the property where the wood was harvested, that can be used to attest to the origin of the firewood.
 - b. Firewood of New Hampshire origin is maintained separately and is identifiable at the processor's yard so that firewood of New Hampshire origin is not comingled with firewood of out-of-state origin.
 - c. The compliance agreement may require additional pest-risk based measures to protect the firewood from infestation on the premises, such as separation distance, tarping of firewood, or not storing firewood at specific times of year.
 - d. Recipients of the compliance agreement shall maintain records for two years to assist in audit activities, including:
 - i. Training records of staff on the requirements of the compliance agreement; and
 - ii. Locations and dates of harvest of wood harvested in New Hampshire; and
 - iii. Species of wood from which firewood was produced; and
 - iv. Vendors, contractors, brokers, or landowners from which raw inventory stocks are purchased (if applicable), including names, addresses and contact information; and
 - v. Firewood sales including quantity sold and date of sale; and
 - vi. Records shall be audited by state inspectors at least once a year.
2. Firewood kilns applying to receive raw, untreated wood from out-of-state shall obtain a compliance agreement to process firewood in order to mitigate the risk from potential pests. A firewood kiln shall be eligible for a compliance agreement if they meet the following conditions:
 - a. The kiln shall only accept out-of-state firewood from transporters with a compliance agreement to import out-of-state firewood into New Hampshire; and

- b. The kiln shall meet the federal treatment standards of T314-a heat treatment:
 - i. Heat treatment procedures may employ steam, hot water, kilns, or any other method that raises the temperatures of the center of the wood to at least 140°F (60°C) and maintains the center temperature for at least 60 minutes.
 - ii. Facilities, temperature monitors and temperature sensors shall be approved by NHDAMF prior to a compliance agreement being initiated. The producer shall provide a diagram of the treatment facility to include at a minimum: dimensions, capacity, circulation fans including numbers of fans and locations, heat input location, and door locations.
 - iii. The temperature monitoring equipment (thermocouples, temperature data loggers etc.) must be accurate to within $\pm 0.5^{\circ}\text{C}$ (0.9°F) at the treatment temperature, capable of collecting temperature data at least once every five (5) minutes and recording or storing data for 30 days. The temperature monitoring equipment shall be calibrated a minimum of annually, when any part or portion of the system is repaired or replaced, or if required based on compliance results.
 - iv. Temperature monitoring equipment must be able to provide a record of the treatment that identifies each sensor and indicates time and temperature for the full run time.
 - v. Internal wood temperatures shall be obtained and verified by sensors located in the larger pieces of wood at representative locations within the stack(s). The minimum requirement for measuring temperature is four (4) sensors – one (1) for measuring ambient temperature and three (3) for measuring internal wood temperature per kiln. At least one sensor shall be placed in a large firewood piece in a portion of the load furthest away from internal heat circulation. Sensors will be placed in the wood in pre-drilled holes to measure core wood temperature. Probes are to be sealed into each hole with putty (electricians putty is recommended) to prevent reading ambient air temperature. Other temperature recording arrangements may be considered if approved by the State of New Hampshire.
 - vi. Begin treatment when all the temperature sensors reach the threshold temperature of 140°F (60°C). Treatment will be complete when all temperature probe readings are at or above the threshold temperature for the entire 60 minutes; and
- c. The kiln's temperature, calibration, and customer records shall be audited by a NHDAMF or NHDNCR state inspector at least once a year.

3. A transporter shall obtain a compliance agreement to deliver raw, untreated out-of-state firewood to a state or federally-certified New Hampshire firewood kiln for processing into heat-treated or kiln-dried firewood. Conditions of receipt of a compliance agreement include:

- a. The compliance agreement for the transporter of raw, untreated firewood may include pest-risk based specific requirements for species of wood allowed, restrictions on the timing of transportation of wood, size, volume, and origin as dependent on identified dangerous forest pests; and
- b. Firewood transported into the state under a compliance agreement shall be transported in vehicles bearing a certification label with the compliance agreement number posted in a visible location on the vehicle; and
- c. Recipients of the compliance agreement shall maintain records for two years to assist in audit activities, including:
 - i. Training records of staff on the requirements of the compliance agreement; and

- ii. Locations and dates of harvest of wood transported to New Hampshire; and
 - iii. Species of wood from which firewood was produced; and
 - iv. Vendors, contractors, brokers, or landowners from which raw inventory stocks are purchased (if applicable), including names, addresses and contact information; and
 - v. Firewood sales including quantity sold and date of sale; and
 - vi. Records shall be audited by state inspectors at least once a year.
4. A processor shall obtain a compliance agreement to transport firewood of out-of-state origin into New Hampshire if the firewood has undergone a certified process deemed by both NHDAMF and NHDNCR to substantially reduce the risk of introducing forest pests. In order to obtain a compliance agreement, the firewood processor shall demonstrate:
 - a. The process the firewood has undergone to reduce the risk of transporting insects and pathogens, including verifiable evidence of the treatment's efficacy; and
 - b. That the reduced risk from the firewood is a function of the type of processing rather than origin of firewood; and
 - c. That the process can be measured or documented for the purpose of audit activities; and
 - d. Recipients of the compliance agreement shall maintain records for two years to assist in audit activities, including:
 - i. Processing of firewood; and
 - ii. Training records of staff on the requirements of the compliance agreement; and
 - iii. Locations and dates of harvest of wood transported to New Hampshire; and
 - iv. Species of wood from which firewood was produced; and
 - v. Vendors, contractors, brokers, or landowners from which raw inventory stocks are purchased (if applicable), including names, addresses and contact information; and
 - vi. Firewood sales including quantity sold and date of sale; and
 - vii. Records shall be audited by state inspectors at least once a year.
5. Compliance agreements can be obtained by contacting NHDAMF at 603-271-2561 or NHDNCR at 603-464-3016.
6. Any firewood shipped to New Hampshire shall be accompanied by a copy of the compliance agreement which said load is transported under.
7. Compliance agreements may or may not be issued at the discretion of NHDNCR and NHDAMF depending on size, volume, species, location, pest-risk, and other factors.
8. Compliance agreements are non-transferrable.
9. A compliance agreement allows the recipient to legally transport untreated firewood into the State of New Hampshire in accordance with state laws. A State of New Hampshire compliance agreement does not supersede

federal firewood transportation rules, or the firewood transportation rules of other states. It is the responsibility of the firewood dealer, kiln, or processor to be familiar with the state and federal rules which may be enacted in their harvest and delivery areas.

