



# Contents

## Intro - You are at Risk!

- a. Range plains fire history
  - b. Current Conditions
  - c. Continuity
1. Access
    - d. Roads/ addresses
    - e. Soft shoulders/sandy roads
    - f. Bridges
  2. Water Supply
    - a. Cisterns, ponds, tender, stock tanks
  3. Defensible Space
    - a. Homes/structures
    - b. Barns/feedlots
    - c. Windbreaks/values (fencing, livestock, riparian areas & water sheds)
    - d. Ditch/garbage burning
  4. Trees & Brush
    - a. Prevention/ignition/fire behavior
    - b. Riparian flame length
    - c. Prescribed fire on the plains
    - d. Grasslands/shrub lands/ species
  5. Construction
    - a. Mobile homes
    - b. Roofs
    - c. Foundation
    - d. Windows
    - e. Siding
    - f. Spark arrestors
  6. Interior Safety
  7. What to do When
  8. After the Fire

# You Are At Risk!



As Colorado’s population continues to grow, significant and rapid construction expands into once “wild” prairie and forested landscapes. The increase of homes and traffic in these areas brings a heightened risk of accidental fire starts and escapes. Grasses are dry during much of the year; they ignite easily and burn quickly. Having your home or property on, surrounded by, or adjacent to these abundant dry fuels puts you and your property at risk. Residents need to know what measures to take to reduce wildfire risks.

## **Prevention/Ignition/Fire Behavior**

Expanded rural building, increasing traffic, and abundant fuel loads have aggravated wildfire conditions and heightened threats. These combined factors make it extremely important for rural homeowners to receive education both on inherent risks *and* mitigation measures that can be taken to protect themselves and their property from wildfire. It is critical to understand that wildfire, in some areas, is not a matter of if, but when. Incoming new

residents often expect the same type of emergency services that were available in urban areas — this is not always the case. The following limitations may exist in your area; keep them in mind and plan accordingly:

- ❑ Many rural fire departments are run by volunteers. Firefighters are not generally present at these fire stations; the number of firefighters able to respond may be limited, especially during daytime hours during the traditional work week.
- ❑ Response time may be longer in rural areas. Volunteers must reach the fire station from home or work, start the fire vehicles, and drive to the fire scene, which may be quite far from the station.
- ❑ Water supplies and firefighting equipment are limited. Often, the only significant water supply is that which the fire trucks themselves carry. Water shuttles or refill locations must be established and coordinated with county and/or fire protection districts (prior to a fire occurring).
- ❑ Approaching the fire scene may be difficult. Narrow dirt and gravel roads and driveways may limit or even prevent access by emergency equipment. Bridges may have weight limitations that prevent large fire trucks and tenders from reaching the fire.



### **Range Plains Fire History**

The Great Plains are a unique grassland prairie ecosystem that extends sporadically from northern Canada to southern Texas and east from the Rocky Mountains. Prior to settlement, wildfires played a frequent and important role in preserving these ecosystems. Frequent fires removed dead plant materials, promoted the growth of grasses, controlled competition, and prevented tree encroachment.

Historical fire frequencies (return interval between fires) for the plains ranged from 1 to 27 years. Every region's fire history varies in regard to frequency, timing, and intensity due to individual topography, climate, weather patterns, wind speed, and vegetation types. For example, studies in the Northern Great Plains revealed a five- to ten- year fire frequency on level to rolling topography, while more dissected land revealed twenty- to thirty- year frequencies. In comparison, regions receiving moderate amounts of moisture had fires reoccurring as often as every one to five years.

Major ignition sources for fires were historically lightning storms and Native Americans. Lightning was, and still is, one of the most prevailing causes of fires. Seasonal, lightning-caused fires started as early as April and continued through September, but most commonly occurred in July and August. Lightning-caused fires occur, on average, six to twenty-five times a year in northwest South Dakota (Higgins 1984). Native Americans purposely set fires for many different reasons: to improve game habitat; to clear the land of thick brush enemies could hide

amongst; and, to open up areas for crop propagation. They set fires nearly every month of the year, with the greatest numbers occurring in April, September and October.

