

# WILDLAND FIRE IN MARYLAND

## Wildfire Statistics

Wildfires are a common occurrence in Maryland. In an average year, the Maryland Forest Service responds to 500 wildfires, which burn more than 4,000 acres of land. Fire departments respond to over 5,000 wildfire incidents per year.

While some wildfires in Maryland can burn hundreds or even thousands of acres, most are smaller in size, burning less than 10 acres. Even these smaller wildfires can threaten lives, homes, other structures, and our natural resources. Each year hundreds of homes and structures are threatened, and dozens are damaged or destroyed by wildfires.

## Fire Season

Wildfires occur in every month in Maryland, but peak in the spring and fall. During these seasons the leaves are off the deciduous trees, allowing sunlight and wind to reach the forest floor and dry the forest fuels. The relative humidity of the air is also drier and, combined with a breeze, creates the conditions for wildfires to spread rapidly.

## Wildfire Causes

The only natural cause of wildfires is lightning, and this accounts for only 3% of the wildfire ignitions in Maryland. The remaining 97% of wildfires are caused by humans. Maryland's leading cause of wildfires is improper debris or outdoor burning that ignites an average

of 29% of the fires each year. Arson, the second leading cause, accounts for around 25% of ignitions. Other causes include: equipment use, children playing with fire, smoking, campfires, railroads, and other miscellaneous ignitions from sources such as downed power lines, discarded ashes, and fireworks.



## The Wildland-Urban Interface

A wildfire is an even greater challenge when it threatens homes and other structures. The zone where homes are built in or near the forest is called the Wildland-Urban Interface (WUI). The number of homes built in the WUI in Maryland has increased dramatically in recent years.

Since 97% of wildfires are caused by people, wildfire ignitions are also more common in these Wildland-Urban Interface zones. Considering all factors, wildfires can be a significant threat in Maryland. Homes and other structures intermixed with wildland fuels are at risk, and WUI residents need to take actions to protect themselves and their property.



Maryland Department of Natural Resources  
**Forest Service**  
580 Taylor Avenue, E-1  
Annapolis, MD 21401

Phone: 410-260-8531  
or 877-620-8DNR x8531

TTY via Maryland Relay—711 (within MD)  
or 800-735-2258 (Out of State)

For more information, call the  
*Firewise Maryland* program, at  
**301-791-4010**

or

Contact your county Forest Service office:

Allegany	301-777-2137	Howard	410-442-2080
Anne Arundel	410-360-8421	Kent	410-778-4439
Baltimore	410-665-5820	Montgomery	301-854-6060
Calvert	410-535-1303	Prince George	410-360-8421
Caroline	410-479-1623	Queen Anne	410-819-4120
Carroll	410-848-9290	St. Mary's	301-880-2745
Cecil	410-287-5777	Somerset	410-651-2004
Charles	301-934-2543	Talbot	410-479-1623
Dorchester	410-228-1861	Washington	301-791-4733
Frederick	301-473-8417	Wicomico	410-543-1950
Garrett	301-334-3296	Worcester	410-632-5499
Harford	410-692-5172		

or visit:

\*\*\*\*\*[www.dnr.maryland.gov/forests/](http://www.dnr.maryland.gov/forests/)

The facilities and services of the Maryland Department of Natural Resources are available to all without regard to race, color, religion, sex, sexual orientation, age, national origin, or physical or mental disability.

This document is available in alternative format upon request from a qualified individual.

Publication funding provided by the  
USDA Forest Service  
Publication #: 02-292012-553 February, 2012



# WILDLAND FIRE IN MARYLAND



*Learn the facts  
about fire behavior  
in Maryland*



## Fire Behavior

Most wildfires in Maryland are surface fires, which burn fallen leaves, twigs, and debris on the ground. Under this fallen debris is often a layer of partially decomposed leaves and humus, called "duff." During dry periods, fires can burn underground in this duff layer, and be very difficult to extinguish. These duff fires can burn for weeks, or even months, and cause smoke issues.

The intensity of wildfires increases greatly in areas of dense fine fuels, such as grasses, or dense resinous fuels, such as mountain laurel shrubs or evergreen trees. In these areas, wildfires can spread rapidly and burn with amazing intensity. Maryland rarely experiences active crown fires - wildfires that burn in the tree canopy. However, crown fires can occur in dense stands of evergreen trees during times of very dry and windy weather.