Section VII: Violations

1. Any written compliance agreement to import raw, untreated out-of-state firewood into New Hampshire may be canceled by the NHDNCR or NHDAMF if the person(s) who entered into the agreement fail(s) to comply with the provisions of this rule. If the person(s) has (have) been given notice of cancellation orally, written confirmation of the decision and reasons for it will be provided within 10 working days. The NHDAMF or NHDNCR may reinstate the written agreement if it finds that the problem(s) leading to the cancellation has (have) been rectified.
2. Any person, or employee or agent of that person, who violates any provision of this quarantine, shall be guilty of a violation. For any subsequent offense, a person shall be guilty of a misdemeanor if a natural person, or guilty of a felony if any other person. (RSA 433:32) (RSA 227-K:17)
3. Any regulated articles not in compliance with the quarantine are subject to confiscation and destruction at the owner's expense.

OFFICIAL COMPILATION OF CODES, RULES AND REGULATIONS OF THE STATE OF NEW YORK

TITLE 6. DEPARTMENT OF ENVIRONMENTAL CONSERVATION

CHAPTER II. LANDS AND FORESTS

PART 192. FOREST INSECT AND DISEASE CONTROL

192.5 Firewood restrictions to protect trees and forests from invasive species.

(a) Definitions.

For the purposes of this section, these terms shall be defined as follows:

- (1) *Department* shall mean the New York State Department of Environmental Conservation.
- (2) *Firewood dealer* shall mean any person, including a firewood producer, that sells firewood at retail.
- (3) *Firewood* shall mean all wood of any species, cut or not cut, split or not split, regardless of length which is:
 - (i) in a form and size appropriate for use as a fuel; or
 - (ii) which is destined for use as fuel. Firewood shall not include kiln dried dimensional lumber, and wood that has been chipped to a maximum piece size that is no greater than 1-inch in 2-dimensions. Firewood shall not include logs or wood being transported to or possessed by the following operations and facilities, for use in their primary manufacturing process:
 - (a) sawmill for dimensional lumber;
 - (b) pulp and/or paper mills;
 - (c) wood pellet manufacturing facilities;
 - (d) plywood manufacturing facilities;
 - (e) wood biomass-using refineries or power plants;
 - (f) re-constituted wood or wood composite product manufacturing plants;
 - (g) facilities treating firewood in accordance with paragraph (13) of this subdivision.
- (4) *Firewood producer* shall mean any person who processes firewood for sale at the wholesale level or sells firewood at the wholesale level.
- (5) *New York-approved treated firewood/pest-free* shall mean a labeling standard for firewood that may be used by a firewood producer who complies with the provisions of subdivision (d) of this section.
- (6) *Origin* shall mean the village, town, city, or street address where firewood for personal use was grown.
- (7) *Person* shall mean an individual, organization, corporation, business, or partnership, public authority, county, town, village, city, municipal agency or public corporation, other than the department.

(8) Personal use shall mean the use of firewood as a fuel, under the conditions specified in subdivision (e) of this section.

(9) Phytosanitary certificate or plant health certificate shall mean an official document issued by a State Department of Agriculture and Markets or the United States Department of Agriculture animal plant health inspection service or equivalent certification from the country in which the treated firewood was produced which certifies that the firewood meets the phytosanitary regulations of New York State in accordance with the provisions of paragraph (13) of this subdivision.

(10) Self-issued certificate of origin shall mean a document for the possession of firewood for personal use as specified in subdivision (e) of this section which specifies the date, name of the possessor, the street address, city, state and zip code of the possessor, the origin of the firewood being possessed, the final destination of the firewood, and the approximate volume in cords or cubic feet being possessed. A sample self-issued certificate of origin shall be available on the department's website and at the department's regional offices.

(11) Source shall mean the village, town, or city designated by a firewood dealer or firewood producer as the location no greater than 50 miles from where said untreated firewood was grown. For untreated firewood produced from pallets, or which is a by-product of industrial, commercial, or wood milling operations, source shall mean the actual business or mill street address where such firewood is produced.

(12) Source documentation shall mean a document which shall include the name and legal address of the firewood producer or firewood dealer, the source of the firewood, and the approximate volume of firewood if greater than one cord or 128 cubic feet. Source documentation may consist of a bill of lading, purchase receipt or invoice accompanying all such firewood sold or a label attached to each package or bundle of firewood.

(13) Treated firewood shall mean firewood, including any wood by-products of the operations or facilities listed in paragraph (3) of this subdivision and which are destined for use as fuel: (a) (b)

(i) treated to achieve a minimum core temperature of 71°C for a minimum of 75 minutes employing kiln-drying or other treatments, e.g. steam, hot water, or dry heat, approved by the department that achieve this specification; or

(ii) such other methods approved in writing by the department which achieve comparable results.

(14) Untreated firewood shall mean any firewood that has not been treated in accordance with the provisions of paragraph (13) of this subdivision including any wood by-products of the manufacturing operations or facilities listed in paragraph (3) of this subdivision, which are not treated in accordance with paragraph (13) of this subdivision, and which are destined for use as fuel.

(15) 50 miles shall mean a 50-mile linear distance determined by using the scale-bar on a New York State road map, atlas, or gazetteer.

(b) Prohibitions.

(1) No person shall buy, sell, possess, or import, by any means, untreated firewood into this state from any location outside the state.

(2) No person shall buy, sell, or possess untreated firewood within the state without source documentation, as defined in paragraph (12) of this section, or a self-issued certificate of origin, as defined in paragraph (10) of this section.

(3) No person shall buy, sell, or possess untreated firewood produced from trees that are grown in New York State, more than 50 miles from the source of the firewood.

(4) No person shall sell at the retail level treated firewood unless it is labeled in accordance with subdivision (d) of this section.

(5) No person shall buy, sell, possess or import, by any means, treated firewood in this state unless the treated firewood is accompanied by a label as specified in subdivision (d) of this section or a phytosanitary certificate or a plant health certificate.

(c) Untreated firewood.

(1) Firewood dealers of untreated firewood, produced from trees that are grown in the State, shall provide source documentation to all purchasers.

(2) Firewood dealers of untreated firewood shall maintain records of their firewood purchases or procurement to verify the firewood was grown no more than 50 miles from the source. Records shall also include the name and address of the person(s) from whom the firewood was obtained and the date(s) of purchase or procurement. Such records shall be retained for two years and shall be made available for inspection by the department upon request.

(3) Firewood producers of untreated firewood shall provide to firewood dealers written source documentation for all untreated firewood supplied to them.

(4) Firewood producers of untreated firewood shall maintain records of log or wood purchases or procurement to verify firewood was grown no more than 50 miles from the source. Records shall also include the name and address of the person(s) from whom the logs or wood made into firewood were obtained and the date(s) of purchase or procurement. Such records shall be retained for two years and shall be made available for inspection by the department upon request.