### **Current Conditions**

European arrival and settlement disrupted historic fire frequencies and permanently altered the landscape. Cattle grazing and farming removed much of the vegetation and grasses that carried frequent surface fires. The land became broken up by roads, cultivated trees, and man-made reservoirs — this reduced the size and scope of fires. Settlers saw fires as a threat and they began to control and suppress them.

The fires of 1910, known as the Big Blowup, amplified perceived threats and initiated years of aggressive fire suppression policies by land management agencies. Successful fire suppression created large accumulations of fuels. Introduction and spread of invasive species (such as cheatgrass) changed seasonal growing patterns and contributed to the increased amount and arrangement of fuels. The combination of all of these factors has made the western United States rangelands more vulnerable to severe catastrophic wildfires.

Wildfires can be devastating, with long-term impacts. Direct financial costs include such things as fire suppression efforts, evacuation, property loss, insurance, and restoration and rehabilitation efforts. Indirect costs and effects include risk to life and property, loss of cultural landmarks, recreation, wildlife, aesthetics, soil erosion, and air and water quality. For those who live on the plains, fires can cause loss of grazing lands, crops, etc., thus having a huge financial impact.



*Photo courtesy of the Fort Morgan Times*

# Access

When a grass fire threatens, the first few minutes are the most critical for saving your home. Firefighting personnel must be able to immediately locate and safely travel to your home in order to begin protecting it. Having an accessible water supply is equally critical to your home's ability to survive fire.

## Street Signs and Addresses

Proper identification of your home is essential. During a major grass fire, firefighters from surrounding counties and throughout the state will arrive to assist local firefighters. They rely on clearly marked street signs and addresses to find your home.



- ❑ Street names and addresses should be printed in letters at least four inches tall on a contrasting color background. They should be visible from all directions of travel for at least 150 feet.
- ❑ Signs should be made of fire resistant materials (e.g. metal).
- ❑ Your home should have its own house number which should be in order numerically, along your street or road.
- ❑ If your house is set back from the street or road, your address should be posted at the entrance of your driveway.
- ❑ In situations where more than one home is accessed off a single driveway, all addresses should be posted at the main street and at each appropriate entrance along that driveway.

- ❑ Each street and road in your area should be labeled and each should have a different name or number.

## Road Width / Turnouts

Even if your street and house are clearly marked for firefighters, precious time can be lost if firefighters have difficulty getting to your house. Narrow roads, dead-end streets and weak bridges can delay firefighters or prevent them from arriving at all; firefighting equipment is much heavier than your family car or truck.



- ❑ Single lane roads or driveways should have turnouts at regular intervals with enough space to allow emergency vehicles and cars to pass each other.
- ❑ Roads and street systems must be designed to provide safe emergency evacuation and fire department access. A minimum of two primary access roads should be designed into every subdivision and development.
- ❑ All private and public streets should be constructed to provide two traffic lanes, each a minimum of ten feet wide. This is just enough space for a fire engine and car to easily pass and turn.

- ❑ Curves and intersections should be wide enough to allow large fire equipment to easily pass and turn.



- ❑ Dead-end streets and long driveways should have turnaround areas designed as either a “T” or a circle large enough to allow fire equipment to turn around.

The steps above will give firefighters a chance to find and protect your property; a few minutes delay can make a difference in saving your home. If you have any questions about emergency access to your home, including construction widths or strengths, contact your local fire department.

### **Road Safety**

- ❑ Roads, driveways, and bridges should be built to carry at least 40,000 lbs., the average weight of a fire engine (by comparison, the average pickup truck weighs about 4,000 lbs.).



- ❑ Roadways should be kept in good repair. Potholes and washed out areas can be extremely hazardous for a heavily loaded truck.
- ❑ Soft shoulders and sandy roads can also impact response time to a fire due to the extreme weight of the response vehicles.



# Water Supply

## Water Issues

Water supply is vital for a fire department to protect a threatened house or extinguish a burning one.

Even a FireWise home may not be able to survive a grass fire without an emergency water supply. Many jurisdictions require new developments to form or join a community or municipal water system. In these cases, the designed water systems have large storage facilities that generally meet the needs of firefighters.



## Amount

- A minimum water storage supply of 2,500 gallons is recommended for use in emergencies. If you live in a home isolated from others, you may not have access to an adequate community water system.

