



Virginia  
Department of  
Forestry

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Are you Firewise?



Be Wise, Be Very Wise, Be Firewise Virginia



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# IS YOUR HOME SAFE FROM A WILDFIRE ?

A Guide for  
Protecting Homes  
from Wildfire



**Protect Your Home from Wildfire**

ONLY



# A Guide for Protecting a Home

## Fire Prevention

*This publication is provided to help you (homeowners, firefighters and the general public) identify numerous activities that will help you co-exist more safely with wildfire. For additional information or assistance, contact the Virginia Department of Forestry or your local fire department.*

### “When?” Not “If”

Dangerous fires do not only occur in the Western U.S., high fire activity is also common in the South. Within this hazardous environment, there are homes, subdivisions and entire communities. However, many who live near woodlands or vegetated areas are ill prepared to survive an intense wildfire.



*The pre-fire activities implemented by this homeowner included a green and well maintained landscape, reduction of hazardous or highly flammable vegetation around the perimeter of the property, a fire-resistant roof, and a good access road with a turnaround area. As seen in the photo, these pre-fire activities were effective.*

### Act, Not React

Our ability to live more safely in this environment depends on “pre-fire” activities. Research shows by being proactive before a wildfire occurs, you have a better chance of saving lives and property from wildfire.

### What To Do:

We cannot “fire proof” the forest, but we can:

- Manage the vegetation around homes to create defensible space for protection
- Use fire resistant building materials when building new or improving homes
- Help design new subdivisions using fire-safe measures
- Ensure coordination among all emergency response agencies to wildland fires



## THE “WHY WE’RE WORRIED ABOUT WILDFIRE” EQUATION

Fire is a natural part of our environment. Our forests were burning long before we came along.



People are living in this fire environment. Many homes are built and maintained without regard to wildfire.



There is a greater chance of fire starts. With more people using our wildlands, more fire ignitions are likely.



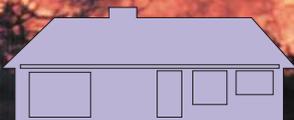
Today’s wildfires can burn intensely and be difficult to control.



**Greater loss of life**

**Increased property losses**

**Damage to natural resources**



# THE FIRE ENVIRONMENT

There are three components of the fire environment that determine fire behavior:

1. Weather

2. Topography

3. Fuel

Although weather and topography cannot be changed, the fuels (or vegetation) can be modified.

Together, these environmental factors determine:

1. The likelihood a wildfire will start
2. How fast a wildfire will burn
3. The direction a wildfire will burn
4. The intensity of a wildfire
5. The ability to control and extinguish a wildfire



Consequently, many of our opportunities to reduce the wildfire threat rest with the proper management and manipulation of wildland vegetation.



*We cannot stop the wind from blowing a wildfire.*



*You cannot change the slope or the wind from blowing up a hill, but you can remove the fuel from around your home. Erosion can be prevented by replacing flammable fuel with a native ground cover.*



## Reduce the Fuel? How?



In Virginia the most common ways to manipulate the wildland vegetation around your home or community is by mechanical means or the use of prescribed fire. Mechanical methods include the use of hand tools like chainsaws and or the use of brush mowers and chippers.

A "hazard reduction burn" is a form of prescribed fire, this type of fire is used to remove built up dead fuel from the forest floor. Burning like this on a regular basis or by mechanically reducing the fuel build up prevents a much hotter fire near your home should one start.

# The Limitations of Wildland Fire-fighting



Many people assume that when a wildfire starts, it will quickly be controlled and extinguished. This is an accurate assumption 97 percent of the time. For most wildfires, firefighters have the ability, equipment and technology for effective fire suppression. But 3 percent of the time, wildfires burn so intensely that there is little firefighters can do. Presented at the right are firefighter tactics as they relate to wildfire flame length. Compare this to the flame lengths shown in "Examples of Fire Behavior."

FLAME LENGTH	EFFECTIVE FIRE SUPPRESSION TACTICS
Less than 4 ft.	Fireline constructed with hand tools such as shovels and axes; can be effective at the front of the fire.
4 to 8 ft.	Bulldozers and other heavy equipment will be needed to construct an effective fireline. Where bulldozers are not available, fire engines with hoses and water will be required to "knock down" the flames before the fire crews with hand tools can be effective. Or fire crews must construct a fireline at a considerable distance from the fire.
8 to 11 ft.	Airtankers with fire suppressing retardant or helicopters with water are required to reduce the fire's rate of spread before fireline construction by crews or bulldozers can be effective.
More than 11 ft.	Direct fire suppression efforts will be ineffective. Retreat to existing roads, streams and other barriers. Burn out fuels between the fireline and the advancing fire front.



## EXAMPLES OF FIRE BEHAVIOR

PINE FOREST	HARDWOOD FOREST	DENSE BRUSH
<b>FLAME LENGTH 12 FEET</b> 340 acres can burn within one hour	<b>FLAME LENGTH 7 FEET</b> 75 acres can burn within one hour	<b>FLAME LENGTH 45 FEET</b> 3000 acres can burn within one hour
<b>TRAVELS AT 2 MPH</b>	<b>TRAVELS AT 1 MPH</b>	<b>TRAVELS AT 5.5 MPH</b>

Above are three types of vegetation common to the South. These are computer generated estimates of how they would burn under certain conditions. These predictions assume a wind speed of 20 mph, flat terrain and typical moisture contents of living and dead vegetation in the spring.