(d) Treated firewood.

(1) Treated firewood sold at the retail level in New York shall be labeled "New York-Approved Treated Firewood/Pest-Free" or shall include a phytosanitary certificate or plant health certificate. The above wording or certification shall be prominently displayed on the bill of sale or lading, purchase receipt or invoice for bulk shipments or sales or on a label affixed to any bundle or package. This labeling shall constitute the firewood dealer's certification that the firewood is treated firewood.

(2) Treated firewood sold at the wholesale level in the state shall be labeled "New York-Approved Treated Firewood/Pest-Free" or shall include a phytosanitary certificate or plant health certificate. The above wording or certification shall be prominently displayed on the bill of sale or lading, purchase receipt or invoice for bulk shipments or sales or on a label affixed to any bundle or package. This labeling shall constitute the firewood producer's certification that the firewood is treated firewood.

(3) Producers of "New York-Approved Treated Firewood/Pest-Free" firewood shall maintain, for at least two years from the date of treatment, records that document the treatment method and the volume of firewood treated, and shall also allow department officials to inspect such records and the facilities used to treat firewood upon request.

(e) Firewood for personal use.

(1) Persons who possess untreated firewood not purchased from a firewood producer or a firewood dealer, for personal use, must complete and possess a self-issued certificate of origin.

(2) A self-issued certificate of origin shall be signed by the person possessing the untreated firewood for personal use.

(3) No person shall possess untreated firewood for personal use more than 50 miles from the origin of the firewood.

(4) Untreated firewood which originates from a person's own property, for personal use on that same property, is exempt from the requirements of this section.

(5) Persons possessing untreated firewood or treated firewood on property other than State land under the department's jurisdiction as described in section 190.0(a) of this Title or under the jurisdiction of the New York State Office of Parks, Recreation and Historic Preservation where it will be used for fuel are exempt from the requirement of possessing source documentation or a self-issued certificate of origin as specified in paragraph (b)(2) of this section and paragraph (1) of this subdivision, or a label, phytosanitary certificate or a plant health certificate as specified in paragraph (b)(5) of this section.

(f) Enforcement.

In addition to any other enforcement authority provided by law or regulation, where there is reasonable cause to believe that untreated firewood is moving or may have been moved in violation of any provision set forth in this section and/or section 192.6 of this Part, any law enforcement officer may order that such untreated firewood be returned to its source, or confiscated and destroyed, at the expense of the violator and without cost to the State, in order to control the spread of forest insects in any stage of development and forest tree diseases pursuant to ECL section 9-1303.

6 CRR-NY 192.5

Current through April 1, 2017

V. OREGON

[Department of Agriculture](#)

[Chapter 603](#)

[Division 52](#)

[PEST AND DISEASE CONTROL](#)

603-052-1080

Firewood Restrictions To Prevent Transport Of Invasive Species

(1) This rule is established as authorized under ORS 561.510, 570.305 and 570.720 to protect the State of Oregon from the introduction of invasive species, including non-native wood-boring insects and plant diseases, transported on firewood from outside the Pacific Northwest. The requirements set forth in this rule do not apply to any non-firewood product or logs for industrial use.

(2) The following definitions apply to OAR 603-052-1080 and 603-052-1090:

(a) “Approved Pacific Northwest Firewood” is a labeling standard for firewood sold by a firewood producer who complies with the provisions of section (4)(a)(C) of this rule.

(b) “Approved Pest Free” is a labeling standard (i.e., source labeling requirement) for firewood that complies with the provisions of sections (4)(b)(A) of this rule.

(c) “Department” means the Oregon Department of Agriculture.

(d) “Firewood” means any whole or split pieces of wood less than 48” in length or other wood of any tree species cut into a form and size appropriate for use for fuel wood uses, such as home heating or campfires. Compressed wood bricks, pellets, and other processed wood products used for fuel wood uses such as home heating or campfires are excluded from this definition.

(e) “Firewood seller” means any person or business that supplies or sells firewood.

(f) “Invasive Species” means nonnative organisms that cause economic or environmental harm and are capable of spreading to new areas of the state.

(g) “Knowingly” means acting with awareness, deliberateness, or intention.

(h) “Pacific Northwest” means the states of Oregon, Washington, and Idaho.

(i) “Person” means an individual, organization, corporation or partnership, other than the Department, public authority, county, town, city, municipal agency or public corporation.

(j) “Phytosanitary certificate” means an official document issued by an exporting county, state, or country to verify a shipment has been officially inspected and meets the import requirements of the State of Oregon.

(k) “Plant Pest” means a disease, microscopic organism, insect, nematode, arthropod, parasite or any other biotic agent capable of having a significant adverse effect on the environmental quality of Oregon or of causing a significant level of economic damage in Oregon, including but not limited to damage to agricultural, horticultural or forest plants, crops, commodities or products.

(l) “Source” means the state from which the firewood was harvested.

(m) “Untreated Firewood” means any firewood that has not been treated in accordance with the provisions of section (4)(b)(A)(Approved Pest Free) of this rule.

(n) “Violation” means the failure to comply with any requirement of these rules. Each day a violation continues after the time established for compliance shall be considered a separate violation unless the department finds that a different period of time is more appropriate to describe a specific violation event.

(3) No person shall transport, by any means, untreated firewood into the State of Oregon, for sale or use within the State from any location outside of the Pacific Northwest.

(4) Restrictions on transport, sale, or possession of untreated firewood within Oregon:

(a) Pacific Northwest-harvested firewood:

(A) Persons who cut and burn firewood in Oregon for personal use are exempt from these documentation, treatment, and labeling requirements.

(B) Firewood harvested and then sold in the Pacific Northwest does not need to be treated or labeled.

(C) Optional labeling for untreated Pacific Northwest Firewood: Sellers of Pacific Northwest Firewood:

(i) May choose to use the “Approved Pacific Northwest Firewood” designation on firewood that has its source wholly within the Pacific Northwest and outside of declared quarantine areas for invasive species (ORS 561.510, 561.560, OAR 603-052-1230). A summary of Oregon’s plant quarantines is available at <http://nationalplantboard.org/laws/index.html>.

(ii) Firewood sellers using the optional “Approved Pacific Northwest Firewood” label shall maintain records that include, at a minimum, the source(s) of the firewood for a minimum of one (1) year. Upon request, such records shall be made available for inspection to the Department.

(iii) Are required to provide to all purchasers (except to the final end-use customer, unless requested), the source of the firewood and the contact name of the seller.

