

# Wildfire Series



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## Protect Your Great Lakes Shoreline Home From Wildfires

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### Introduction

Wildfires on the Great Lakes shoreline occur every year, damaging or destroying vacation homes, rental properties, wooden decks, boats, recreational vehicles (RVs) and other property (Figure 1). Michigan Department of Natural Resources (MDNR) data show that more than 8,000 wildfires occur in Michigan each year and many of these occur along the shoreline. Flammable vegetation such as dune grass, conifers and oak leaves will easily carry a fire

across or up a dune to the homes above. Winds off the lake increase fire intensity making fire suppression more difficult. Property loss caused by most wildfires can be prevented if property owners take proper steps to avoid it. The best defense in protecting shoreline homes and properties is wildfire prevention. However, if a wildfire should occur, incorporating Firewise concepts such as defensible space as discussed in this bulletin can help to reduce the chance that your home will catch fire.



Figure 1. Firefighters battle a house fire caused by a lakeshore wildfire near Pentwater, Mich.  
(Courtesy of Pentwater Fire Department/Wilson Photography)



## Critical Dune Area (CDA)

Much of the Lake Michigan shoreline and some portions of the Lake Superior shoreline are designated as Critical Dune Area (CDA). The CDA is protected from erosion and degradation through Michigan Public Act 451 of 1994. The Michigan Department of Environmental Quality (MDEQ) administers the CDA guidelines ([www.mi.gov/criticaldunes](http://www.mi.gov/criticaldunes)), which come into play when altering vegetation or the dunes themselves. Residents who live in a designated CDA must follow the CDA guidelines.

## Campfires and Fireworks

Campfires are often the cause of wildfires along the Great Lakes shoreline. Check local burning ordinances as some townships prohibit campfires on the beach or they may require a permit. Any open fire larger than a campfire requires a burning permit unless the ground is snow covered.

Make sure you build campfires away from dune grass and other flammable vegetation. When finished with a campfire, use water — never sand — to extinguish it completely. Portable fire pits with grated lids are a safer alternative to the traditional campfire or campfire ring without a lid. The lid helps prevent burning embers from escaping. You can purchase portable fire pits from big box stores, and patio or camping outlets.

Fireworks, particularly bottle rockets, also start many lakeshore fires. The hot exhaust and sparks from fireworks can easily set dune grass on fire. Some townships may have ordinances that prohibit the use of fireworks on the beach. If you set off fireworks, keep them away from the dunes to prevent accidental fire starts. Every year, fireworks cause property damage. Even if no damage occurs, fire departments must respond at taxpayer expense.

## Direct Contact, Radiant Heat and Firebrands

A wildfire can destroy homes, decks and other property in three ways: direct contact by flames, radiant heat and firebrands. Radiant heat occurs

when the fire is close enough to the house or structure that the heat alone causes ignition. Firebrands are burning embers produced by a fire. Campfire firebrands can land on nearby vegetation causing it to ignite. In a wildfire, firebrands can travel long distances, igniting any flammable material that they touch. This includes dry vegetation, wood shingles, wood decks, or dead leaves and litter that have accumulated on a home's roof, under decks, in eave troughs or around landscape plants. Keep plants watered as any plant can burn if it becomes dry enough. When thinking about the spread of wildfires, consider anything attached to the house as part of the house. A fire can move across wooden decking, walkways and stairways, or along wooden fences, and eventually ignite the house they're attached to.

## Defensible Space

Homeowners are encouraged to provide a defensible space around their property to prevent wildfire damage. Keep plants watered and free of dead leaves and litter.

Position propane tanks, portable gas heaters, firewood, boats, RVs and other flammable items at least 50 feet from the home or attached structure. Do not plant conifers and other flammable shrubs within 30 feet of the home or attached structure. Where flammable plants already exist within 30 feet of the structure, either replace them or prune the lower branches off to 8 feet or higher. Pruning in this way will prevent a fire moving across the ground from igniting the lower branches. In the CDA, removing shrubs and trees will require a permit from the MDEQ. In place of flammable trees and shrubs, plant native, fire-resistant plants such as serviceberry, bearberry and some species of primrose, dogwood, oak and maple. Contact a Michigan State University (MSU) Extension specialist for more specific information on native, fire-resistant plant selection.



