

Protecting Private Campgrounds and Recreational Areas from Invasive Pests in Firewood

A Guide for Owners and Gate Attendants

Invasive Forest Pests Education Program

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Why is Managing Firewood Movement on in Campgrounds Important?

- There are 140 *known* pests and pathogens that are moved in firewood, many of which are **non-native**.
- There are likely many more **unknown** pests moved with firewood that can cause new problems.
- Damage to forests resulting from introduction of these pests is often **devastating** and **irreversible**.
- It is far better to **prevent** introduction than to manage established pests and diseases in the forest.
- All Indiana citizens and visitors to the state have a responsibility to protect our natural resources from destructive pests.

Goal of this training

- **To make private campground and recreational area owners familiar with policies for State DNR properties.**
- **We suggest you use their policies to guide policies on your property.**

Some Known Pests and Pathogens Transported in Firewood

Connecticut Agricultural Experiment Stn.

Asian Longhorned Beetle



This beetle has a wide host range, but prefers maple trees. It has caused the destruction of thousands of trees in Illinois, Massachusetts, New Jersey, New York, Ohio and is not easily detected in infested wood.

Hemlock Woolly Adelgid



This insect, imported from Asia, has devastated hemlock forests in Southern Appalachia and threatens several species with extinction.



Spotted Lanternfly

This insect is quickly spreading from the East Coast. It attacks 70+ plants and its eggs are easily transported in firewood.



Penn State Extension

Spongy Moth

One of the most damaging tree defoliators in the United States, the spongy moth is found primarily in northern Indiana. While they prefer oak, they can attack many species of trees, including beech, poplar, and white pine.