(D) Landowners who occasionally allow or charge a fee for cutting firewood on their land for personal use in Oregon are not considered sellers.

(b) Firewood harvested from outside the Pacific Northwest:

(A) Firewood from outside the Pacific Northwest must be heat treated to a minimum wood core temperature of 60oC (140oF) for at least 60 minutes or equivalent treatment as approved by the Department. Air drying of firewood is

insufficient and is not approved by the Department. Post treatment firewood must be stored in a manner to minimize re-infestation.

(B) Treated firewood meeting the standard in (A) above, whether harvested from the PNW or elsewhere may be labeled as “Approved Pest Free.”

(C) Sellers of “Approved Pest Free” firewood shall maintain, for at least two (2) years from the date of treatment, records that document the source of the wood, the treatment method and the volume of firewood treated. Official phytosanitary certificates from a firewood seller’s State Department of Agriculture or official equivalent may be used to verify the treatment method and volumes of treated firewood produced. Regulatory officials shall be allowed to inspect such records and the facilities used to treat and store the firewood upon request.

(D) Using an “Approved Pest Free” label fraudulently is subject to civil penalties as described in section (5).

(5) Violation of rule. Violators of this rule will be subject to civil penalties of up to \$10,000 as provided by ORS 561.995 and described in OAR 603-054-0070. Commodities shipped in violation of this rule may be treated, destroyed, or returned to the point of origin without expense or indemnity paid by the state. Civil penalties recovered under this section shall be deposited in the Invasive Species Control Account ORS 570.810.

Statutory/Other Authority: ORS 570.305, 561.510 & 570.720

Statutes/Other Implemented: ORS 570.720

History:

DOA 28-2012, f. & cert. ef. 12-3-12

NOTICES

DEPARTMENT OF AGRICULTURE

Order of Quarantine; Firewood

[40 Pa.B. 441]

[Saturday, January 16, 2010]

Recitals

- ii. The Plant Pest Act (act) (3 P. S. §§ 258.1-258.27) empowers the Department of Agriculture (Department) to take various measures to detect, contain and eradicate plant pests in this Commonwealth.
- iii. The powers granted the Department under section 21 of the act (3 P. S. § 258.21) include the power to establish quarantines to prevent the spread of plant pests within this Commonwealth.
- iv. Under its responsibilities under the act, The Department issued an Order of Quarantine published at 37 Pa.B. 3454 (July 21, 2007), placing restrictions on the circumstances under which firewood may be imported into this Commonwealth.
- v. The July 2, 2007, Quarantine Order exempted kiln-dried, packaged firewood clearly marked with the producer's name and address and labeled as "Kiln Dried" and/or USDA Certified are exempt from the firewood importation prohibition.
- vi. The Department believes it is reasonable to *expand* the exemption allowing the importation of certain kinds of packaged firewood to include heat-treated or fumigated firewood, as well.
- vii. The reasons for this Quarantine Order remain the same as set forth in the referenced July 2, 2007, Quarantine Order.

Order

Under authority of section 21 of the act (3 P. S. § 258.21) the Department hereby orders the following:

1. The July 2, 2007, Quarantine Order, published at 37 Pa. B. 3454, is hereby rescinded and supplanted by this Order. This Order is substantively identical to that earlier order, except for the expansion of the exemption allowing the importation of certain types of packaged firewood described in Paragraph No. 3.
2. The movement of firewood of all types and species into this Commonwealth is prohibited. Firewood includes all wood, processed or unprocessed, coniferous or hardwood, meant for use in a campfire or other outdoor or indoor fire. This prohibition does not apply to the transportation of sawlogs, pulpwood or wood chips to facilities for processing into lumber, paper or manufactured wood products.

Examples of circumstances under which firewood from out-of-State is brought into this Commonwealth include instances where firewood is transported to public and private campgrounds by campers, or to sporting events and other events where travelers camp outdoors; or to activities such as Civil War reenactments where wood is used for cooking and evening campfires; or as bulk firewood sold by the truckload or some other volume of measure (cord, face cord, rick, and the like), or as firewood purchased for indoor residential use.

3. Kiln-dried, heat treated or fumigated, packaged firewood clearly marked with the producer's name and address and labeled as Kiln-dried, Heat Treated, Fumigated and/or USDA certified is exempt from the provisions of this quarantine order.
4. Persons found in violation of this quarantine order will face the potential of summary criminal prosecution and a fine of not more than \$300 for each offense, or a civil penalty of up to \$20,000, or both.
5. The Department will consult with USDA, other state agencies and the Pennsylvania State University Cooperative Extension with respect to the most efficacious measures to survey for and detect ALB, EAB and other wood-feeding insects to slow the spread or eradicate these pests.
6. This quarantine is effective as of December 31, 2009, and shall remain in effect until repealed by subsequent order.

RUSSELL C. REDDING,
Secretary

[Pa.B. Doc. No. 10-108. Filed for public inspection January 15, 2010, 9:00 a.m.]

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VII. UTAH

R68. Agriculture and Food, Plant Industry.

R68-23. Utah Firewood Quarantine.

R68-23-1. Authority and Purpose.

Promulgated under authority of 4-2-2 and 4-35-9, this rule is enacted to prevent the movement of invasive insects transported by firewood, including, but not limited to *Agrilus planipennis* (Emerald Ash Borer), *Anoplophora glabripennis* (Asian Longhorned Beetle), *Solenopsis invicta* (Red Imported Fire Ant).

R68-23-2. Definitions.

- (1) "Department" means the Utah Department of Agriculture and Food.
- (2) "Firewood" means any kindling, logs, timber, or other portions of a tree of any species four (4) feet or less in length, cut or split, or intended to be cut or split, into a form and size appropriate for use as fuel for fires in open pit, grill, fireplace, stove or other wood burning furnaces or devices in any form commonly used for burning in campfires, stoves or fireplaces.
- (3) "Invasive insects" means any nonnative organisms that cause economic or environmental harm and are capable of spreading to new areas of the state.
- (4) "Person" means any individual, organization, corporation, or partnership.
- (5) "Sales By Package" means a package of firewood offered, exposed, or held for sale.
- (6) "Sale From Bulk" means firewood offered, exposed, or held for sale which is not packaged.

R68-23-3. Area Under Quarantine.

(1) All areas of the United States and Canada that are declared high risk by the United States Department of Agriculture or Utah Commissioner of Agriculture and Food.

(2) The department shall keep an updated list of quarantine areas.

R68-23-4. Articles and Commodities Under Quarantine.

(1) This quarantine applies to all firewood offered, exposed, or held for sale in the State of Utah.

R68-23-5. Restrictions.