You may already have a water system that is sufficiently large enough to provide firefighters with adequate water. Cisterns, ponds, and stock tanks can all provide enough water. If you do not have a sufficiently large water supply, cooperation with your neighbors can result in the development of a

common emergency water storage facility to provide protection—not only for your home, but for others.

## Location and access

- Once you have established an emergency water supply, make sure firefighters can get to it. If your storage system requires a pump to access the water, it is recommended that you have a gasoline-powered generator so it can be operated during a power failure. You will also want to notify the local fire protection district of its location once it is installed.
- For any emergency water supply, the outlet valve must be easily seen and visibly signed from the nearest road. You can obtain specific outlet, valve design, and thread requirements by contacting your local fire department.



# Defensible Space

Defensible space is the area around a home/structure where vegetation has been reduced and/or altered, breaking up its continuity. This will slow the rate and intensity of an advancing wildfire and create an open area where firefighters can safely work to protect your home. You can reduce your wildfire risks by following these defensible space guidelines:

- ❑ Defensible space dimensions are subjective and differ upon site and vegetation characteristics. However, defensible space on flat sites should typically extend a minimum of 70 feet around your home.
- ❑ Create a safety zone within initial 15 feet surrounding home and structures by clearing all flammable vegetation. Thin out continuous tree and brush cover, and remove any existing ladder fuels. Plants should be manicured and grasses mowed. Routinely maintain your safety zone by removing dry and dead vegetation.
- ❑ Prune tree branches 10-15 feet from the ground.



Remove dead branches that extend over roofs and keep roof gutters clean of any leaves or debris.

- ❑ Dry grasses and weeds should be mowed to a maximum six inches within 30 feet of all structures.
- ❑ Trees and shrubs should be thinned accordingly beyond the initial 15-foot safety zone. A good

rule of thumb is 10-15 foot crown spacing with occasional clumps of two or three.

- ❑ Stack firewood at least 15 feet away and uphill from the house.
- ❑ Maintain a 10-foot area free of all vegetation around grills, burn barrels, and propane tanks. Non-flammable screens should be placed over grills and burn barrels.
- ❑ Create a fuelbreak between Conservation Reserve Program (CRP) land and your own private property.
- ❑ All LPG tanks (butane and propane) should be located at least 30 feet away from any structure, and surrounded by a 10-foot area free of all vegetation.

- ❑ Never store flammable material (chemicals, fuel, lumber, slash etc.) in an open exposed area. Store neatly in a garage or barn where it will not be vulnerable to heat or open flame.



- ❑ Skirting material around mobile homes can prevent burning debris from blowing and spreading fire under your home; it also protects kids and pets from exposed gas lines and wiring underneath.
- ❑ Move combustible yard furniture away from your home.

## Other Values:

- ❑ Keep trash cleared from around barns and outbuildings and remove infringing vegetation away from these areas.

- ❑ Break up haystacks, and manure and disperse any other type of combustible fuel.



- ❑ Establish and maintain a fuelbreak around windbreaks and snow fences by mowing grasses and vegetation to a maximum 3 inches in height; keep these areas cleared of trash and dead vegetation.



- ❑ Keep grasses and vegetation mowed in areas where you park vehicles and equipment. This will reduce the risk of hot exhaust systems coming in contact with vegetation, thus igniting grass fires.

## Burning Trash and Ditches

- ❑ Know and follow local burning regulations and procedures — you may have to notify local authorities that you are burning (or before you burn).
- ❑ Delay outdoor burning until your area greens up and weather permits. Never burn on hot, dry, or windy days. (To get a detailed fire weather forecast go to: <http://www.crh.noaa.gov/den/fir3znft.html>)
- ❑ When debris burning is allowed, always burn trash in a barrel or metal receptacle covered with wire mesh to contain burning embers. Place burn barrel on bare mineral soil in an area free of vegetation. Never leave your fire unattended and make sure it is completely extinguished before you leave.



- ❑ Before ditch burning make sure to contact your local sheriff's department and/or fire protection district to notify them of your burning. Inquire whether or not burn bans are in place and if a permit is required prior to burning.