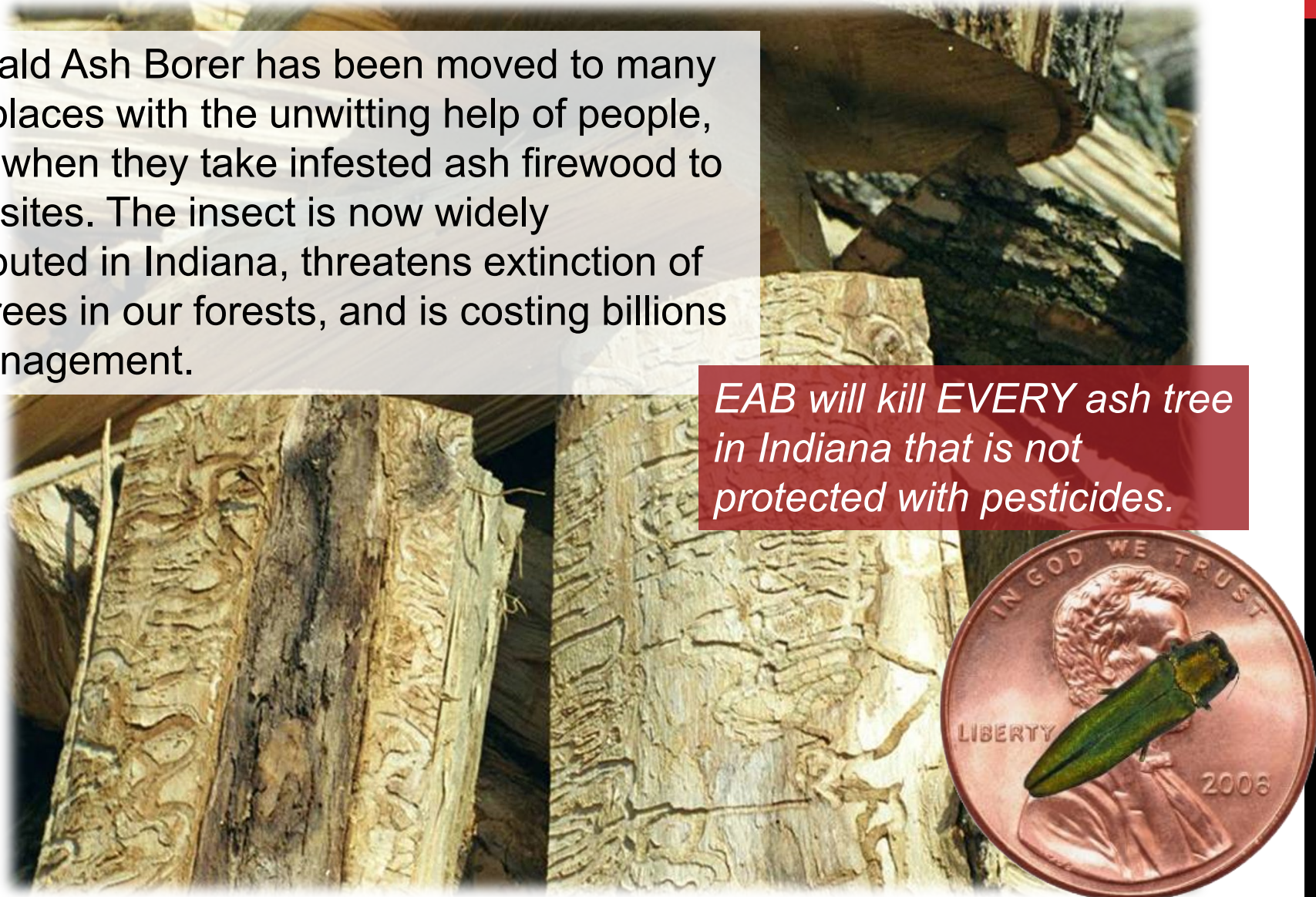


The Case of Emerald Ash Borer:

A good example of firewood gone bad

Emerald Ash Borer has been moved to many new places with the unwitting help of people, often when they take infested ash firewood to campsites. The insect is now widely distributed in Indiana, threatens extinction of ash trees in our forests, and is costing billions in management.

EAB will kill EVERY ash tree in Indiana that is not protected with pesticides.



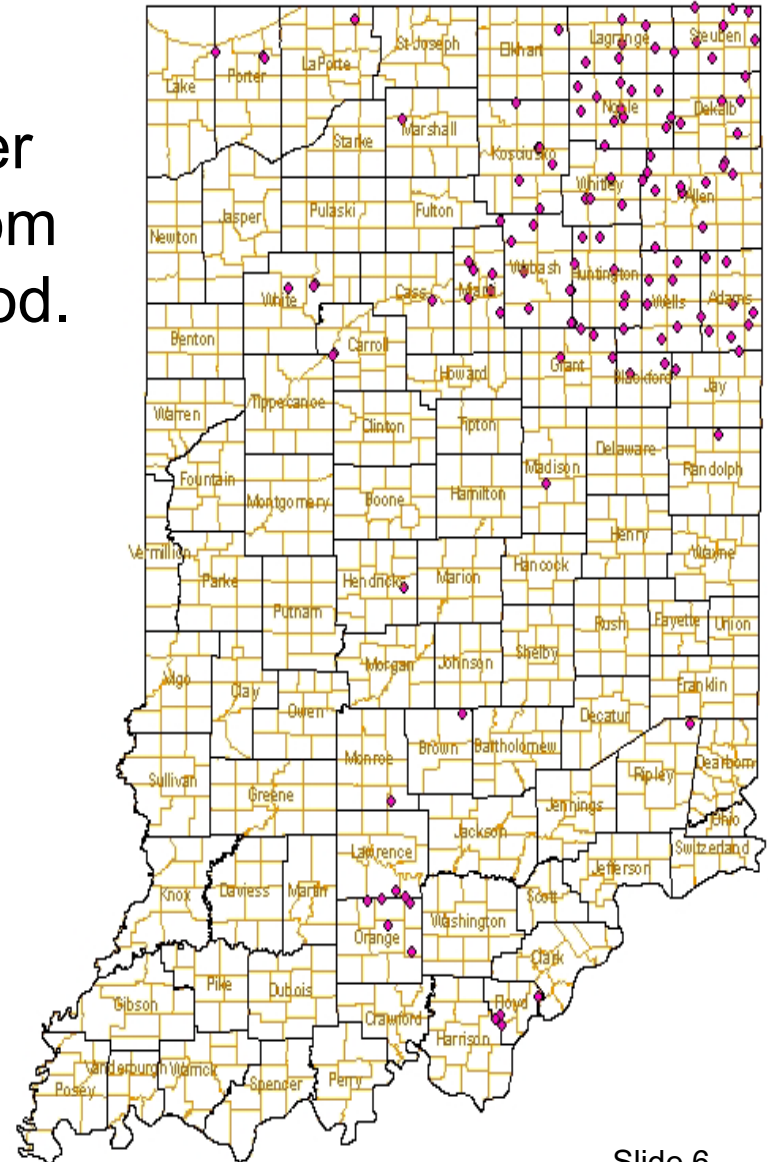
The Case of Emerald Ash Borer:

A good example of firewood gone bad

Red dots indicate known introductions of Emerald Ash Borer in Indiana that directly resulted from movement of infested ash firewood.



This ash tree in an Indiana campground was decimated by EAB.



Problems with Regulating Firewood Movement

1. Laws regarding firewood movement are difficult to enforce.
2. Many people do not know firewood laws or realize the associated risks.
3. EAB only moves $\frac{1}{2}$ mile per year on its own; almost all movement is due to human activity.
4. Firewood is often moved long distances, left behind at campsites, and may even make multiple trips.
5. No place is immune; EAB is found in all counties in Indiana.



The Indiana DNR Firewood Rule for State Parks and Properties:

Rationale:

Management and conservation of the natural and cultural resources of Indiana is central to the mission of the DNR.

Recreational areas are often the first places where invasive forest pests escape into new areas. Therefore, the function of the new rule is twofold:

1. To protect public properties from invasive pests and pathogens.
2. To protect Hoosier forests as a whole by limiting introductions on public lands.



Can Campers Still Enjoy Campfires Without Putting Indiana Forests at Risk?

People may still bring firewood onto DNR properties *if (and only if!)* they follow the firewood rule to make sure the wood is safe.



Firewood brought by campers should be burned completely. They should not leave it for the next camper or take it home with them!

By learning to distinguish safe firewood from unsafe you can help campers ensure they are compliant.

The Firewood Rule:

Formerly a “Policy”, the firewood rule took effect March 17, 2012, and is now enforceable at DNR properties.

Firewood is considered safe to bring onto DNR properties if it meets at least one of the following criteria:

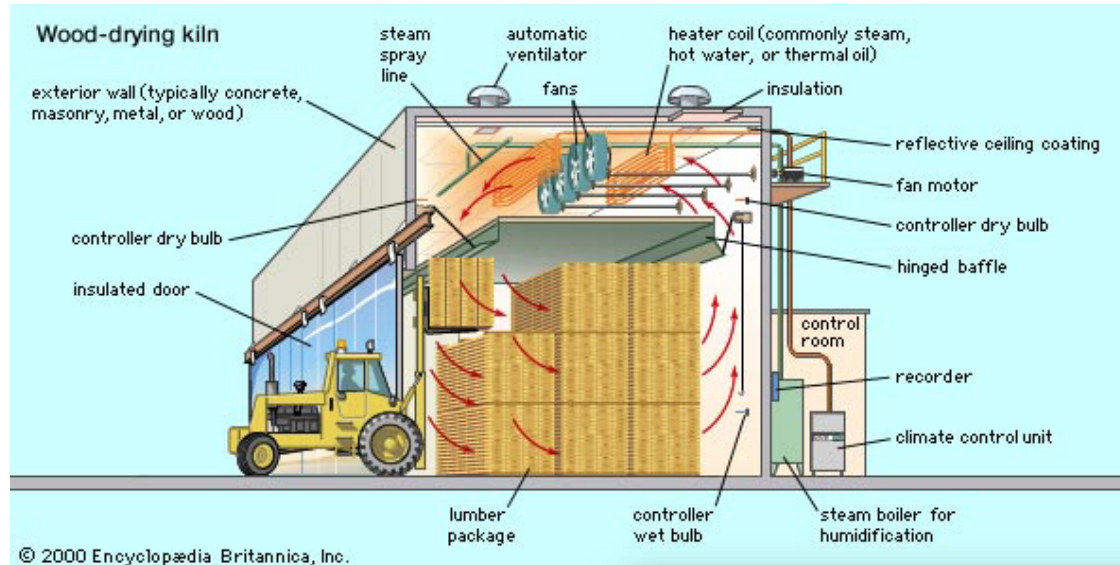
1. Is *kiln-dried*, scrap lumber.
2. Has had *all of its bark removed*
3. Is in a packaged bundle (often purchased from department stores, big box stores, grocery stores, gas stations, etc.) and bears a valid state level compliance stamp which allows out of state movement.
4. Is purchased from a firewood vendor located near the property who supplies a valid *state compliance stamp*.
5. Is purchased from the property’s camp store or from an on-site firewood vendor; this firewood must also bear a state compliance stamp.