- (1) All firewood transported, offered, exposed, or held for sale in the state shall be labeled in accordance with R68-23-6.
- (2) A person may not transport, offer, expose, or hold for sale firewood from an area under quarantine in this state unless the firewood is treated in accordance with R68-23-7.
- (3) Any person that transports or supplies firewood in this state for other than personal use shall maintain records, certificates, or other documents for two (2) years.

R68-23-6. Labeling Requirements.

- (1) Each Sales By Package must bear a clear and conspicuous declaration of the following:
 - (a) identify the package as containing firewood, unless the contents can be easily identified through the wrapper or container;
 - (b) net quantity in terms of weight, measure, or count;
 - (c) name and address of the manufacturer, packer, or distributor of the firewood, if the package was not produced on the premises where they are offered, exposed, or held for sale; and
 - (d) origin of harvest identified by county or counties and state.
- (2) Each Sale From Bulk must be accompanied by a delivery ticket containing the following information:
 - (a) name and contact information of the person who weighed or measured the firewood;
 - (b) date delivered;
 - (c) quantity delivered, by cords or cubic meters, including fractions or count of individually wrapped packages delivered, if more than one is delivered;
 - (d) quantity on which the price is based, if different than the quantity delivered;
 - (e) identity of the type of firewood in the most descriptive terms commercially practicable; and
 - (f) origin of harvest by county or counties and state.

R68-23-7. Importation and Treatment.

- (1) All firewood shall be prohibited entry into Utah from an area under quarantine unless the required certification is produced.
- (2) Certification shall be issued by an authorized state agricultural official of the state of origin.
- (3) The certificate shall bear the:
 - (a) name and address of the exporter of the firewood:
 - (b) name and address of the importer of the firewood;
 - (c) inspection/certificate date; and
 - (d) signature of authorized state agricultural officer.
- (4) Such certificates shall be issued only if the shipment conforms to the heat treatment procedure listed below:
 - (a) the temperature of the center of the wood is raised to at least 160 deg F (71.1 deg C);
 - (b) the center temperature is maintained at 160 deg F (71.1 deg C) for at least 75 minutes;
 - (c) internal wood temperatures are obtained and verified by sensors located in the larger pieces of firewood at representative locations within the stack;
 - (d) sensors are placed in large firewood pieces in the coldest areas of the kiln as identified by the department;
 - (e) the full depth of the monitoring probes are placed in the wood;

- (f) monitoring probes are sealed within the wood by a gasket, non-hardening putty, or similar material to prevent the probe reading ambient air temperature rather than the temperature of the wood;
- (g) temperature monitoring equipment must be able to provide a record of the treatment that identifies each sensor and indicates time and temperature; and
- (h) portable, stand-alone sensors, the temperature monitoring equipment (thermocouples, temperature data loggers, etc.) must be:
 - (i) accurate to within +/- 0.9 deg F (0.5 deg C) at the treatment temperature,
 - (ii) capable of collecting temperature data at least once every five (5) minutes; and
 - (iii) capable of recording or storing data for 30 days.
- (5) The certifying official shall mail, FAX or e-mail a copy of the certificate to Director, Plant Industry Division, Utah Department of Agriculture and Food, 350 North Redwood Road, PO Box 146500, Salt Lake City, Utah 84114-6500, FAX: (801) 538-7189, e-mail: UDAF-insects@utah.gov.
- (6) The exporter shall give advance notification of regulated firewood shipment to the department.
- (7) The importer shall notify the department of the arrival of firewood imported under the provisions of this quarantine and shall hold such firewood for inspection.
- (8) The department shall inspect or release the firewood within in 10 business days of delivery.

R68-23-8. Records.

- (1) The records, certificates or other documents of a person who transports or supplies firewood for other than personal use shall include information regarding the source of the firewood, any treatment of the firewood and the disposition of the firewood.
- (2) The records, certificates or other documents of a person that sells firewood shall include information regarding the source and supplier of the firewood.
- (3) The department may inspect the records, certificates, documents, inventory, and facilities of a person that transports firewood or of a firewood supplier or seller at any time during reasonable business hours and may take samples of firewood for purposes of detecting invasive insects.

R68-23-9. Exemptions.

- (1) Firewood harvested in areas other than those under quarantine are exempted from the treatment requirements in R68-23-7.
- (2) The department may issue an exemption to the treatment for areas under quarantine upon request.
- (3) Requests for an exemption shall be made to the department in writing and shall contain the:
 - (a) identity of the firewood importer;
 - (b) origin of harvest identified by county or counties and state; and
 - (c) type of wood to be imported.
- (4) The department shall respond in writing within 10 business days of the request for an exemption.
- (5) Exemptions are valid for a twelve (12) month period.

(6) The department may at any time revoke an exemption do to a change in the risk assessment.

(7) The department shall notify the firewood importer, in writing, identifying the reason(s) for the revocation.

R68-23-10. Enforcing Powers.

(1) Authorized agents of the department shall refuse admittance into Utah any firewood products that do not meet the provisions of this quarantine.

(2) Any shipment found within Utah in violation of this quarantine shall be treated to comply with this quarantine or be returned to the exporter at once.

R68-23-11. Violations and Penalties.

(1) Any fraudulent use of incorrect information on any forms used in the enforcement of this quarantine is a violation of this quarantine.

(2) Any intentional movement of firewood from an area under quarantine is a violation. Failure to perform or have inspection will constitute intentional movement as well as willfully moving property after notification.

(3) Failure to give advance notice to the department is a violation of this quarantine.

(4) Failure to comply with any provisions of this quarantine shall be a violation of this quarantine.

(5) Violators of this quarantine shall be subject to civil penalties of not more than \$5,000 per violation as defined in 4-2-15.

(6) Each improperly labeled, transported, or treated package or bulk sale shall be a separate violation of this rule.

KEY: firewood, quarantine, insects

Date of Enactment or Last Substantive Amendment: August 3, 2017

Authorizing, and Implemented or Interpreted Law: 4-2-2; 4-35-9

VIII. VERMONT

Rule Governing the Importation of Untreated Firewood into the State of Vermont

Section 1. Authority

This Rule is adopted pursuant to the authority of 10 V.S.A. §2681, 10 V.S.A. §2661, 2662, 2663 and 2664. Pursuant to 10 V.S.A. §2681, the Commissioner of the Department of Forests, Parks, and Recreation is required to adopt rules regulating the importation of untreated firewood into the State of Vermont. The Commissioner is authorized to conduct surveys and investigations of public and private lands and to require control measures and take other actions to prevent or control the infestation of forest pests pursuant to 10 V.S.A. §§2661-2664.