## The Wildfire Behavior Triangle

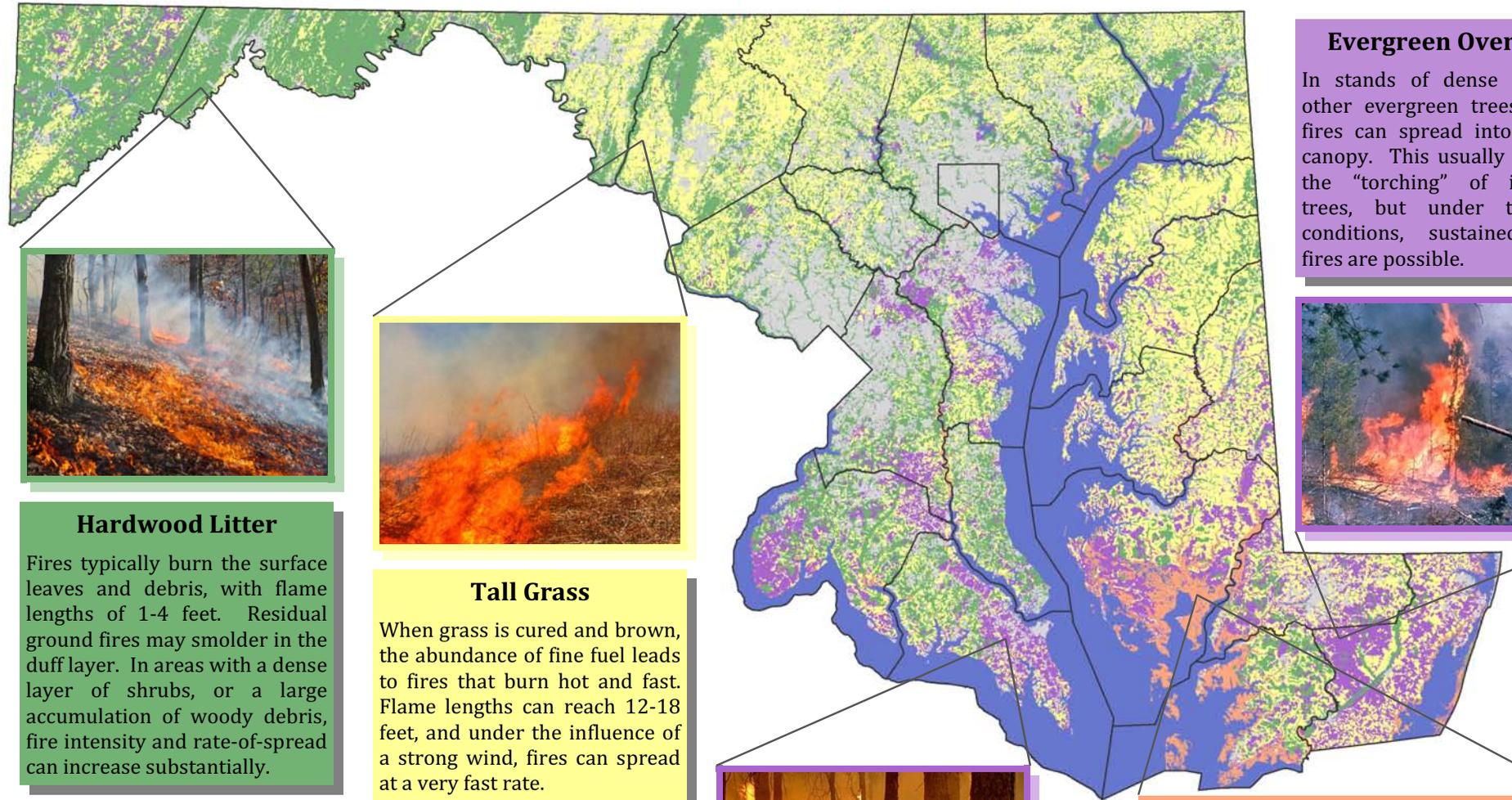
The three factors that control wildfire behavior are fuels, weather, and topography. In all fuel types the intensity and rate-of-spread of a fire will increase as slope increases, wind increases, and relative humidity decreases.

## Prescribed Fire

Prescribed fires, or fires ignited under controlled conditions by fire professionals, can be beneficial to reduce forest fuels, improve wildlife habitat, and prepare sites for tree planting.



# WILDLAND FUEL TYPES & FIRE BEHAVIOR IN MARYLAND



**Hardwood Litter**  
Fires typically burn the surface leaves and debris, with flame lengths of 1-4 feet. Residual ground fires may smolder in the duff layer. In areas with a dense layer of shrubs, or a large accumulation of woody debris, fire intensity and rate-of-spread can increase substantially.



**Tall Grass**  
When grass is cured and brown, the abundance of fine fuel leads to fires that burn hot and fast. Flame lengths can reach 12-18 feet, and under the influence of a strong wind, fires can spread at a very fast rate.



**Evergreen Overstory**  
In stands of dense pine and other evergreen trees, surface fires can spread into the tree canopy. This usually results in the "torching" of individual trees, but under the right conditions, sustained crown fires are possible.



**Evergreen Litter**  
The build-up of pine needles on the forest floor are easily ignited and allow for rapid fire spread. Flame lengths of 1-6 feet can be expected.



**Marsh**  
Despite being surrounded by water, marshes have a large amount of fine fuel that can readily burn. Fires spread rapidly and burn intensely, with flame lengths of 20 ft or more.