# WHAT IS DEFENSIBLE SPACE?

**Defensible space is the area between a house and an oncoming wildfire where the vegetation has been modified to reduce the wildfire threat. Sometimes, a defensible space is simply a homeowner's properly maintained yard.**

## WHAT IS THE RELATIONSHIP BETWEEN VEGETATION AND WILDFIRE THREAT?

Many people do not view the plants growing on their property as a threat. But in terms of wildfire, the vegetation adjacent to their homes can have considerable influence upon the survivability of their houses. All vegetation, including plants native to the area as well as ornamental plants, is potential wildfire fuel. If vegetation is properly modified and maintained, a wildfire can be slowed, the length of flames shortened, and the amount of heat reduced, all of which lesson the potential for damage to a home against an oncoming wildfire.



*More and more homes are being built in high fire hazard environments.*

## THE FIRE DEPARTMENT IS SUPPOSED TO PROTECT MY HOUSE, SO WHY BOTHER WITH DEFENSIBLE SPACE?

During a major wildfire, it is unlikely there will be enough firefighting resources available to defend every home. Firefighters may have to select homes they can most safely and effectively protect. Even with adequate resources, some wildfires may be so intense that there is little firefighters can do to prevent a house from burning. The key is to reduce fire intensity as wildfire nears the house. This can be accomplished by reducing the amount of flammable vegetation surrounding a home. The most important person in protecting a house from wildfire is the homeowner.

## DOES DEFENSIBLE SPACE REQUIRE A LOT OF BARE GROUND IN MY LANDSCAPE?

No. Unfortunately, many people have this misconception. While bare ground is certainly effective in reducing the wildfire threat, it is unnecessary and unacceptable due to appearance, soil erosion and other reasons. Many homes have attractive, well vegetated landscapes that also serve as effective defensible space.

## DOES CREATING A DEFENSIBLE SPACE REQUIRE ANY SPECIAL SKILLS OR EQUIPMENT?

No. For the most part, creating a defensible space employs routine gardening and landscape maintenance practices such as pruning, mowing, weeding, plant removal, appropriate plant selection, and irrigation.

## HOW BIG IS AN EFFECTIVE DEFENSIBLE SPACE?

The necessary distance for an effective defensible space is not the same for everyone. Slope and type of wildland vegetation growing near the house will determine how much space will be needed. See the section entitled "Creating An Effective Defensible Space" for specific information.

## DOES DEFENSIBLE SPACE MAKE A DIFFERENCE?

Yes. Experience shows houses with an effective defensible space are much more likely to survive a wildfire. Defensible space gives firefighters a greater opportunity to effectively and safely defend the home.

## DOES HAVING A DEFENSIBLE SPACE GUARANTEE MY HOUSE WILL SURVIVE A WILDFIRE?

No. Under extreme conditions, almost any house can burn. But having defensible space will significantly improve the odds of your home surviving a wildfire.

## WHY DOESN'T EVERYONE LIVING IN A HIGH WILDFIRE HAZARD AREA CREATE A DEFENSIBLE SPACE?

Some individuals believe "it won't happen to me," while others think it's costly and others are simply unaware of the benefits.



## HOW DO I CHANGE THE VEGETATION ON MY PROPERTY TO REDUCE THE WILDFIRE THREAT?

The objective of defensible space is to reduce the wildfire threat to a home by changing the characteristics of the adjacent vegetation.

### Defensible space practices:

- Decrease the amount of flammable vegetation.
- Shorten plant height.
- Alter the arrangement of plants.
- Increase the moisture content of vegetation.

This is accomplished through the "Three R's of Defensible Space."

## THE THREE R's OF DEFENSIBLE SPACE

### Removal

This technique involves the elimination of entire plants, particularly trees and shrubs, from the site.

### Reduction

Examples of reduction are pruning dead wood from a shrub, removing low tree branches and mowing dried grass.

### Replacement

Replacement is the substitution of less flammable plants for more hazardous vegetation. For example, removal of a dense stand of flammable shrubs and planting an irrigated, well maintained flower bed.

# The "Home Ignition Zone"

Homes and structures ignite during wildland-urban interface fires from two sources: direct flame contact with radiant and convective heating and/or when firebrands (windblown embers and sparks) accumulate directly on the home or structure. Research shows that large flames from high intensity fires do not directly ignite homes and structures at distances beyond 200 feet. If fires adjacent to homes and structures do not ignite them, then a home or structure can only ignite through direct contact with accumulating firebrands.



The Home Ignition Zone (HIZ) begins with at least 30 feet of space immediately around the home or structure and extending out as far as 100 to 200 feet depending on the characteristics of the surrounding forests or grasslands. Removing or reducing the potential of ignition within the HIZ will greatly increase the chances for a home or structures survival during a wildland fire.