We will now discuss each of these in more detail...

1. Kiln-Dried Scrap Lumber

Most insects and pathogens cannot survive prolonged hot temperatures or extremely dry conditions. The process of kiln-drying wood creates both of these conditions, making the wood safe to transport.

**How lumber
is kiln-dried**



**Kiln-dried
lumber has
squared edges
and no bark
remaining**



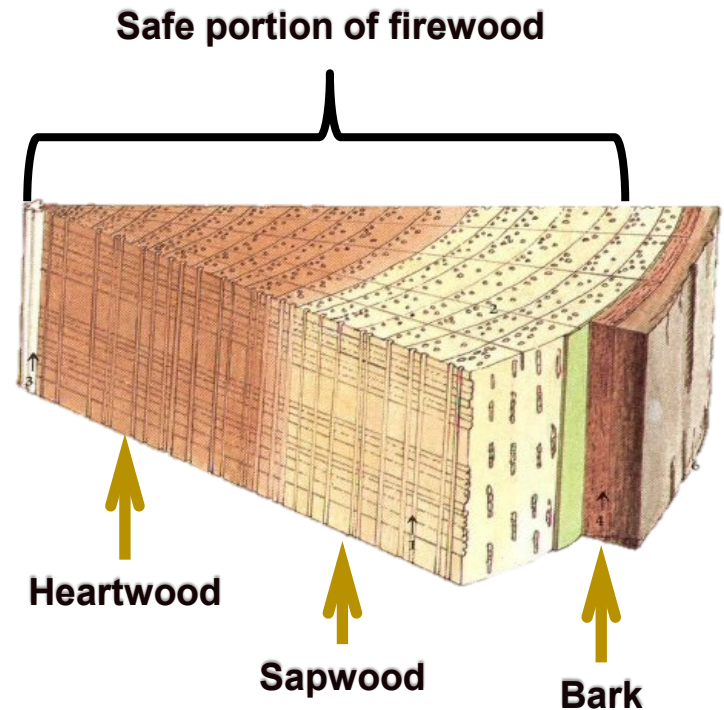
2. Firewood with ALL bark removed

Ideally, one half inch of the sapwood (the layer of the tree just under the bark) should be removed as well.

Completely removing the part of firewood where most insects and pathogens feed, rest, or reproduce reduces risk.

This process will require extra time and effort on the part of the camper.

Any firewood brought onto the property should be inspected by park personnel during the visit.



3. Firewood purchased in a packaged bundle, bearing a valid compliance stamp from another state Department of Ag or DNR.

Firewood that bears these stamps has been treated in a way approved to eliminate insects and diseases, such as heat treating or fumigation.

Is in a packaged bundle (often purchased from department stores, big box stores, grocery stores, gas stations, etc.) and bears a valid state level compliance stamp which allows out of state movement.

Each state uses a different stamp, but most will include a vendor name and label number. Check the firewood for this information.





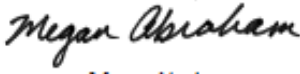
Example of a compliance stamp

4. Firewood is purchased from a firewood vendor located near the property and bears a state compliance stamp.

Many firewood vendors near campgrounds and picnic areas have compliance agreements with the Indiana DNR certifying that their firewood is “forest-safe.” These vendors should provide a State Compliance stamp with the firewood.

