

Kaibab National Forest Land Steward Guide

Thanks for being a Steward of the Land!

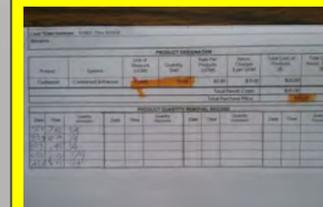
Fuelwood harvest is an essential component of our long-term goal of restoring our forests to historical stocking levels and reducing the risk of catastrophic wildfire and harmful insect outbreaks. We want to take this opportunity to thank you for helping us improve forest health by removing dead and designated live trees from the forest! You provide a valuable service and we consider you a partner in our effort to protect our natural resources. As a partner working towards the common goal of a safe, beautiful, and productive forest, we ask that as you gather wood, you also do all you can to reduce any unnecessary damage. Through ethical wood cutting practices, you can help ensure that our forests are always here for future generations to enjoy!



Filling out a firewood permit and using *traditional & reusable* tags!

Once you're packed up and ready to head home, make sure your permits and appropriate tag are ready to go too! Here's what to do:

- Securely attach tag to load with a nail, tack or staple before leaving wood cutting site
- Your traditional (paid-use) load tag is NOT reusable. 10-cords' worth (40 tags) will be supplied with your purchased permit, with all tags corresponding to a single permit
- Your reusable load tag has a number printed on it. This number should match the tag number indicated on your permit and Law Enforcement **WILL** be checking
- This tag should be visible at **ALL** times



- The permit log also **NEEDS** to be filled out with the date, time and number of cords each time you cut and haul wood
- Keep your permit with you at all times when harvesting wood, copies are not valid.
- Should you lose your *reusable* tag, please contact the office that issued your permit for replacement

How Much is a Cord of Wood?

Firewood that is cut and removed from the National Forest is measured in cords. A cord is described as cut and stacked wood measuring:

8ft. X 4ft. X 4ft..

A truck bed can be a good estimator to determine the amount of wood you have.

But...did you know there is also a formula?

$$\frac{\text{length in ft.} \times \text{width in ft.} \times \text{average height in ft.}}{128} = \text{total cords in load}$$

What's the best way to get my firewood ready to burn?

Seasoning (drying) of firewood helps make it easier and safer to burn and, dry firewood produces more heat than green firewood.

Tips for seasoning firewood:

- Stack firewood on pallets for faster drying.
- Stack where air is able to circulate through the pile and where it is sheltered from rain, snow, and dew.
- Putting a tarp over your wood pile can help it dry faster and keep it dry in wet weather.
- A cord of wood can take 9-12 months to season thoroughly.
- Green wood stacked by the end of May should be ready to burn by November

What is the best wood to burn? Here is some info to help you decide what's

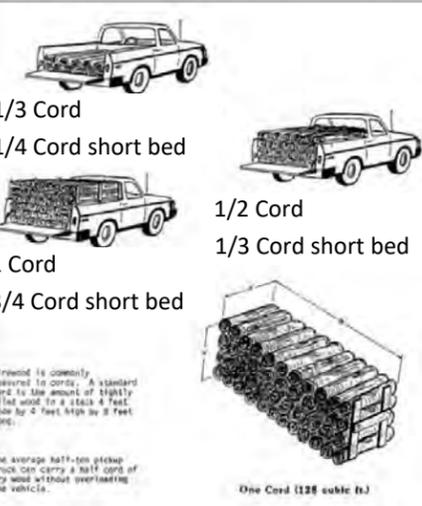
*values given are estimates	BTUs per cord	Ease of splitting?	Overall
Spruce	14.5	Easy	Fair
White Fir	14.6	Easy	Fair
Aspen	14.7	Easy	Fair, good kindling
White Pine	15.0	Moderate	Fair
Ponderosa Pine	17.1	Easy	Fair, good kindling
Douglas Fir	25.0	Easy	Good
Juniper (alligator and shaggy bark)	26.4	Moderate	Good
Pinyon Pine	27.1	Moderate	Good
Oak	30.7	Difficult	Excellent

Do you like firewood? So do we!!

