

Ready, Set, Go!

Your Personal Wildfire Action Plan



North Hogback Fire 2015
Florida Scholting



Green Mountain Fire 2008
Courtesy of City of Lakewood



West Metro
Fire Rescue



Colorado Springs Fire Dept



Ready, Set, Go!

Saving Lives and Property through Mitigation and Planning

Since 2000 over 3,000 homes have been lost in fires in the **wildland-urban interface (WUI)** in the U.S. Over 1,000 homes were destroyed along the Front Range of Colorado in 2012-13.

Firefighters will make every effort to protect you and your property from a wildfire, but during a major incident, there simply will not be enough engines or firefighters to defend every home. **It is YOUR responsibility to protect yourself, your family and your property.**

Recent field experiments, lab experiments, and case studies have shown how and why homes ignite and are destroyed in wildland fires. These fires are inevitable, but home destruction is not.

This publication will help guide you through the process of reducing the vulnerability of your family and home to wildfire. We call this process, **“Ready, Set, Go!”**

The **Ready, Set, Go (RSG)! Program** works in collaboration with other wildfire mitigation and preparedness efforts, such as Firewise Communities and the Colorado State Forest Service.

For additional information and guidance, please visit the wildfire mitigation specialists at your local West Metro Fire station.



<http://westmetrofire.org/>



This publication was customized by West Metro Fire Rescue using a mix of information from the International Association of Fire Chief's RSG! Program and information to reflect regional practices and recommendations. Special thanks to Insurance Institute for Business and Home Safety (IBHS) for program support.

For more information about the Ready, Set, Go! Program and its partners, visit

<http://wildlandfirersg.org/>

The Home Ignition Zone



Image courtesy of CSFS

Two factors have emerged as the primary determinants of a home's ability to resist ignition and survive a wildfire

1. A structure's ignitability
2. The quality of its defensible space.

These two factors create the **Home Ignition Zone (HIZ)**, which includes the structure and the space immediately surrounding it. To protect a home from destruction during a wildfire, the ideal state is *a home that will survive with no intervention from firefighters*.

During wildland-urban fires, homes ignite and are destroyed by two primary mechanisms:

1. Ember intrusion
2. Low-intensity fire making direct contact with the home

Contrary to popular belief, high-intensity crown fires are **NOT** the primary cause of home destruction. Home ignite and burn *"when the requirements for combustion are met."* The following mitigation practices have been proven to reduce a home's vulnerability to ignition and destruction.

Ember Blizzard:

Ember intrusion is a primary cause of home ignition and destruction. Thousands upon thousands of wind-driven embers are generated by burning vegetation and structures, and can travel *in excess of one mile*. they can and will lodge into any possible nook or cranny and ignite your home. Reducing your home's vulnerability to embers needs to be a top priority.



The Fire Adapted Communities Coalition is a group of partners committed to helping people and communities in the wildland-urban interface adapt to living with wildfire and reduce their risk for damage, without compromising firefighter or civilian safety.

<http://fireadapted.org/>

Structure Ignitability

If your home doesn't ignite, it can't burn.

Construction materials and building design play an important role in determining the vulnerability of your home to wildfire. Here are some simple actions you can take to reduce the ignitability of your home and structures:

Home improvements:



ROOFS

Roofs are the **most vulnerable surface** where embers land because they can lodge and ignite a fire. Wood shake-shingle roofs are unacceptable because they are highly flammable. Many debris-filled gutters have ignited and led to total home destruction.

Actions: When your roof needs significant repairs or replacement, **use only noncombustible roofing materials**. Metal flashing can block embers from lodging and igniting wood roofing components and siding. Keep gutters free of combustible debris.

BALCONIES and DECKS

Most decks are highly combustible. Embers that collect on the top or under-deck can ignite that material, combustible furniture, and leaf and needle debris, then spread to the home.

Actions: Remove combustible materials from on and under decks, including furniture and storage, extend gravel or cement under deck, screen or enclose decks.