The date **MUST BE CURRENT** for the agreement to be valid.



| |
|--|
|  Indiana Department of Natural Resources Division of Entomology & Plant Pathology MCS Auctions DNRP (ES)-54 17 SK 10 Expires: April 2018 |
| This product meets the requirements of the Indiana DNR Property Firewood Rule. (312 IAC 8-1-3 under authority of IC 14-10-2-4 and IC 14-11-2-1) This product is certified for movement ONLY within Indiana. This is NOT a USDA certification |
| Indiana Department of Natural Resources Division of Entomology and Plant Pathology 402 W. Washington St. Rm W-290 Indianapolis, IN 46204 317-232-4120 DNR website: http://www.in.gov/dnr/entomolo/ |
|  Megan Abraham, State Entomologist |

Example of an Indiana State Compliance stamp

5. Firewood is purchased from the property's camp store or an on-site firewood vendor and contains a State Compliance stamp.

Many camp stores on state properties either sell firewood directly to their visitors or have a vendor on site.

Firewood sold in campgrounds must also carry state issued compliance stamps.



Indiana Department of Natural Resources
Division of Entomology & Plant Pathology

Firewood Compliance Agreement Number:

EAB (FW)-25 09 EJB 00

Expires: May 2010

This product meets the requirements of Indiana's
Emerald Ash Borer Quarantine.

(312 IAC 18-3-18 under authority of IC 14-10-2-4 and IC 14-24-3)

This product is certified for movement **ONLY** within Indiana.

Indiana Department of Natural Resources
Division of Entomology and Plant Pathology
402 W. Washington St. Rm W-290
Indianapolis, IN 46204
317-232-4120
DNR website: <http://www.in.gov/dnr/entomolo/>

A handwritten signature in blue ink that reads "Philip T. Marshall".

Philip T. Marshall,
State Entomologist

This product must not leave the state of Indiana under penalty of Federal Law.
For further information, please call USDA APHIS PPQ at 765-497-2400

**Example of an Indiana State
Compliance stamp**

A Special Note: Seasoned vs. Unseasoned Wood

Some wood with a compliance stamp will still have bark. This is because it has been approved by an inspector who assures it has undergone proper *seasoning* or other treatment to eliminate pests.

Properly seasoned wood has common characteristics that inspectors look for before issuing a compliance agreement.



Properly seasoned wood will often have cracks in the ends from the drying process

Moisture meters are devices that are used to determine the amount of water in the wood. Properly seasoned wood will have a moisture content of 20% or less.

A Special Note:

Seasoned vs. Unseasoned Wood

Green wood with bark intact is most likely to harbor pests. Seasoning is the process of letting split wood dry out to be burnt the following year. The lower moisture content and aging reduces the likelihood that the wood will carry pests and pathogens.

Properly seasoned wood will:

- Be darker in color than unseasoned
- Be lighter in weight (there is less water in seasoned wood)
- Have cracks in the end grain
- Have bark that has loosened or fallen away from the wood
- Have a moisture content 20% or less
- Be split and allowed to dry out for at least a year

Firewood campers bring from home cannot have bark because there is no way to inspect everyone's wood to ensure proper seasoning.



A Special Note:

Pine and Spruce Firewood

Formerly, pine and spruce firewood was not regulated. Under the new rule, all firewood is regulated, regardless of species. All bark must be removed from coniferous firewood as well.



Photo: Scott Kinzie



EAB in Indiana



Because EAB has been detected in ALL of the counties in Indiana, the DNR has removed its internal restrictions on movement of firewood between counties.

However, the Firewood Rule continues to restrict movement of firewood on to state-owned properties.

The Rule in a Nutshell:

Help campers remember the
“Three Bs” of firewood:

1. Bring it debarked.

-OR-

2. Buy it stamped.

3. Burn it all!



Expectations of Security Officers, Gate and Campground Attendants

Firewood Checklist:

Ask each camper “Did you bring firewood with you?”

- **If NO:** Provide them with info about the rule, tell them that any firewood purchased must have a state or federal compliance stamp, and they should burn all wood completely before they leave.
- **If YES:** Ask if they bought it or brought it from home?
 - ✓ **If they BOUGHT it:** Ask to see a state or federal compliance stamp.
 - ✓ **If they BROUGHT it from home:** Is it kiln dried scrap lumber or is the bark removed?.