# Trees & Shrubs

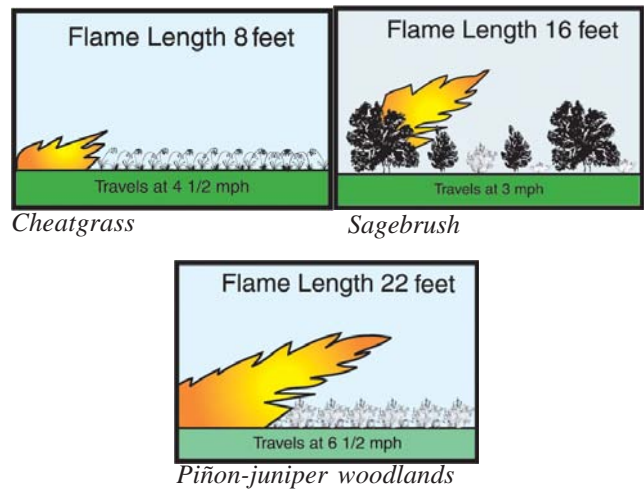
## Ignition and Flame Length for Various Species

Various components affect fire behavior making it difficult to predict the rate at which various species will ignite and burn. Fine dry fuels (grasses) burn much more rapidly than bigger, thicker fuels (trees), which have a larger surface area to heat before ignition will occur. The duration (time) and intensity of a fire also influence its behavior. For example, if a fast-moving fire is burning hot enough it has the potential to spread to larger ladder (vertically arranged) fuels. Once ladder fuels heat they may erupt violently, thus increasing both risks and spread of fire.

Though many different components affect flame length and fire spread, the following is a fairly accurate description of fire behavior within different grassland vegetation types.

- ❑ Short agricultural and improved pasture grasses typically have fast moving surface fires.
- ❑ Taller, unmanaged grass prairies have a heavier build up and clumping of fuels which burn at higher intensities; these have the ability to produce firebrands.
- ❑ Riparian fuel types usually have zero- to four-foot flame lengths and burn for short durations at low intensities.
- ❑ Sagebrush fuel types have a high burn intensity and medium duration. Flame lengths are between five and twenty feet. Fire spreads fast and spotting is common.

The following examples illustrate expected fire behavior for different fuels types. These predictions assume a wind speed of 20 mph, flat terrain, and represent vegetative moisture content and weather patterns typical for Colorado.



## Prevention

As wildfire risks increase, it is critical that residents and travelers understand how to be alert, conscious stewards of the land. Keep the following in mind when playing or working outdoors:

- ❑ Keep vehicles on well-maintained roads at all times. Fires can ignite as a result of hot car exhaust systems contacting tall, dry fuels such as grasses and shrubs.
- ❑ Build campfires on bare ground in contained or designated areas; make sure campfires are completely out before you leave.
- ❑ During hunting season or target practice — watch for fires ignited by stray bullets coming into contact with objects, thus creating sparks.
- ❑ Never throw lit cigarette butts out of car windows or into vegetated areas.
- ❑ Supervise hay-baling and wheat harvesting operations closely to prevent ignition of dry fuels.

- ❑ Use and maintain approved spark arresters on all engine-powered equipment.
- ❑ Keep an eye out for rocks and metal when brush hogging or mowing; sparks generated could start wildfires.
- ❑ Maintain equipment in good working order.
- ❑ Monitor sparks when using welding equipment and have a fire extinguisher available.
- ❑ Make sure that electrical service lines, fuse boxes and circuit breaker panels are installed and maintained to code.
- ❑ Contact qualified individuals to perform electrical maintenance and repairs.

### **FireWise Landscaping**

Removing flammable vegetation and replacing it with low-growing, fire-resistive plants is one of the easiest and most effective ways to create a defensible space.

Select landscape vegetation based on fire resistance and ease of maintenance, as well as visual enhancement of your



property. In general, fire-resistive plants:

- ❑ grow close to the ground
- ❑ have a low sap or resin content
- ❑ grow without accumulating dead branches, needles, leaves or other debris
- ❑ are easily maintained and pruned
- ❑ are drought-tolerant in some cases

Contact your fire department, local nursery, or Colorado State Forest Service office to find out which fire-resistive plants are adapted to the climate in your area. (Additional information is available on Colorado State University Cooperative Extension Fact Sheet 6.305.)

# Construction Design & Materials

## Make Your Home FireWise

Homes are often vulnerable to wildfire because of their design, construction and/or location. The following measures can reduce the risk of losing your home to wildfire; keep them in mind when buying, building, or remodeling your home.