Creating and maintaining the HIZ reduces or eliminates ignition hazards presented by vegetation, by thinning or spacing, removing dead leaves and needles, as well as pruning shrubs and tree branches. Combustible construction (wooden porches, decks, storage sheds, outbuildings, swing sets and fences) and combustible items (patio furniture cushions, hot tub covers, wicker furniture with cushions, door mats, planter baskets, etc) that are adjacent to homes and structures are also potential ignition hazards.



Firebrands and embers will collect in the same places around and on homes and structures during a wildfire, as they do during a windstorm. Looking for these areas and reducing or removing any combustible material from this area will reduce the ignition potential.



*This home would not have ignited if the flower planters had not been attached to this home. Firebrands landed in the "coconut excelsior" igniting the log home. The wire planter frames are lying on the ground under the windows.*



**Simply put, it's the little things that a homeowner can do around their home to reduce ignition in the HIZ that buys a lot during a wildland fire.**

# CREATING AN EFFECTIVE DEFENSIBLE SPACE

## A 6-STEP GUIDE

Are you worried about the wildfire threat to your home, but aren't sure how to get started in making your home defensible? Then follow these six steps to an effective defensible space...

### STEP 1: DETERMINE THE SIZE OF YOUR DEFENSIBLE SPACE.

The size of the defensible space area is usually expressed as a distance extending outward from the boundaries of the house. This distance varies by the type of wildland vegetation growing near the house and steepness of the terrain.

If the recommended distance goes beyond your property boundaries, contact the adjacent property owner and work cooperatively on creating a defensible space.

The effectiveness of defensible space increases when multiple property owners work together.



## DEFENSIBLE SPACE RECOMMENDED DISTANCES

		STEEPNESS OF SLOPE		
		 Flat to Gently Sloping 0 to 20%	 Moderately Steep 21-40%	 Very Steep +40%
<b>VEGETATION TYPE</b>	<b>GRASSES</b> Wildland grasses, weeds, and widely scattered shrubs with grass understory. 	<b>30</b> feet	<b>40</b> feet	<b>50</b> feet
	<b>SHRUBS</b> Shrubs: includes mostly small or tall shrubs with scattered trees with grass or weed understory. 	<b>30</b> feet	<b>30-60</b> feet	<b>60-100</b> feet
	<b>TREES</b> Trees: includes forested areas consisting of mostly trees, with shrub or grass understory. 	<b>30</b> feet	<b>30-100</b> feet	<b>100-200</b> feet

Determine the percent slope which best describes your property.  
 Find the type of vegetation which best describes the wildland plants growing on or near your property.  
 Locate the number in feet corresponding to your slope and vegetation. This is your recommended defensible space distance.  
 Please note the recommendations presented in this article are suggestions made by local firefighters experienced in protecting homes from wildfire. They are not requirements nor do they take precedence over local ordinances.

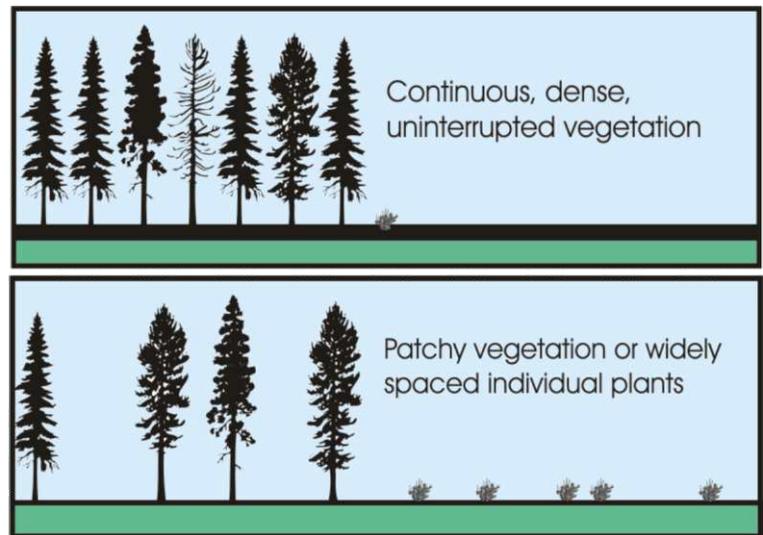
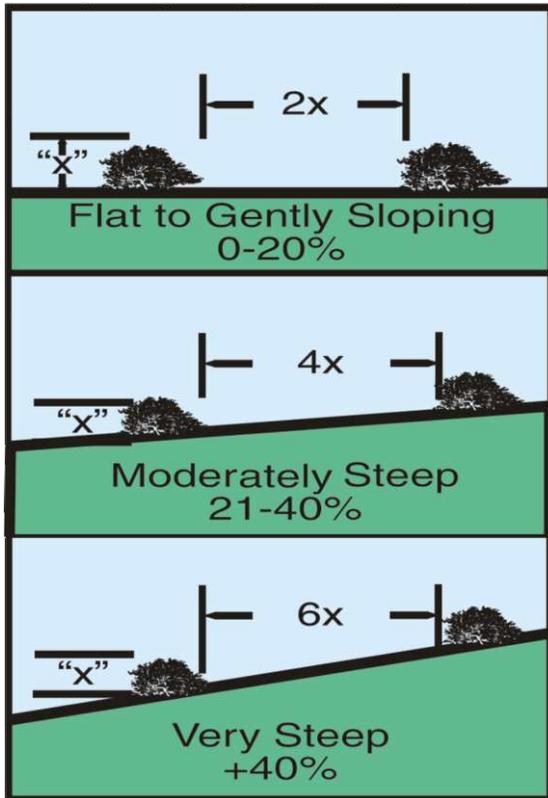
**STEP 2:**  
**REDUCE DEAD VEGETATION**