Section 2. Policy and Purpose

The purpose of this Rule is to protect forest health by preventing the long-distance movement of wood-borne invasive forest pests into the State of Vermont through the transportation of untreated firewood into the State.

Section 3. Definitions

The following definitions shall apply in the interpretation and enforcement of this Rule.

1. "Commissioner" means the Commissioner of the Department of Forests, Parks and Recreation or the Commissioner's designated representative.
2. "Firewood" means untreated or treated wood processed for residential, recreational, or commercial use in any wood-burning appliance or fireplace, either indoor or outdoor, that is cut to a length less than 48 inches, either split or unsplit. "Firewood" shall not mean wood chips, wood pellets, pulpwood, logs 48 inches or more in length, or other wood sold or transported for manufacturing purposes.
3. "Invasive species" means (A) nonnative plant pests that are capable of spreading into the State and that threaten forest health; and (B) native plant pests, designated by the Commissioner, that are present in the State, that are capable of spreading to new areas of the State, and that threaten forest health.
4. "Origin" means the location where the tree, from which the firewood was cut, was grown, and any other location where the firewood was cut, processed, or stored.
5. "Person" means any individual or combination of individuals, partnership, corporation, company, society, association, governmental organization, university, or other entity and each officer, agent, or employee.
6. "Plant pests" shall be defined as in 6 V.S.A. § 1030(12).
7. "Quarantine" means a legal declaration or rule adopted by the Commissioner to prevent the spread of highly injurious plant pests which specifies the plant pest, plants, parts of plants, plant products or the regulated articles, conditions governing movement, the area or areas quarantined, and any exemptions.
8. "Regulatory agency" means the United States Department of Agriculture or other agency that regulates plant pests in any state of the United States, Canadian province, or country where firewood is treated or is under a compliance agreement regarding treatment.

9. "Treated firewood" means firewood that has been processed and treated in a manner sufficient to prevent invasive species from surviving, as set forth in section 4.3 of this Rule.

10. "Untreated firewood" means firewood that is not "treated firewood."

11. "Wood sold or transported for manufacturing purposes" includes wood sawn into boards, planks, or structural members such as beams.

Section 4. Firewood Quarantine

4.1 No person shall transport untreated firewood into the State of Vermont from an origin outside the State of Vermont.

4.2 "Treated firewood" may be transported into the State of Vermont from an origin outside the State of Vermont, unless prohibited by any other state or federal rule or quarantine.

4.3 Firewood Treatment Requirements

Firewood shall be considered "treated firewood" when it has been heat treated in accordance with the following requirements:

(a) Treated Firewood must be heat treated to reach and maintain a minimum core temperature of 160° F (71.1° C) for at least 75 minutes.

(b) The heat treatment must be conducted at a facility that is certified by a regulatory agency to be capable of achieving the standard in 4.3(a). Heat treatment may employ methods approved by the regulatory agency to achieve this standard, including kiln-drying, steam, hot water, dry heat, or other methods. The heat treatment facility shall maintain records documenting the treatment method employed, the volume of firewood treated, the duration of treatment and the date of treatment. Such documentation shall be maintained by the treatment facility for at least three years and shall be made available for inspection by the Commissioner upon request.

(c) Treated firewood must be accompanied by certification of treatment stating that the firewood has been heat treated to reach and maintain a minimum core temperature of 160°F for at least 75 minutes. The certification may be included in a phytosanitary certificate, invoice, bill of lading, label or other documentation which includes the name and physical address of the heat treatment facility and the name of the regulatory agency that certified the facility.

4.4 Untreated firewood from an origin inside the State of Vermont may be transported through an adjacent state to reach a final destination within Vermont provided that it is not prohibited by any other state or federal rule or quarantine, and there are no stops in the adjacent state except for dropping off loads, refueling, or traffic conditions such as traffic lights or stop signs.

Section 5. Investigations and Controls

5.1 The Commissioner may inspect at reasonable times any public or private lands to determine the threat or presence of infestations and control of forest pests.

5.2 The Commissioner may inspect at reasonable times any firewood transported into the State of Vermont from an origin outside the State of Vermont and all documentation of any treatment of any firewood.

5.3 The Commissioner may require any person that possesses firewood from an origin outside the State of Vermont that is infested with an invasive species to:

- (a) Immediately treat the firewood in compliance with the firewood treatment standards in Section 4.3 of this Rule;
- (b) Immediately destroy the firewood as directed by the Commissioner; or
- (c) Comply with any other control required by the Commissioner.

Section 6. Waiver of Quarantine Requirements

6.1 Upon written request, the Commissioner may waive some or all of the requirements or prohibitions of this Rule if the Commissioner determines that the requested waiver is in the public interest and poses minimal threat to forest health.

6.2 A request for a waiver shall include the following information:

- (a) The origin(s) of the firewood;
- (b) When the firewood will be transported into Vermont;
- (c) The intended destination(s) and use(s) of the firewood in Vermont;
- (d) The amount of firewood subject to the waiver request;
- (e) The identification of the person(s) transporting the firewood;
- (f) If the firewood has been or will be treated: the type of treatment and the name(s) and location(s) of the treatment facility or a copy of a compliance agreement issued by a regulatory agency; and
- (g) Any additional information that would assist the Commissioner.

6.3 The Commissioner may deny a waiver, or grant a waiver in whole or in part. The Commissioner may impose any condition which, in the opinion of the Commissioner, will ensure that the importation of firewood poses minimal threat to forest health in the State of Vermont.

6.4 The Commissioner may at any time for any reason modify or revoke a waiver previously issued.

Section 7. Enforcement

7.1 Confiscation and Disposal

The Commissioner may confiscate and destroy any firewood from an origin outside of the State of Vermont that is transported into Vermont in violation of the requirements of this Rule. The Commissioner shall not be required to compensate any person for confiscation and destruction of firewood under this Rule.

7.2 Penalties

Pursuant to 10 V.S.A § 2681, any person or employee or agent of that person who violates any provision of this Rule shall be subject to:

- (a) An enforcement action pursuant to 10 V.S.A. chapter 201; or
- (b) a civil citation under 10 V.S.A §8019

Section 8. Effective Date

This rule shall take effect May 1, 2016.

C. EXAMPLE COMPLIANCE AGREEMENTS

I. FLORIDA

Summary statement: Commercial entities must have a Master Permit issued by the state that outlines the conditions under which firewood may be imported into Florida. Firewood imported into the state must be certified as treated in accordance with the USDA APHIS PPQ Treatment Manual (Rev. 05/2012), Treatments and Schedules T312 and T31. This allows for heat, fumigation, or chemical treatments of wood products. There are exemptions for out-of-state firewood produced within a 50 mile radius of a Florida destination. There are record-keeping requirements.