Let's make sure it is always available! Damage from fire and, the increase in the number of people cutting firewood in the area can quickly deplete the resource. Here are some ways we can ensure that everyone has firewood to cut every year, for years to come.

- Make sure you are cutting within the limits of your permit. Woodcutters who don't purchase a permit or who cut outside the parameters of their permit, put the fuelwood program at risk for everyone.
- Leave large trees. Some of the larger Juniper have been standing for over a century. A huge tree may make for good firewood, but these trees are part of history of the forest, we all lose when these relics are gone from the landscape.
- Lead by example! Teach kids the importance of protecting the land and it's resources as you head out to cut firewood this year. Other great lessons to pass on:

- How to purchase fuelwood permits
- How to find the best area to cut based on the permit stipulations
- Ways to reduce resource damage from motorized vehicles
- How to navigate to the area using maps, compass, or gps
- How to tell if a tree is dead
- How to measure the diameter of a tree
- Safe cutting practices
- How to spread slash to reduce fire hazards
- How to properly fill out a fuelwood permit and log sheet
- How to properly attach permits to each 1/4 cord



How and where do I measure tree diameter?

Measuring dead Juniper (circumference at root collar) - this is measured roughly 6 in. from the ground (see picture to the left).

Measuring dead Ponderosa, Pinyon, Oak and Aspen (diameter at breast height or DBH) - This is measured 4.5 ft. from the ground (see picture to the right).

Downed wood, all species - It is a best practice to limit the size of collectable downed wood to 18 in. or less, to protect wildlife habitat

- * A detailed list of tree species and sizes can be found on the map you received with your permit.
- * **Your permit gives you max diameters for each species. To find the circumference, multiply this number by 3.14. ex: When using a regular measuring tape, a 12" diameter tree will be roughly 37" in circumference.**



Why can't I cut here?

You may notice that your map shows areas where cutting firewood is restricted or not allowed at all. Here are some possible reasons for this:

- Private property**-You don't want to cut in someone's backyard!
- Resource protection areas** - Some sensitive plants or animals may need undisturbed habitat in order to thrive and reproduce.
- Active timber sales** - No firewood cutting is permitted within the boundary of an active timber sale. Timber sales are under contract and someone has bought a portion of the trees in that area. After the contract has been fulfilled and the timber sale is closed, it may be opened to firewood cutting. Any newly opened cutting areas will be shown on our website or updated firewood cutting area map. Orange paint on trees is an indication that you are in a timber sale and is indicated on your fuelwood map
- Commercial fuelwood areas** - The areas have been paid for by someone who cuts fuelwood commercially. They are under contract and no other are permitted to cut in the area. Boundaries are painted in orange * For more information on Commercial fuelwood permits, contact Jason Brugh at 928-635-5641



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The Greatest Benefit with the Least Impact

The trees in our forests are a renewable resource and we are fortunate to be able to benefit from this resource. We enjoy wood products for warmth, shelter, cooking, furniture, and even paper and clothing! However, if it is used unwisely and without a plan for continued use in the future, we are at risk of losing it. As you cut your firewood this season, please consider the ecological issues on this page and be mindful about how your firewood harvesting is impacting the forest for yourself, and others down the road. Enjoy but don't destroy!

Off-road Driving Creates Lasting Damage

While looking for that perfect tree to use for firewood, it's tempting to drive off road to get it. However, off-road driving can cause significant damage, especially when the ground is wet. The resulting damage can have serious and long lasting impacts. And, consider this as a woodcutter: all the impacts listed below effect the productivity of the forest which directly effects the amount of wood available to you!



Disturbing the ground: Going off-road can cause: ruts, damaged root systems, compacted soil, accelerated erosion, increased sedimentation in drainages, and mixing of soil layers. All resulting in a less productive site for new growth and for wildlife!

Disturbing vegetation: In addition to damaging plants in the process of driving over them, off-road vehicles can spread seeds as they churn up soil and vegetation, aiding in the spread of weeds that can displace native plant communities.

Disturbing wildlife: As vegetation and soil is displaced, eroded, or invaded by noxious weeds, the wildlife that depends on it for food and shelter suffers.