<b>TYPES OF DEAD VEGETATION AND RECOMMENDED PRACTICE</b>	
<b>DEAD FUEL TYPE</b>	<b>RECOMMENDED PRACTICE</b>
<b>STANDING DEAD TREE</b>	Remove all standing dead trees within the defensible space area.
<b>DOWN DEAD TREE</b>	Remove down dead trees within defensible space area if they have recently fallen and are not yet embedded into the ground. Downed trees that are embedded into soil and which cannot be removed without soil disturbance should be left in place. Remove all exposed branches from an embedded downed dead tree.
<b>DEAD SHRUBS</b>	Remove all dead shrubs from within the defensible space area.
<b>DRIED GRASSES AND WILDFLOWERS</b>	Once grasses and wildflowers have dried out or "cured," cut down and remove them from the defensible space area.
<b>DEAD NEEDLES, LEAVES, BRANCHES, CONES (ON THE GROUND)</b>	Reduce thick layers of pine needles to a depth of two inches. Do not remove all needles. Take care not to disturb the "duff" layer (dark area at the ground surface where needles are decomposing) if present. Remove dead leaves, twigs, cones, and branches.
<b>DEAD NEEDLES, LEAVES, BRANCHES, AND TWIGS (OTHER THAN ON THE GROUND)</b>	Remove all dead leaves, branches, twigs, and needles still attached to living trees and shrubs to height of 15 feet above ground. Remove all debris which accumulates on the roof, rain gutters and awnings on a routine basis (at least once a year).
<b>FIREWOOD AND OTHER COMBUSTIBLE DEBRIS</b>	Locate firewood and other combustible debris (wood scraps, grass clippings, leaf piles, etc.) at least 30 feet uphill from the house.



### STEP 3: PROVIDE SEPARATIONS BETWEEN PLANTS.

The more continuous and dense the vegetation, the greater the wildfire threat. If this situation is present within your recommended defensible space area, you should "break-it-up" by providing for a separation between plants or small groups of plants.



### Recommended Separation Distance for Shrubs.

For areas with dense brush, the recommended separation distance is dependant upon shrub height and steepness of slope. Specific recommendations are presented below.

*Note: Separation distances are measured between canopies (outermost branches) and not between trunks. Plants can be pruned to reduce the diameter or height (shorter height means less separation) of shrubs. For shrubs which readily resprout, pruning to reduce height may be the best approach.*

### Recommended Separation Distance Between Tree Canopies

For forested areas, the recommended amount of separation between tree canopies is determined by steepness of slope.

30 feet

20 feet

10 feet

Very Steep  
+41%

Moderately Steep  
21-40%

Flat to Gently Sloping  
0-20%

**Note: Separation distances are measured between canopies (outermost branches) and not between trunks.**

For example, if your house is situated on a 30 percent slope, the separation of tree canopies within your defensible space should be 20 feet. Creating separation between tree canopies can be accomplished through tree removal.

Not only are steep slopes often considered high wildfire areas, they are also highly erodible. When removing shrubs and trees from steep slopes, keep soil disturbance to a minimum. Also, it may be necessary to replace flammable vegetation with other plant materials to prevent excessive soil erosion.



## STEP 4: REMOVE LADDER FUELS

Vegetation is often present at varying heights, similar to the rungs of a ladder. Under these conditions, flames from fuels burning at ground level, such as a thick layer of pine needles, can be carried to shrubs which can ignite still higher fuels like tree branches. Vegetation that allows a fire to move from lower growing plants to taller ones is referred to as "ladder fuel." The ladder fuel problem can be corrected by providing a separation between the vegetation layers.

Within the defensible space area, a vertical separation of three times the height of the lower fuel layer is recommended.

For example, if a shrub growing adjacent to a large pine tree is three feet tall, the recommended separation distance would be 9 feet (3 feet shrub height x 3 = 9 feet). This could be accomplished by removing the lower tree branches, reducing the height of the shrub, or both. The shrub could also be removed.

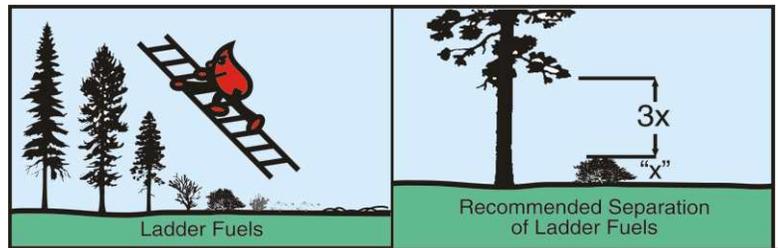
## STEP 5: MAKE YOUR DEFENSIBLE SPACE "LEAN, CLEAN, AND GREEN!"