Benefit: Verified treatment of firewood entering the state under Master Permit system.

Advantages: High confidence that imported firewood has undergone disinfestation to reduce risk. High traceability and accountability of firewood.

Disadvantages: Master Permit system can be difficult for firewood producers to navigate, relying on certification programs of other states, most effective to implement in a state with a plant inspection station system already in place.

II. ILLINOIS

Summary statement: Commercial entities must apply to be a registered firewood importer if they want to bring in firewood from out-of-state. There is no treatment requirement other than what would be applicable due to other quarantine regulations. For example, firewood from Michigan destined for central Illinois would need to have a Federal Compliance Agreement for gypsy moth.

Benefit: Ability to trace firewood back to its source.

Advantages: Inexpensive to operate. Potential source of revenue (\$25 per importer per year). Opportunity to address quarantine violations before they occur.

Disadvantages: Doesn't necessarily discourage long-distance transport of firewood and may do little to inhibit the spread of non-regulated pests and disease.

III. INDIANA

Summary statement: State properties have a rule that firewood can only be sold to a state park, reservoir, state forest or state fish and wildlife property if under Compliance Agreement from the USDA APHIS or Indiana DNR. Indiana accepts four compliant treatment options for firewood: 1) fumigated using schedule T404-b-1-1 methyl bromide by a licensed fumigator at 5 lb/1000 cubic feet for 16 hours at a temperature at or above 4°C (40°F), 2) heat treated using schedule T314-C: 71.1°C (160°F) for 75 minutes, 3) debarking, or 4) seasoning firewood for one full year and ensuring that the moisture content is less than 20%. Approximately 95-98% percent of firewood producers in Indiana choose the seasoning certification option. These producers sign a Compliance Agreement with the state and their company information is listed on the state website. Visitors bringing firewood with them for personal use at the park may comply with the requirement with a visual inspection of the firewood upon entry to ensure that it is appropriately de-barked.

Benefit: Meets the requirements of state law regarding bringing firewood to state properties.

Advantages: Relatively inexpensive to operate though staff time is needed for Compliance Agreements, inspections and administration. Treatment requirements are not difficult to meet, making the program accessible to more producers.

Disadvantages: State certification is only recognized by Indiana state properties. Program does little to discourage long distance movement if wood isn't destined for a state property or crosses a quarantine line. There is varying information on whether one year of seasoning is sufficient to ensure wood is free from emerald ash borer.

IV. NEW HAMPSHIRE

Summary statement: Compliance Agreements are available from the State of New Hampshire for: 1) certified heat-treatment kilns receiving untreated out-of-state wood for treatment; 2) haulers transporting out-of-state firewood to compliant heat treatment kilns; 3) firewood suppliers harvesting firewood in New Hampshire, processing out of state, and then distributing back into New Hampshire; and 4) another process, approved by both Departments with quarantine oversight, shown to provide protection against a range of pathogens and pests, and which process can be documented and reported. There are record keeping requirements, use of labels and forms, and potential other restrictions based upon type of wood moved, and timing of harvests and transportation. Those with Compliance Agreements to process New Hampshire wood in another state usually require permission from that state to import New Hampshire-origin firewood, as Maine and Vermont both also have exterior firewood quarantines.

Benefit: Based on risk-mitigation of firewood rather than origin of firewood and presumed known pest populations.

Advantages: Partnerships with firewood kilns that are reducing risk from firewood. Lower heat-treatment standards means that there are several certified kilns in the state that are able to use this program. Recognition of historical movement of firewood across state lines for processing in a small state with long borders. Use of decals to mark trucks with compliance agreements communicates compliance with enforcement personnel, receiving kilns, and the public.

Disadvantages: Limited enforcement personnel results in uncertain levels of non-compliance. Commitment to communication with the industry is necessary as well as staff hours to oversee compliance agreements. Requires transporters to maintain different types of records (i.e. asking for type of wood such as oak, ash, maple, rather than the usual descriptor of mixed hardwoods) than they are used to, resulting in non-compliance issues requiring additional oversight and training.

V. VERMONT

Summary statement: Vermont issues a "waiver" of quarantine requirements upon request if the Department can determine that the request to import firewood is in the public interest and poses minimal risk to forest health. The waiver request is based upon information about both the origin and destination of firewood, amount, type, timing of transportation, reason for the request, if any treatments have occurred, transporter's contact information, and any other supporting information.

Benefit: Provides the ability to waive the quarantine under conditions merited as low phytosanitary risk, with some level of control as to what enters the state.

Advantages: Provides flexibility to the state with requests for importation of firewood. Provides a level of traceability of wood entering the state. Provides an avenue for compliance without significant cost to the producer under conditions that have been determined to be low risk.

Disadvantages: Necessary requirements for approval not clearly stated. State approves requests on a case-by-case basis which can cause some difficulties if decisions are challenged.

D. EXAMPLE CERTIFICATION PROGRAMS

I. MINNESOTA

Summary Statement: Firewood producers are eligible for certification if they demonstrate the ability to heat their firewood to either the 60°C for 60 minutes or 71.1°C for 75 minutes heat treatment standard. The lower standard is the minimum for participation in the program, but Minnesota will include the higher treatment on the producer's stamp if needed for interstate shipments.

Benefit: Consumer demand for certified firewood; especially from gas stations and convenience stores that may not wish to risk any potential complications involved with selling non-certified firewood.

Advantages: State uses Federal heat treatment standards to help ensure product uniformity. Permanent staff dedicated to firewood helps ensure consistency.

Disadvantages: Annual certification fee (\$2,000) may be a barrier to some smaller producers.

II. WISCONSIN

Summary Statement: The DATCP Certified Firewood dealer program offers certification to producers that either heat-treat to the 60°C for 60 minute standard, that season their firewood for a full 24 months, or conduct an alternate approved practice. Certified wood is required to be safeguarded from gypsy moth re-infestation. Early in the program, debarking firewood was a certified process. Debarking was removed as a treatment option due to concerns from insects and pathogens present below the outer cambium layer.

Benefit: Provides ability to meet certification requirements of other states as well as State of Wisconsin requirements that firewood brought onto state lands must be from within 10 miles of the property or 'certified'. State officials wanted to provide a certification program that was not tied to a specific pest quarantine so the program would remain durable through the up and downs of new pest discovery, spread, and potential deregulation.