- ❑ Choose sites away from heavily vegetated areas.
- ❑ Build on the most level portion of the property.
- ❑ Avoid ridge tops, canyons, and gullies. These are extremely hazardous locations for houses and firefighters because they become natural chimneys, increasing the intensity of the fire.
- ❑ Make sure sites have easy in-and-out access roads which are wide enough for emergency vehicles to get in and turn around.
- ❑ Culverts and bridges should be strong enough to withstand the weight of emergency vehicles (the average weight of a fire engine is 40,000 lbs.).

## Construction Materials

No material is “fire proof;” however, proper design techniques and assembly of fire-rated or non-combustible building materials can reduce the spread of fire and increase the amount of time it takes for a home to ignite and burn.

\*(Note: Some non-combustible materials conduct heat and **require** an underlayment of material for a higher class rating.)

## Roofs

Your roof is the most vulnerable part of your home due to its large, exposed surface area. It’s broken-up design and uneven surface can easily catch hot, wind-blown embers, creating heat traps and spreading fire.

To reduce risk, use Class A or B roofing materials such as asphalt or fiber-cement shingles, tile, slate, concrete, or metal.

- ❑ Enclose open, over-hanging eaves with a flat soffit to deflect burning embers and grasses.

## Siding/Walls

A structure’s exterior walls and siding are subject to radiant heat and open flame and therefore should be entirely constructed of fire-resistive materials.

Class A or B–*rated* siding materials such as stone, brick, stucco, or fiber cement panels are recommended.

## Foundations

A home’s foundation is often the first area to come in contact with spreading wildfire. Foundations should be enclosed and constructed with fire-resistive materials such as gravel beds, concrete block, or cement walls.

- ❑ Non-combustible skirting materials around modular homes can prevent burning embers from blowing and spreading fire under your home.

## Windows

Windows are a weak component in relation to wildfire and can pose a serious threat. The following modifications and materials can help reduce the risks of fire spread associated with radiant heat or loss of windows/glass during a wildfire:

- ❑ Minimize the size and number of windows in your home; smaller windows hold fractured glass in place more easily.
- ❑ Use thermopane or double-glazed windows.

- ❑ Low E and tempered glass are both very effective and, combined, give the best protection during a wildland fire. Tempered glass is resistant to high impact and heat, while Low E blocks the transfer of radiant heat beyond a home's exterior.
- ❑ Glass block is most effective because of its high rating of 90 minutes.
- ❑ In-pane shutters can offer an additional ten to twenty minutes of protection.
- ❑ Solid aluminum frames are best, ensuring that glass remains stable and in place during a wildfire.

**Other Areas:**

- ❑ Cover chimneys and stovepipes with non-flammable screens.



- ❑ Enclose decks and balconies or use fire-resistant building materials on the surface and exposed underside to deflect flames and embers.

# Interior safety

## Residential Sprinkler Systems

A fire occurs in ten percent of American homes every year. In wildland areas, the fire from the home may spread into the wildland. Residential fire sprinkler systems are a great asset to home-owners in the wildland urban interface.

Homes in rural and wildland areas usually have a longer fire department response time. In a home where residential sprinklers are installed, the fire will be controlled and often extinguished before fire crews arrive. A sprinkler system will reduce the heat and smoke generated during a fire, thus ensuring a safer environment in which to escape.

Many homes that are built in rural areas do not have a domestic water supply available. Water supply for homes usually comes from a well, or a water tank can be installed to supply the sprinkler system. However, a sprinkler system can be designed for any type of water supply.

## Smoke Detectors

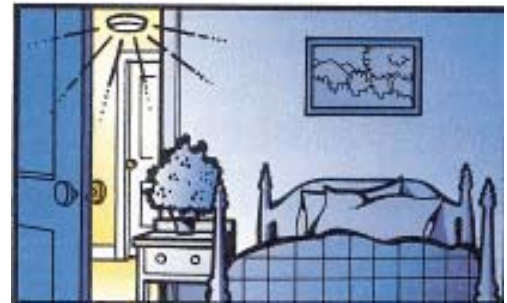
Lives can be saved when smoke detectors are properly installed and maintained. Most areas require smoke detector installation for new structures.