The area immediately adjacent to your house is particularly important in terms of an effective defensible space. It is also the area that is usually landscaped. Within an area extending at least 30 feet from the house, the vegetation should be kept:

- Lean – small amounts of flammable vegetation.
- Clean – no accumulations of dead vegetation or other flammable debris, and
- Green – plants are healthy and green during the fire season.

## STEP 6: MAINTAIN DEFENSIBLE SPACE.

Keeping your defensible space effective is a continual process. At least annually, review these defensible space steps and take action accordingly. An effective defensible space can be quickly diminished through neglect.



## Is Your Home At Risk?

Use the following scale to determine whether your house is at risk from wildfire.

### YOUR LAND IS:

Flat	1 point	___
Gentle slope	3 points	___
Steep slope	5 points	___

### VEGETATION WITHIN 30 FEET OF YOUR HOUSE

Grass/open area	1 point	___
Mature oak/pine	2 points	___
Medium undergrowth	3 points	___
Heavy undergrowth	5 points	___

### ROOFING:

Fiberglass, tile, metal, etc.	1 point	___
Composition	3 points	___
Wood	5 points	___

**SUBTOTAL:** \_\_\_\_\_

### ADD 1 POINT EACH FOR ANY OF THE FOLLOWING CONDITIONS AT YOUR HOME:

Open wood deck or porch	1 point	___
House on stilts	1 point	___
Natural wood siding	1 point	___
Combustible materials next to house	1 point	___

**TOTAL:** \_\_\_\_\_

How does your house add up? If you tallied 3 points, consider your home a low risk from wildfire. Four to six points, a medium risk. Seven to 10 points, a high risk. Eleven or more, an extreme risk.

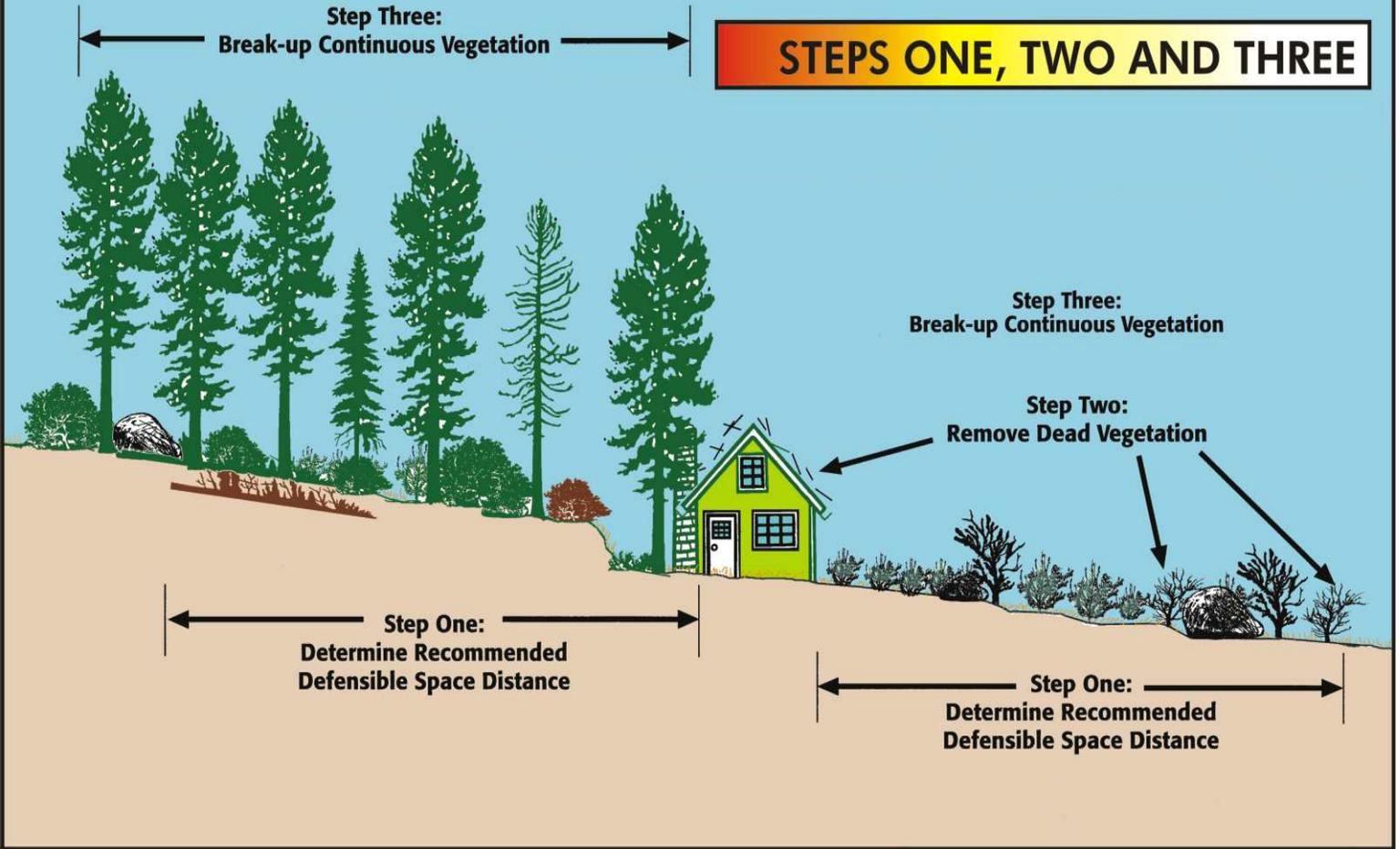
If your house is at risk, do something about it! Use the guidelines in this booklet, or call your local forestry office and your fire department for suggestions.