VENTS

Many homes have been destroyed by wind-driven embers entering the **attic** or other concealed spaces. Vents in eaves and gables are particularly vulnerable.

Action: At a minimum, cover all vent openings with fine metal mesh.

EAVES

Embers can gather under open eaves, enter the attic through soffit vents, and ignite exposed wood or other combustible material.

Action: Box in eaves with noncombustible materials, screen all soffit vents with fine metal mesh, and remove all vegetation directly under eaves.

SIDING and FENCING

Combustible siding can ignite and destroy the home. **Combustible wood fencing** that is attached to the home can ignite and carry fire to the home, like a fuse.

Actions: Consider building or remodeling with ignition-resistant materials such as brick, cement, masonry, or stucco. If you have a wooden fence, consider a gate, a short section of noncombustible materials, or metal flashing where it attaches to the home.

WINDOWS and DOORS

Embers can enter a home through **gaps in doors, including garage doors**. Plants or combustible storage near windows can be ignited from embers and generate enough heat to break windows, allowing embers to enter the home.

Actions: Use double-pane windows with tempered glass and weather-stripping for all doors, including the garage door. Remove all combustible material and vegetation from underneath windows.

Create “Defensible” Space

The term “defensive” is misleading and is falling out of favor. During a Wildland-Urban disaster, firefighters may not be available to actively defend your home. Ideally, your home can survive a wildfire with no intervention from firefighters. This space should be modified to reduce the ignition risk and fire intensity should an ignition occur, and to prevent direct flame contact with the house.

Zone 1 is the area nearest the home, and requires the maximum hazard reduction *to prevent direct flame contact with your home*.

Zone 2 is an area of fuels reduction designed to *diminish the intensity of a fire* approaching your home, particularly high-intensity fire within 100’.

Zone 3 is the area furthest from your home and may overlap with neighbors’ property. Fuels modification is intended to diminish the intensity of fire.

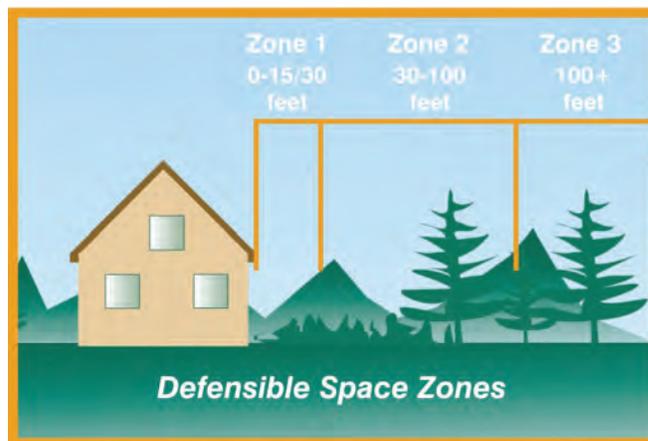


Image courtesy of CSFS

ZONE 1

0-15/30 feet around your home or to your property line

- **0-5 feet: Use noncombustible hard surfaces such as concrete or gravel to prevent direct flame contact with home.**
- Remove any leaf or needle litter that has accumulated against your house.
- Limit vegetation within this Zone to species on Colorado’s Firewise List.
- Prune all plants and remove all dead branches and leaves.
- Remove leaf and needle debris on the ground.
- Keep grass irrigated and mowed.
- Do not store firewood or combustible materials in this area.
- Remove any tree branches that overhang the roof.
- Increase width to 30’ when home sits atop steep slope

ZONE 2

30-100 feet around your home or to your property line

- Remove stressed, diseased, dead or dying trees and shrubs.
- Thin and prune the remaining larger trees.
- Remove leaf and needle debris on the ground.
- Keep grass irrigated and mowed.
- Prune ladder fuels up to a minimum height of 10 feet.
- Maintain adequate spacing between shrubs.
- Zone 2 may overlap with your neighbors’ property or may not exist in areas of high-density.