Advantages: A seasoning option makes certification a possibility for smaller producers that can't afford to invest in a kiln. The annual certification fee (\$50) is very low and makes the program widely accessible to producers. State staff is trained to test firewood kilns and has the ability to test and vouch for producers that wish to treat at the higher 71.1°C for 75 minutes standard thereby facilitating export to states like New York or Florida that require that treatment level. An established certification program also means that permanent staff is available to help state firewood producers navigate the sometimes complex world of firewood and quarantine regulation (ex: Florida's Master Permit system).

Disadvantages: Wisconsin Certified Firewood is not necessarily recognized as 'certified' by other states because the seasoning option is not generally accepted. Costs of the necessary temperature probes can be expensive and staff and travel time is expected to increase when emerald ash borer deregulation occurs. Currently DATCP and USDA share data and inspection notes, resulting in savings for both agencies.

E. NATIONAL FIREWOOD TASK FORCE RECOMMENDATION: AUDIENCE OUTREACH CHART

Summary statement: To address the risk of interstate forest pest movement on firewood, APHIS worked with state, federal, industry, and private sector organizations to coordinate regulatory, voluntary and outreach strategies to help limit the inadvertent spread of forest pests. Through the National Firewood Task Force, APHIS, the National Plant Board, National Association of State Foresters, U.S. Forest Service, and the National Parks Service developed a set of recommendations for State and Tribal officials to help combat this threat. These recommendations were published in 2010. The National Plant Board's Firewood Work Group used these recommendations as a foundation for further suggestions about regulating the firewood pathway, use of best management practices, and outreach activities. The Audience Outreach chart within the National Firewood Task Force was viewed as comprehensive in establishing audiences, types of venues, and messages for firewood outreach. The Audience Outreach chart has been reproduced in this guide for convenience. The entirety of the 2010 National Firewood Task Force recommendations is also available [online](#).

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.



Help Your State Keep Firewood Safe JOIN TODAY

Active since 2012, Firewood Scout is a simple, user-friendly website directory that encourages the public to purchase local or certified heat-treated firewood. Many states have joined this effort to limit the spread of forest pests. Could your state be next?



FIREWOOD SCOUT

REQUIREMENTS

1. Commit to at least two years of Firewood Scout participation upon setting up an account. First-year fees for creating a new statewide membership are \$2,000, with annual fees thereafter at \$500. Annual fees cover coordinator staff costs, web contractor fees, and other expenses to maintain the site.
2. Cooperate with other state agencies and NGOs in your area. Each partner state is strongly encouraged to build widespread acceptance of and support for Firewood Scout.
3. Designate a single person committed to being the Firewood Scout state contact responsible for corresponding with the national coordinator and performing input and maintenance for your state's Firewood Scout data.
4. Create and maintain a quality firewood vendor database:
 - a. Identify at least 100 firewood vendors (ideally far more) to start your state's directory.
 - b. Continue to enter or update vendors as they are identified throughout the year.
 - c. Conduct an annual review of all state vendors to remove or change listings as needed.
 - d. Identify other (optional) characteristics for display on your state's site (certified heat-treated wood, etc.).
5. Promote Firewood Scout to the public through online and printed materials, including e-mail, social or traditional media, public service announcements, ads, or other methods.

In exchange for the annual Firewood Scout fees paid by partner states, the Sustainable Resources Institute will provide the following to all state partners:

1. Communications assistance to support information sharing throughout the entire network;
2. Technical support, including training and guidance on using and updating the online directory;
3. Maintenance and financial support of the Firewood Scout website; and
4. Basic, customizable template marketing materials (including a postcard template and other design elements).

Thank you for your interest in firewood scout! For more information, please contact:

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G. NATIONAL PLANT BOARD FIREWOOD WORK GROUP CONTRIBUTORS

This work and document would not have been possible without all of the foundational efforts of many state, federal, university and private entities who have contributed to knowledge about movement of pests in firewood. These include research works referenced within the document, The Nature Conservancy’s Don’t Move Firewood program, and state quarantines. Many states contributed input about their programs. States have had the opportunity to vet the accuracy of how their program is represented. This document builds upon the substantial efforts of the 2010 National Firewood Task Force Recommendation. Also reviewed during this process were the Firewood Survey Results and Report, and Communication Strategy documents developed by the Canadian Council on Invasive Species. Several persons provided personal comments and supplied references about heat treatment of firewood and wood disinfection from insects and/or pathogens. These included: Mitchell Dykstra (USDA APHIS PPQ), Scott Myers (USDA APHIS PPQ), Robert Haack (USDA USFS, Retired), Toby Petrice (USDA USFS), Jennifer Juzwik (USDA USFS), and Adnan Uzunovic (FP Innovations, Canada).

Firewood Work Group Membership: Members of the NPB Firewood Working Group came from both small and large states, from states with established firewood programs and states considering a firewood quarantine, states with emerald ash borer and/or Asian longhorned beetle and states without detections of these pests, and represented states in the northeast, Midwest, south, and Pacific Northwest.

Name	State	Organization	Role
Allen, Tim	Wisconsin	Dept. Agriculture, Trade and Consumer Protection	Member
Beute-Glover, Mary	Tennessee	Dept. Agriculture	Member
Gibbs, Ann	Maine	Dept. Agriculture, Conservation & Forestry	Co-chair
Greenwood, Leigh	National	The Nature Conservancy, Forest Health Program	Member
Henstridge, Paula	National	USDA APHIS PPQ	Member
Hildebrandt, Stephen	Florida	Dept. Agriculture and Consumer Services	Member
Katz, Lora E.	National	USDA APHIS PPQ	Moderator
Kenny, Dan	Ohio	Dept. Agriculture	Member
Rogg, Helmuth	Oregon	Dept. Agriculture	Member
Self, Anni	Tennessee	Dept. Agriculture	Member
Shearer, Steven	National	USDA APHIS PPQ	Moderator
Shields, Jonathon	Ohio	Dept. Agriculture	Member
Siegert, Piera	New Hampshire	Dept. Agriculture, Markets & Food	Co-chair

Firewood Guidelines External Reviewers: Following development of the guidelines, five external reviewers were asked to review the draft guidelines for the applicability, relevance, and thoroughness of the content. These reviews were not of the final product, rather they were used to determine if the Firewood Work Group was meeting expectations and to determine if content should be added or removed.

Name	State	Organization	Regional Plant Board
Collins, Joe	Kentucky	University of Kentucky, Dept. Entomology	SPB
Gianino, David	Virginia	Dept. Agriculture & Consumer Services	SPB
McDonald, Joshua	California	Dept. Food & Agriculture	WPB
Rhodes, Dana	Pennsylvania	Dept. Agriculture	EPB
Van Meter, Julie	Nebraska	Dept. Agriculture	CPB