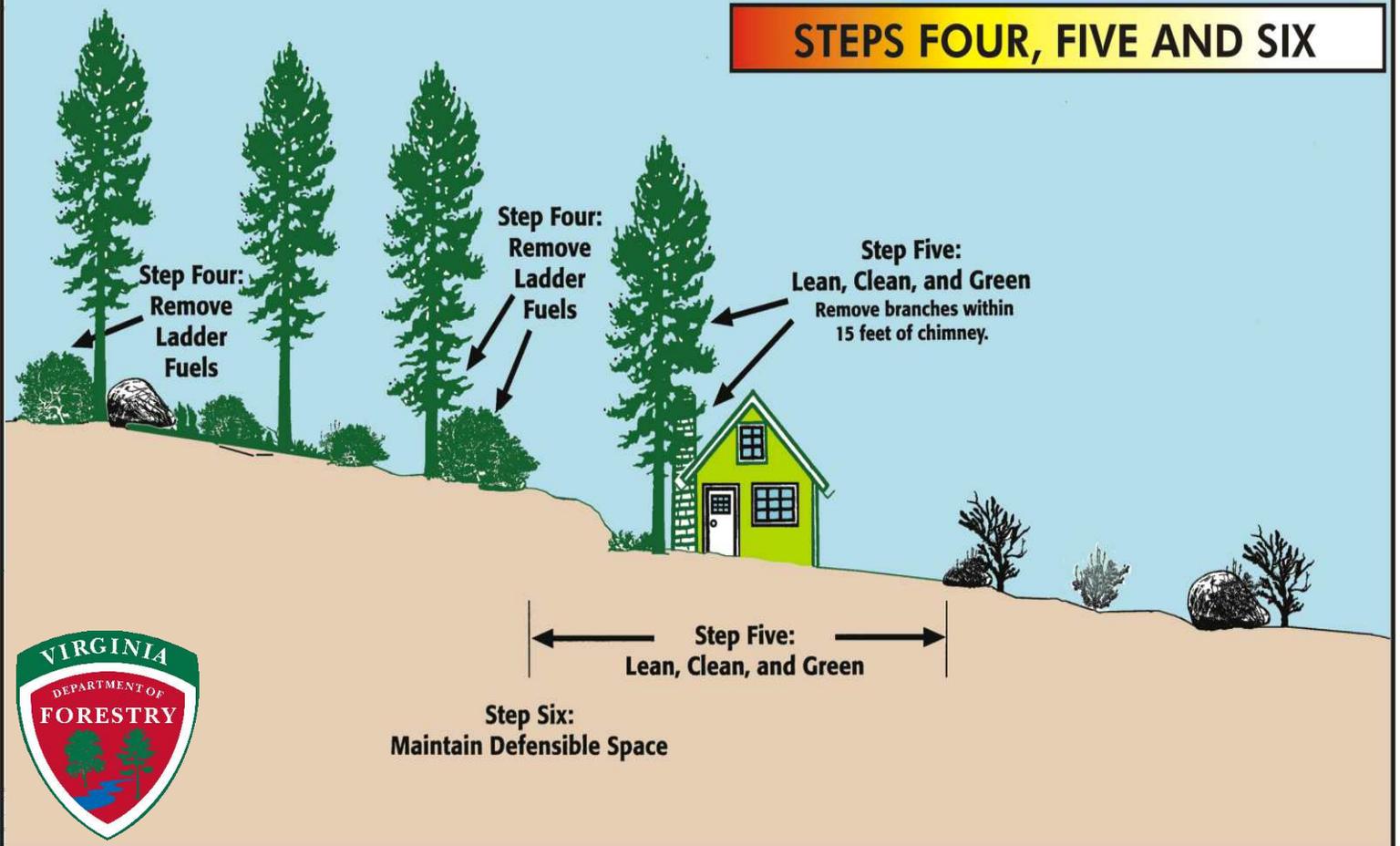
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# CREATING DEFENSIBLE SPACE: SUMMARY

## STEPS ONE, TWO AND THREE



## STEPS FOUR, FIVE AND SIX



# FIRESCAPING: "FIRE SMART" LANDSCAPE DESIGN

Firescaping is landscape design that reduces a home's vulnerability to wildfire. The goal is to develop a landscape that offers the best fire protection and enhances the beauty of the property.

The ideal design involves surrounding the house with things that are less likely to burn, creating a defensible space around a home.

Planning this type of landscape is best done when a home is built, but appropriate manipulation of existing landscapes can make a significant contribution towards wildfire survival.

- ☐ Choose "fire smart" species.
- ☐ Choose safe places to plant.
- ☐ Keep plants and trees well pruned, thinned, and maintained.