Recommend Sources of Safe Firewood



If campers must surrender firewood or have it confiscated, recommend a local source of safe wood.

1. Your property may have a supply of certified wood on hand for exchange.
2. Vendors with a valid state compliance agreement should provide a copy of the compliance stamp with the firewood they sell. For an updated list of compliant vendors visit:
<https://in.accessgov.com/dnr/Forms/Page/ent/firewood/1>
3. Familiarize yourself with local sources of safe firewood
4. Keep a list of firewood vendors handy to recommend to campers requiring safe wood

Questions You Will Be Asked: And How to Answer Them!!



Brad Bumgardner discusses EAB and firewood with a park visitor at Pokagon.

“How is the Firewood Rule different than the one used for the last few years to slow the spread of Emerald Ash Borer?”

- This new Rule is being implemented because there are over 140 KNOWN potential pests and pathogens that can be moved in firewood – this is not just about the Emerald Ash Borer (EAB)
- EAB is a huge problem, and there is the potential for the same thing to happen with other pests and pathogens that we may or MAY NOT know about.
- **It is better to be proactive than reactive.**

Questions You Will Be Asked: And How to Answer Them!!

“What other pests are in firewood?”

There are many, but the following are of most concern to the DNR: **Asian Longhorned Beetle** kills maples and other tree species and was recently found near Cincinnati, Ohio; **Sirex wood wasp** attacks pines and is now present in New York; **Spongy Moth** can be moved in egg masses laid on firewood and is a quarantined pest in Indiana; several types of **oak borers** girdle and kill oak trees; **Beech Bark Disease** is caused by an insect and fungus working together to kill American Beech trees – it is already killing the beech trees in Michigan’s forests and campgrounds.

Unfortunately, there are many more.



Asian
Longhorned
Beetle



Spotted Lanternfly

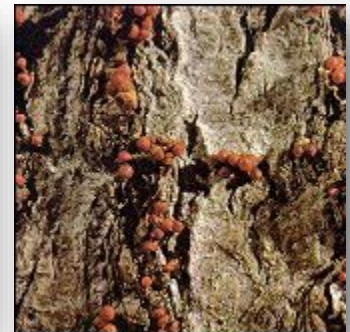
Image credit: Penn State Extension



Spongy moth



Sirex Wood
Wasp



Beech Bark
Disease

Questions You Will Be Asked: And How to Answer Them!!



Seasoned firewood with no bark.

“How can I remove the bark from my firewood?”

- Allow wood to season for at least a year in a sunny, well ventilated area.
- Bark on properly seasoned wood often loosens and can be easily removed.
- Bark can also be split off, just as you would split larger diameter pieces to fit into a fire ring.

Questions You Will Be Asked: And How to Answer Them!!

“Why does wood from the camp store or a local vendor or store have bark on it, but mine can’t?”



Kiln-drying commercial firewood.

- Wood from compliant vendors is required to be processed in such a way that ensures pest infestations are no longer a concern.
- This is done by fumigation, proper seasoning, or heat treatment.
- There is no way to ensure that firewood brought in by individual campers meets these requirements.

Confiscated Wood



Any confiscated wood should REMAIN ON THE PROPERTY and be burned immediately, preferably within 24 hours.

If wood is confiscated with bark on it, and has evidence of insect or pathogen infestation, you should HOLD it and **immediately contact a state compliance officer for inspection.**



**Please contact Purdue's
Invasive Forest Pest
Outreach and Education
Program at**

(765) 494-0822

Or email

firewood@dnr.IN.gov

**If you have questions
about invasive forest
pests or firewood.**

Options to Report Invasive Species:

Phone:

1-866-NOEXOTIC
(1-866-663-9684)

Email:

depp@dnr.IN.gov

Websites:

EDDMapS

Eddmaps.org

**Purdue Plant and Pest
Diagnostic Lab**

[https://ag.purdue.edu/
department/btny/ppdl/](https://ag.purdue.edu/departments/btny/ppdl/)

**You will now be directed to an
online quiz.**

**Thank you for your hard work
in protecting Indiana forests!**