ZONE 3

100+ feet around your home or to your property line

- Zone 3 has no specified width.
- Create and maintain a minimum of 10 feet between tree tops.
- Prune ladder fuels up to a minimum height of 10 feet.
- Remove stressed, diseased, dead or dying trees or shrubs.
- Zone 3 may overlap with your neighbors’ property or may not exist in areas of high-density.
- Consider other objectives if your property is directly adjacent to open space lands.

More comprehensive information can be found at:
<http://csfs.colostate.edu/wildfire-mitigation/>
<http://firewise.org/?sso=0>

Tour 4 Homes in the Wildland-Urban Interface

Garage:

Install a solid door with self-closing hinges between the garage and living area. Install weather stripping around and under doors to prevent ember intrusion.

Store fuel and other flammable chemicals in a metal cabinet. Store all combustible material away from ignition sources.

Outbuildings: Use the same principles for all your structures, included garages, sheds, and barns

Vents: Vents on homes are particularly vulnerable to ember intrusion. All vent openings should be covered with **fine metal mesh**.

Attic vents in eaves or gables should be baffled or otherwise protected to prevent ember intrusion (mesh is not enough).

Deck/Patio: Use heavy timber or fire-resistive construction material for decks and do not store anything under the deck.

Enclose the underside of balconies and decks with fire-resistive materials to prevent embers from blowing underneath. Remove leaves or needle debris from on top and underneath decks.

Remove combustible items such as furniture (including cushions) and propane tanks from the deck if a wildfire is approaching.

Home Site and Yard: Modify the vegetation in the Home Ignition Zone (pages 5 and 7). Note that more intensive treatment may be needed for homes in severe hazard areas. Work with your neighbors to address common areas.

Keep woodpiles, propane tanks and combustible materials away from your home and other structures such as garages, barns and sheds.

Ensure that trees are far away from overhead power lines.

Walls/siding:

These walls are constructed using fire-resistive building materials such as brick, cement, masonry or stucco. Be sure to extend these materials from foundation to roof.

Prevent ember intrusion by installing weep screed or flashing at the bottom of walls and in gaps.

All these trees and shrubs should be removed, due to their close proximity to the house.

Address: Post your address with 4" reflective numbers that can be seen from the road in all weather conditions.

Roof: Homes with wood-shake shingle roofs are at high risk of ignition from wind-blown embers.

Build your roof or re-roof with fire-resistive materials Use metal flashing to prevent ember intrusion.

Clear pine needles, leaves and other debris from your roof and gutters.

Cut any tree branches within 10 feet of your roof.

Chimney: Cover your chimney and stovepipe outlets with a non-flammable screen or metal mesh to prevent embers from escaping and igniting a fire.

Make sure that your chimney is at least 10 feet away from any tree branches.

Vents: All vent openings should be covered with **fine metal mesh**. Use baffled vents for greater protection from embers

Gutters: Screen or enclose rain gutters to prevent an accumulation of plant debris and ember intrusion.

Clean leaves and debris from gutters regularly.

These trees and shrubs should be removed, due to their close proximity to the house.

Eaves: Box in eaves with non-combustible materials and screen soffit vents with fine metal mesh.

Windows: Single-paned and large windows are particularly vulnerable, since heat can break them and allow embers to enter and ignite the house

Install dual-paned windows with the exterior pane of tempered glass to reduce the chance of breakage during a fire.

Non-Combustible Fencing: Use noncombustible fencing, or at least noncombustible attachment points, to prevent fire spreading to your structures.

These trees should be thinned and pruned, to ensure 10 feet minimum between tree tops.

Ladder fuels should be removed to a height of 10 feet from the ground.

No vegetation should be planted within 5 feet of the house, especially directly under windows.

Use hard surfaces such as concrete or gravel to a width of 5 feet around home.

Inside: Keep working fire extinguishers on hand in accessible locations.

Consider installing residential sprinklers in your home and maintain the system as suggested by the installer.

More comprehensive information can be found at:
<http://csfs.colostate.edu/wildfire-mitigation/>
<http://firewise.org/?sso=0>

Ready, Set, Go!