## "FIRE SMART" PLANTS

*There are no fire proof plants, but some are more fire resistant than others.*

These "fire smart" plants:

- ☐ Are less likely to ignite from a wildfire.
- ☐ Burn less intensely when they do ignite, and spread the fire slower.
- ☐ Are lower growing or smaller.
- ☐ Have stems and leaves that are not resinous, oily, or waxy.
- ☐ Have a high moisture content.
- ☐ Easy to maintain and prune.
- ☐ Have less accumulated debris and fewer dead branches.
- ☐ Have an open, loose branching habit.
- ☐ Are drought resistant, requiring less irrigation.

## PLACEMENT AND MAINTENANCE

*"The location of plants in your yard should always be carefully planned."*

- ☐ The arrangement, spacing and density of plants, shrubs and trees that grow around the house can be more crucial than what species are planted.
- ☐ When planning tree placement, remember their size at maturity.
- ☐ Keep tree limbs 15 feet from chimneys, power lines and structures.
- ☐ A single bush or tree can be dangerous if it catches fire from flying embers, especially if it's within 10 feet of a window.
- ☐ Proper maintenance is vital to remove excess debris. Lack of maintenance can make plants more flammable.

## CREATING FUEL BREAKS

*In Firescaping, the open spaces are more important than the plants.*

Landscaping features used to reduce the amount of flammable fuels near a home and create a fire break include:

- ☐ Open lawns;
- ☐ Driveways, walkways, parking areas;
- ☐ Patios with masonry or rock planters;
- ☐ Fences constructed of nonflammable materials such as rock, stone, or cement;
- ☐ Water features, pools, ponds, or streams and
- ☐ Areas with rock mulches. Be creative with boulders, riprap, dry stream beds.



*No Defensible Space...*

## SOME COMMON FIRE RESISTANT PLANTS

**LESS IS BETTER...** When designing a landscape for fire safety, remember that less is better. You can do this by simplifying visual lines and reducing the number of plant groupings. A fire smart landscape lets plants and garden elements reveal their innate beauty by leaving space between plants and groups of plants. In firescaping, the open spaces are more important than the plants.

	Scientific Name	Common Name	Comments
<b>TREES</b>	Liriodendron tulipifera	Tuliptree; Tulip poplar	Does not tolerate poor growing conditions.
	Quercus talcata	Southern red oak	Prefers drier soils.
	Robinia pseudoacacia	Black locust	Tolerates dry, saline soils. Suckering problem. Spines on young growth.
<b>SHRUBS</b>	Rhus copallina	Shining sumac	Useful for dry, rocky sites.
	Viburnum acerifolium	Mapleleaf viburnum	Tolerates shade and poor soils.
	Hydrangea aborescens	Smooth hydrangea	Suckers freely from roots. Will cover up large areas if not maintained.
<b>GROUND COVER</b>	Pachysandra terminalis	Pachysandra	Not tolerant to foot traffic or full sun conditions.
	Vinca minor	Periwinkle; Vinca	Good for erosion control. Finer texture than V. Major. Prefers a shaded location.
	Parthenocissus quinquefolia	Boston Ivy	Tolerates urban conditions.

# OTHER CONSIDERATIONS IN MAKING YOUR HOME DEFENSIBLE

## 1. ROOF

- Remove dead branches overhanging your roof.
- Remove any branches within 15 feet of your chimney.
- Clean all dead leaves and needles from your roof and gutters.
- Cover your chimney outlet and stovepipe with a nonflammable screen of ½ inch or smaller mesh.
- When building a home, install a roof and subroof that meets a fire resistant classification. Metal, tile and asphalt roofing materials are more fire resistant than wooden shingles.

## 2. CONSTRUCTION

- Build your home set back at least 30 feet and away from ridge tops, canyons and areas between high points on a ridge.
- Build your home at least 30 feet from your property line.
- Use fire resistant building materials.
- Enclose the underside of balconies and above-ground decks with fire resistant materials.
- Limit the size and number of windows in your home that face large areas of vegetation.
- Use tempered glass for large, vulnerable windows.
- Consider sprinkler systems within the house. They may protect your home while you're away or prevent a house fire from spreading into the wildlands.

## 3. LANDSCAPE

- See "Creating An Effective Defensible Space" and "Firescaping- Fire Smart Landscape Design."

## 4. YARD

- Stack woodpiles at least 30 feet from all structures and clear away flammable vegetation within 10 feet of woodpiles.
- Locate gas tanks (butane and propane) at least 30 feet from any structure and surround them with 10 feet of clearance.
- Remove all stacks of construction materials from your yard.
- Obey local burning laws.
- Compost or mulch pine needles, leaves and grass clippings.
- Where burn barrels are allowed, clear flammable materials from at least 10 feet around the barrel; cover the open top with a non-flammable screen with mesh no larger than 1/4 inch.



## 5. EMERGENCY WATER SUPPLY

- Maintain an emergency water supply that meets fire department standards through one of the following:
  - a community water/hydrant system
  - a cooperative emergency storage tank, pools or ponds may be used
  - a minimum storage supply of 2,500 gallons on your property
- Clearly mark all emergency water sources and notify your local fire department of their existence.
- Create easy firefighter access to your closest emergency water source.
- If your water comes from a well, consider an emergency generator to operate the pump during a power failure.