## Dune Grass

Dune grass, also referred to as beach grass (*Ammophila breviligulata*), is the most important vegetation along the Great Lakes shoreline. This native species holds the sand in place and prevents erosion. MSU Extension as well as the MDNR and the MDEQ recognize that while dune grass has been specifically planted to help stabilize the dunes, it is also flammable and is the number one wildfire threat along the lakeshore. Flame heights in dune grass can range from 10 to 20 feet (Figure 2). You must have a permit from the MDEQ to remove dune grass from around your home. However, you may trim it with a weed whip in February or March, or as soon as the snow melts. Trim grass within 5 to 10 feet of the house, deck or attached structure. Then rake away the dead leaf material. This will allow the new growth to resume. Green dune grass will not burn.

Take care when trimming dune grass. Blacklegged (deer) ticks inhabit dune grass in Michigan. Sampling studies have shown that these ticks may transmit Lyme disease and other illnesses. When

planning to trim dune grass, refer to MSU and the Michigan Department of Community Health recommendations for taking appropriate personal protective measures including applying insect repellents to skin and clothing. After trimming dune grass, make sure to inspect your skin and hair to remove any ticks. Go to [www.michigan.gov/lyme](http://www.michigan.gov/lyme) for specific instructions and more information before trimming dune grass.

## Assisting Firefighters

The dune hills along the shoreline consist of high and low bluff dunes. Steep grades, sharp curves and narrow roads make it difficult or impossible for fire vehicles to get to the fire. In addition, this hilly terrain also often prohibits the installation of municipal water systems and fire hydrants. Homeowners and homeowners associations can help by making sure that vegetation is trimmed back from private roadways and driveways while staying within the CDA guidelines for altering vegetation. Fire vehicles and water tankers will need a clearance 12 feet wide and 15 feet high to access private roadways and driveways easily.



Figure 2. Flame heights in a lakeshore wildfire near Shelby, Mich., were 10 to 20 feet high.  
(Courtesy of Michigan Department of Natural Resources)





**Figure 3.** Passing areas on narrow lakeshore private roadways such as this one near Grand Haven, Mich., allow emergency vehicles to pass. (Courtesy of Grand Haven Township Fire and Rescue)

Narrow private roadways should be widened at various intervals so that two vehicles can pass (Figure 3). This will allow residents to evacuate if necessary while fire vehicles are entering. Where possible, a turn-around with a radius of 50 feet for fire vehicles should be placed near homes. The MDEQ requires a permit to make any contour changes in the CDA.

Homeowners can also help reduce home ignition by keeping lawn sprinklers stationed in dune grass and vegetation around the home. Contact your local fire department for suggestions on how to best use sprinklers for fire suppression. Remember that an underground irrigation system will require a contour change and thus a permit from MDEQ.

One of the biggest hurdles for firefighters along the Great Lakes shoreline is locating the fire. The dune hills, forests, and a spider web of private roads and long driveways make it difficult to locate the fire, especially at night. While local firefighters may be familiar with the roads and terrain, neighboring fire departments called in to assist will not know the area as well. To aid

firefighters and other emergency vehicles, make sure to identify private roads and individual driveways with reflective metal street and address signs.

If a wildfire occurs, dial 911 but do not assume that fire departments can get to your home immediately or that they can completely protect your property from loss. The distance from the fire station to your home and limited access to your home can affect both response time and the fire department's ability to effectively suppress the fire. Your fire department may be willing to visit your home upon request prior to an emergency to examine the accessibility to your home and make recommendations. In turn, this may aid them in responding to a fire should it occur.

## Summary

By incorporating preventative practices, your lakeshore home will be better protected if a wildfire does occur. Remember to abide by Michigan's CDA guidelines, created to help protect our state's beautiful shoreline.

The Firewise Communities program encourages homeowners in taking individual responsibility for reducing the chance that their homes will be damaged or destroyed by wildfires. For more information, go to [www.firewise.msu.edu](http://www.firewise.msu.edu), or contact your local MSU Extension or area MDNR office.

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