### Choice of Detectors

- There are several types of smoke detectors available. Some run on batteries, some run on household current and others get their main power source from the household current with a battery back up in the event of a power failure.
- There are several ways smoke detectors detect smoke. Some use an “ionization” sensor which detects slow smoldering fires, some use a “photoelectric” sensor which detects flame, and others use a combination of the two.

### How Many?

- Minimum protection requires a smoke detector outside each sleeping area and on every level of the home. Be sure everyone sleeping in your home can hear your smoke detector alarms with bedroom doors closed.



- Smoke detectors are not recommended for kitchens, bathrooms, or garages where cooking fumes, steam, or exhaust could set off false alarms, or for attic and unheated spaces, where humidity and temperature changes might affect a detector’s operation.

### Where to Install

Because smoke rises, mount detectors high on a wall or on the ceiling. Wall-mounted units should be installed four to twelve inches from the ceiling. Ceiling-mounted units should be installed at least four inches from the nearest wall.

### Maintenance

- Test your smoke detectors weekly and replace the batteries twice a year (when you set your clock forward and back, change your batteries). Many battery-powered smoke detectors “chirp” or give some type of audible signal when their battery power is low.
- Clean your smoke detectors at least once a year; dust and cobwebs can reduce a detector’s sensitivity to smoke. The life



expectancy for any type of smoke detector is about ten years; if your smoke detectors that are older than that, replace them.

## Portable Fire Extinguishers

Portable fire extinguishers are your best defense against a small fire. Fire extinguishers for home use are not intended to fight large or spreading fires.

### Choosing a Fire Extinguisher

All fire extinguishers are labeled using standard symbols for the class of fires they can put out. A red slash through any of the symbols tells you the extinguisher cannot be used on that class of fire.

#### Class A:

- Ordinary combustibles such as wood, cloth, paper, rubber and many plastics.



ORDINARY  
**A**  
COMBUSTIBLES

#### Class B:

- Flammable liquids such as gasoline, oil, grease, tar, oil based lacquer, and flammable gas.



FLAMMABLE  
**B**  
LIQUIDS

#### Class C:

- Energized electrical equipment including wiring, fuse boxes, circuit breakers, machinery, and appliances.



ELECTRICAL  
**C**  
EQUIPMENT

### Extinguisher Size

Portable extinguishers are also rated for the size of fire they can handle. Normally, an extinguisher that has a minimum rating of 2A-10B:C is recommended for each floor level. The larger the number, the larger the fire that the extinguisher can put out. Higher-rated models are often heavier; make sure you can hold and operate the extinguisher before you buy.

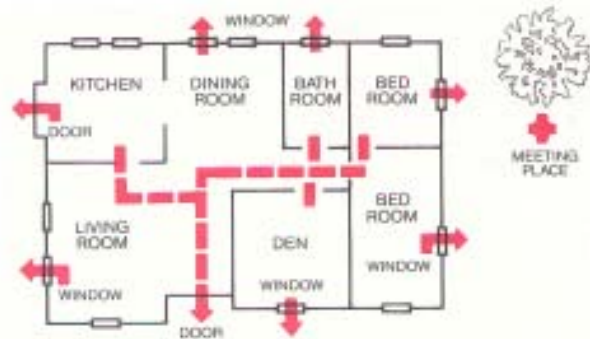
### Installation/Maintenance

- Extinguishers should be installed in plain view, above the reach of small children, near an escape route, and away from stoves and heating appliances.

- Extinguishers require routine care. Read your operator's manual and ask your dealer how your extinguisher should be inspected and serviced.
- Rechargeable models must be serviced after every use. (Service companies are listed in the Yellow Pages under "Fire Extinguishers.") Disposable fire extinguishers can only be used once and must be replaced after use.

## Plan Your Escape!

Smoke alarms can cut your risk of dying in a home fire by nearly fifty percent, but you need to know what to do when they go off.



### Make a Plan

- Draw a floor plan of your home, marking two ways out (including windows) of every room; decide on the best escape routes.
- Pick an outside meeting place (preferably in front of your home), and tell everyone to meet there after they've escaped so that you can count heads and tell firefighters if anybody's trapped inside.

### Practice Your Plan

- Every household should have a fire escape plan, but practice is essential — there's no time to lose in a fire emergency.
- Practice your escape plan at least twice a year. Make your exit drills realistic; pretend that some exits are blocked by smoke or fire and practice using alternative escape routes.