## 6. ACCESS

- Identify at least two exit routes from your neighborhood.
- Construct driveways to allow large emergency equipment to reach your house.
- Clear flammable vegetation at least 10 feet from roads and five feet from driveways.
- Post your house address at the beginning of your driveway, or on your house if it is easily visible from the road.

## 7. OUTSIDE

- Designate an emergency meeting place outside your home.
- Practice emergency exit drills regularly.
- Make sure that electric service lines, fuse boxes and circuit breaker panels are installed and maintained as prescribed by code.
- Contact qualified individuals to perform maintenance and repairs.

## 8. ACCESS STANDARDS FOR DEVELOPMENT

- Construct roads that allow two-way traffic.
- Design road width, grade and curves to allow access for large emergency vehicles.
- Design bridges to carry heavy emergency vehicles, including bulldozers carried on large trucks.
- Post clear road signs to show traffic restrictions such as dead-end roads and weight and height limitations.
- Make sure dead-end roads and long driveways have turnaround areas wide enough for emergency vehicles. Construct turnouts along one-way roads.
- Cut back overhanging tree branches above roads.
- Make sure your street is named or numbered, and a sign is visibly posted at each intersection.
- Make sure that your street name and house number are not duplicated elsewhere in the county.

## THE WOOD SHAKE AND SHINGLE ROOF HAZARD

*A house can be threatened by a wildfire in three ways: direct exposure to flames, radiated heat, and airborne embers. Of these, embers account for the majority of homes burned by wildfire. The most vulnerable part of a house to flying embers is the roof.*

*Because of its angle, the roof can catch and trap these embers. If the roof is constructed of combustible materials such as untreated wood shakes and shingles, the house is in jeopardy of igniting and burning.*

*Not only are combustible roofing materials a hazard to the structure on which they are installed, but also to other houses in the vicinity. Embers from burning wood shakes, can be carried blocks away and land on other flammable materials and combustible roofs.*

*Unfortunately for homeowners with existing combustible roofs, there are no reliable long-term measures available to reduce roof vulnerability to wildfire other than re-roofing with fire resistant materials.*



*One spark on this roof could be a disaster. Wooden shingles and leaf litter is hazardous combination.*

# WHEN WILDFIRE APPROACHES

Should a house be threatened by wildfire, the occupants may be advised to evacuate by a fire or law enforcement official. The purpose of evacuation is to protect people from life-threatening situations.

- Evacuate all family members, as well as pets.
- Contact a friend or relative and relay your plans.
- Make sure family members are aware of the prearranged meeting place.
- Tune into a local radio station and listen for instructions.
- Place vehicles in the garage, have them pointing out, and roll up windows.
- Place valuable papers and mementos in the car.
- Close the garage door, but leave it unlocked. If applicable, disconnect the electric garage door opener so that the door can be opened manually.
- Place combustible patio furniture in the house or garage.
- Shut off propane at the tank or natural gas at the meter.
- Wear only cotton or wool clothes. Proper attire includes long pants, long sleeved shirt or jacket, and boots. Carry gloves, a handkerchief to cover face, water to drink, and goggles.
- Close all exterior vents.
- Prop a ladder against the house so firefighters have easy access to the roof.
- Make sure that all garden hoses are connected to faucets and attach a nozzle set on "spray".
- Soak rags, towels, or small rugs with water to use in beating out embers or small fires.
- Inside, fill bathtubs, sinks, and other containers with water. Outside, do the same with garbage cans and buckets. Remember that the water heater and toilet tank are available sources of water.
- Close all exterior doors and windows.
  
- Close all interior doors.
- Open the fire place damper, but place the screen over the hearth to prevent sparks and embers from entering the house.
- Leave a light on in each room.
- Remove lightweight and/or non-fire resistant curtains and other combustible materials from around windows.
- If available, close fire resistant drapes, shutters, or venetian blinds. Attach pre-cut plywood panels to the exterior side of windows and glass doors.
- Turn off all pilot lights.
- Move overstuffed furniture (e.g. couches, easy chairs, etc.) to center of the room.
- Keep wood shake or shingle roofs moist by spraying water. Do not waste water. Consider placing a lawn sprinkler on roof if water pressure is adequate. Do not turn on until burning embers begin to fall on the roof.
- Continually check the roof and attic for embers, smoke or fire.

## HOW TO REACH US...

Headquarters Office  
Charlottesville VA

(434)977-6555



[www.dof.virginia.gov](http://www.dof.virginia.gov)



**Western Region 540-387-5461 Salem**  
**Central Region 434-977-5193 Charlottesville**  
**Eastern Region 804-966-2211 Providence Forge**

### Other Offices

**Abingdon 276-676-5488**  
**Farmville 434-392-4159**  
**Waverly 804-834-2300**  
**Tappahannock 804-443-2211**

### Or contact your local County Office

Fred X. Turck  
Assistant Director  
Resource Protection Division  
Firewise, Prescribed Fire, Prevention and Education  
Waverly  
(voice) 804-834-3033 (fax) 804-834-3232  
Charlottesville  
(voice) 434-977-1375 ext 3400 (fax) 434-977-9839

[www.dof.virginia.gov](http://www.dof.virginia.gov)  
[www.firewisevirginia.org](http://www.firewisevirginia.org)

Virginia Department of Forestry  
900 Natural Resource Drive  
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