*It only takes one person driving off road to attract other people to do it! Help us preserve our natural spaces by staying within 30 ft. of any Forest Service road.

Help Protect the Past

Cultural resources are fragile- they can be easily damaged through rutting and erosion that results when roads are created by off road use. Please stay on designated roads.

Repeated vehicle travel over an area can disturb and destroy the protective layer of vegetation and duff (organic material), exposing soil to the elements and speeding up erosion.



Encourage others to be stewards of the past by your example:

Leave artifacts in place- they are non-renewable and represent important pieces of our past.



Can I cut dead branches off of live juniper trees?

Please leave dead limbs on large, old Juniper. Cutting them off can introduce insects and disease to the live part of the tree. Birds and small mammals may also use the dead limbs as habitat. Better to leave the dead branches on the tree than risk cutting live green branches!



How do I load my firewood if I don't drive to it?

There are lots of ways!

- Bring some assistants! Family and friends make great helpers!
- Use a wheelbarrow
- Wagons
- Game haulers



What are all these piles of wood?

Here are some different wood piles you might see in the woods:

Decked logs - These are neatly stacked piles of whole trees or cut and delimbed logs, and are part of a timber sale. Cutting off of these decks is not permitted.

Slash piles - These are piles of logging slash (small trees or branches) that have been piled by heavy machinery or by hand. Be careful! These piles may be unstable and can shift if disturbed. **Please don't scatter these piles!** Place the piles back to how you found them, it helps when we need to burn them



Cutting within Grazing Allotments

Did you know that the majority of the Kaibab NF allows for livestock grazing?

- Don't approach livestock or horses if you see them.
- Don't cut fences!
- **Close gates behind you!**

Respect your Elders

Cutting firewood on the Kaibab is critical to reducing the risk of destructive wildfire, and the effects of overcrowding and insect damage. But, large old trees are a unique and important part of the ecosystem. They are part of the history of the forest and we all lose when these relics are gone from the landscape. Help us protect these valuable resources!

- Remember, no cutting of live trees! Except for in designated green fuelwood areas and with a green fuelwood permit only (please see your firewood cutting map for locations).
- Removal of large, old trees can have a negative impact on plant and animal populations. Instead of cutting large trees, consider cutting smaller, more manageable ones. It will benefit the forest, there's lots of them, and they're easier to carry!

Long-lived junipers may easily reach 800 to 1,000 years old!



Dead Trees have Life!

Every tree dies eventually, but its ecological value continues long after the last leaf, needle, or scale drops! Whether standing, a hollowed stump, or downed wood, most of a dead tree's "life" occurs in a fascinating and often unseen world!

- Did you know that about 85 species of birds in North America nest in dying and dead trees?
- Cavities in dead trees and dead limbs also protect birds and other animals by providing safety from predators, shelter from the elements and places to store food.
- Birds and smaller mammals use natural and abandoned woodpecker cavities for nesting and denning.

Decayed and Downed Wood



- Downed wood is particularly beneficial to reptiles and amphibians that rely on it for cover or thermal regulation.
- Places under logs are also home for organisms whose role is decomposition.
- As camouflage, decaying bark is ideal; moths, snakes and lizards especially use it to blend in and avoid predators.
- During a wildfire, squirrels and other small creatures can survive by burrowing underneath large downed logs for protection.

Food

- Insects use dead trees and downed wood for food and shelter. They, in turn, attract birds and small mammals that feed on them.
- Fungi growing on decaying trees and logs also serve as a food source for many species including deer, small mammals and insects.
- Seeds, nuts and other food items stored in a cavity can help birds and mammals make it through a particularly harsh winter.
- Juniper leaves and berries, pine needles, oak and aspen leaves, and even the wood and bark are used by many other animals such as elk, turkey, porcupine, and deer.



For more information regarding wood cutting guidelines please refer to your permit for a complete list of rules and regulations. If you still have questions, contact the ranger district for which you have your permit:

Tusayan Ranger District: 928-638-2443

Williams Ranger District: 928-635-5600