### **Test Doors Before Opening Them**

Kneel or crouch and touch the door with the back of your hand. If the door is warm, use another escape route. If it's completely cool, put your shoulder against the door and open it slowly; be prepared to slam it shut if there's smoke or flame on the other side.

### **Crawl Low Under Smoke**

Heat rises, carrying smoke with it; air will be cooler and cleaner near the floor during a fire. If you run into smoke, try another escape route. If you must exit through the smoke, crawl on your hands and knees and keep your head close to the floor.



### **Stop Drop and Roll**

If your clothes catch on fire “**Stop Drop and Roll,**” making sure you cover your face.



### **Get Out and Stay Out**

React immediately! Do not try to rescue possessions or pets and never go back inside a burning building. Call the fire department from a neighbor's phone, a portable phone, or call box after you've escaped. When reporting the fire make sure you give your address, name, closest cross street, and directions if you live an area that is hard to locate.

# Fire Prevention Checklist Throughout The House

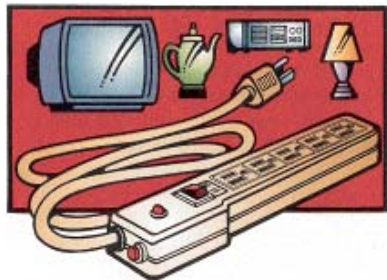
## General Safety

- ❑ Keep doors, hallways, and stairs clear of obstructions.
- ❑ Post emergency numbers near the telephone.
- ❑ Do not smoke in bed.
- ❑ Do not put ashtrays on chairs or sofa arms.
- ❑ Do not leave unattended cigarettes burning in ashtrays.



## Electrical Safety

- ❑ Get rid of frayed or cracked electrical cords.
- ❑ Do not place electrical cords under rugs, over nails or in high traffic areas.
- ❑ Do not overload electrical outlets or extension cords.
- ❑ Do not place electrical cords near sinks, bathtubs, or ranges.
- ❑ Make sure all fuses in the fuse box are the correct size.
- ❑ Make sure all outlets have cover plates and no exposed wiring.
- ❑ Maintain your heating system; never use the furnace room for storage.



## Safety from Alternate Heat Sources

- ❑ Plug heaters directly into the wall socket and unplug when not in use. Do not use extension cords with portable heaters.
- ❑ Do not place heaters where they can be knocked over.



- ❑ Keep flammable materials (such as furniture, clothes, curtains or towels) at least three feet from space heaters or stoves.
- ❑ Do not store flammable liquids near ignition sources (heaters, furnaces, hot water heaters, or stoves).
- ❑ Clean chimneys annually.
- ❑ Do not leave heaters unattended or sleep while they are on.
- ❑ Do not use heaters to dry clothes.

## Kitchen Safety

- ❑ Do not leave food unattended on the stove. If you must leave the kitchen, take a utensil along with you as a reminder.
- ❑ Do not cook while wearing sleeves that can dangle near burners.
- ❑ Do not let grease build up on your stove or oven.
- ❑ Do not let crumbs build up in your toaster.
- ❑ Do not let curtains hang near your range.
- ❑ Check the kitchen before you go to bed.
- ❑ Turn the oven off.



# What to do When...

## What to do When You are Threatened by Wildfire

If you have followed the advance preparation steps previously outlined, you have created a **FireWise** home that has a better chance of surviving a wildfire. But when a wildfire is immediately threatening your area, there are additional steps you can take.

- ❑ If you see a fire approaching your home, report it immediately by dialing 911. Stay on the phone to answer additional questions the emergency dispatcher may ask.
- ❑ Dress properly to prevent burns and lifelong scars. Wear long pants and cotton or wool long-sleeve shirts or jackets. Gloves and a damp cloth provide added protection. Do not wear short sleeve shirts or clothing made of synthetic fabrics.

## Emergency Wildfire Survival Checklist

If there is time before the fire arrives, take the following actions:

### Prepare to Evacuate

- ❑ Park your car in the garage, facing out with windows closed and keys in the ignition.
- ❑ Close the garage door but leave it unlocked. Disconnect the automatic garage door opener in case of power failure.
- ❑ Place valuable documents, family mementos, and pets inside the car (in the garage) ready for quick departure.

## Outside Your Home

- ❑ Move combustible yard furniture away from the house or store it in the garage (if it catches fire while outside, the added heat could ignite your house).
- ❑ Cover windows, attic openings, eave vents and sub-floor vents with fire-resistive material such as 1/2-inch or thicker plywood. This will eliminate the possibility of sparks blowing into hidden areas within the house.
- ❑ Close window shutters if they are fire-resistive.
- ❑ Attach garden hoses to spigots and place them so they can reach any area of your house.
- ❑ Fill trash cans and buckets with water and place them where firefighters can find them.
- ❑ If you have an emergency generator or a portable gasoline-powered pump that will supply water from a swimming pool, pond, well or tank, clearly mark its location and make sure it is ready to operate.
- ❑ Place a ladder against the house on the side opposite the approaching fire to help firefighters in rapidly getting onto your roof.

## Inside Your Home

- ❑ Close all windows and doors to prevent sparks from blowing inside.
- ❑ Close all doors inside the house to slow down fire spread from room to room.
- ❑ Turn on a light in each room of your house, on the porch and in the yard. This will make the house more visible in heavy smoke or darkness.

- ❑ Shut off liquefied petroleum gas (LPG) or natural gas valves.
- ❑ Move furniture away from windows and sliding glass doors to keep it from igniting from the heat of fire radiating through windows.
- ❑ Remove your curtains and drapes. If you have metal blinds or special fire-resistant window coverings, close them to block heat radiation.

### **Evacuating**

- ❑ If you do evacuate, use your pre-planned route away from the approaching fire front.
- ❑ Keep a flashlight and portable radio with you at all times.
- ❑ If you are trapped by fire while evacuating in your car, park in an area clear of vegetation, close all vehicle windows and vents, cover yourself with a blanket or jacket, and lie on the floor.
- ❑ If you are trapped by fire while evacuating on foot, select an area clear of vegetation along a road, or lie in the road ditch. Cover any exposed skin with a jacket or blanket. Avoid canyons that can concentrate and channel fire.

### **If You Stay in Your Home When a Fire Approaches**

- ❑ Stay inside your house, away from outside walls.
- ❑ Close all doors but leave them unlocked.
- ❑ Keep your entire family together and remain calm. Remember: if it gets hot in the house, it is many times hotter and more dangerous outside.

### **After the Fire Passes**

- ❑ After a fire passes, check inside the attic for hidden burning embers.
- ❑ Check the roof immediately, extinguishing all sparks and embers. If you must climb onto the roof, use caution, especially if it is wet.
- ❑ Check inside the attic for hidden burning embers.
- ❑ Check your yard for burning woodpiles, trees, fence posts or other materials.
- ❑ Keep the doors and windows closed.
- ❑ Continue rechecking your home and yard for burning embers for at least 12 hours.



# After the Fire

## **Erosion**

When fire burns it removes protective layers of plant material and litter which stabilize soils. Vegetative ground covers hold soils in place, break up and slow the speed and distribution of water during rainstorms, and allow time for water absorption. Soils become vulnerable and unstable when openly exposed to weather and produce dangerous and environmentally damaging erosion known as blowouts. When fire burns at high intensities it creates hydrophobic soils — soils which have a waxy over-coating that repels water and increases the rate of soil erosion. There are several techniques landowners can use to reduce the effects of soil erosion after a fire. (For more information refer to Colorado State University Cooperative Extension Fact Sheet 6.308.)

## **Rehabilitation/Seeding**

Many plants and grasses are equipped with underground root structures that offer protection and encourage regeneration after a fire. The rate and extent at which this voluntary recovery may occur is dependent upon the severity of the fire, the plant community, and suitable growing conditions. In areas where catastrophic fire burns very hot, rehabilitation efforts may be needed. (For more information refer to Colorado State University Cooperative Extension Fact Sheets 6.307 and 6.308)

## **Invasive Species**

The introduction and establishment of non-native species can change seasonal growing patterns and contribute to increased amounts and arrangements of fuels. These species can also spread downstream to agricultural areas, resulting in high control costs. The invasive qualities of non-native species enable them to thrive under disturbed conditions, making land vulnerable to their establishment and spread after a fire since it may take longer for native species to regenerate.