Create Your Own Action Plan

Once you've mitigated the hazards in the **Home Ignition Zone**, it is time to prepare your family. Your **Wildfire Action Plan** should be prepared well in advance of a fire.

Use these checklists to help prepare your home and family and increase your situational awareness and preparedness for a wildland fire.

Ready — Prepare your home and family

- Mitigate hazards in your **Home Ignition Zone** (pages 3-7).
- Assemble an emergency supply kit as recommended by the Red Cross.
<http://www.redcross.org/mo2>
At a minimum:
 - Supply of drinking water
 - Cell phones and chargers
 - Change of clothing for each family member
 - Blanket or sleeping bag for each person
 - First aid kit
 - Prescription medications
 - Emergency tools including a flashlight and extra batteries
 - Extra set of car keys, credit cards, I.D. and cash
 - Extra pairs of eyeglasses and other special items for infant, elderly or disabled family members.
- Have fire extinguishers on hand and train your family how to use them.
- Follow West Metro Fire, Jefferson County and Douglas County Emergency Management on Facebook and Twitter or other social media.
- Register your mobile phones and devices with **CodeRED** for emergency notification (see this page).
- Plan several different evacuation routes
- Designate a meeting location outside the fire hazard area
- Ensure your family know the locations your gas, electric, and water main shut-off controls and how to use them.



CodeRED Emergency Notifications

Jefferson County and Douglas County both utilize the CodeRED emergency notification system to get important information to the public quickly, such as evacuation notifications. Traditional land-line numbers are automatically included in the system, ***mobile phones must be registered.***

To register for this free service, go to <http://jeffco.us/sheriff/emergencies> or <http://www.dcsheeriff.net/emergency-preparedness/>

The CodeRED Mobile Alert app is also available in the App Store and Google Play.

Set — As the fire approaches

- Stay alert and aware** of fire status and weather conditions. Monitor social media, local news media, and emergency notification systems (CodeRED).
- Remain close to your house, drink plenty of water, and keep an eye on your family and pets until you are ready to leave.
- Evacuate** as soon as you are set!
- Alert family and neighbors that you are leaving.
- Dress in appropriate clothing (clothing made from natural fibers, such as cotton, and boots). Have eye protection and a dry bandanna or particle mask handy.
- Ensure you have your **emergency supply kit** on hand.

INSIDE CHECKLIST, IF TIME ALLOWS

- Close all windows and doors, leaving them unlocked.
- Close all shutters, blinds or heavy noncombustible window coverings to reduce radiant heat.
- Shut off gas at the meter.
- Turn off pilot lights and air conditioning/swamp cooler.
- Leave your lights on so emergency personnel can see your house under smoky conditions.

Evacuation Levels:

Level 1 means be ready.

Level 2 means leave soon.

Level 3 means leave immediately.

OUTSIDE CHECKLIST, IF TIME ALLOWS

- Bring combustible items from the exterior of the house inside (e.g. patio furniture, door mats). If you have a pool, place these items in the water.
- Turn off propane tanks and other gas at the meter.
- Leave exterior lights on.
- Place a ladder in an obvious location.
- Back your car into the driveway to facilitate a quick departure. Shut the doors and windows.
- If you do so safely, patrol your property and extinguish any small fires until you leave.
- Cover attic and ground vents with pre-cut plywood or commercial seals.

IF YOU ARE TRAPPED: SURVIVAL TIPS

- Stay in your home until the fire passes. Shelter away from outside walls.
- Bring garden hoses inside house or garage so embers and flames do not destroy them.
- Stay hydrated.
- Place wet towels under doors to keep smoke and embers out.
- Ensure you can exit the home if it catches fire.
- Extinguish any spot fires inside house.
- Fill sinks and tubs for an emergency water supply.
- After the fire has passed, check your roof and attic and extinguish any fires, sparks, or embers.
- If there are any fires you cannot extinguish, call 9-1-1.

Go — Act early

By leaving early, you give your family the best chance of surviving a wildland fire. You also help emergency personnel by keeping roads clear of congestion, enabling them to move more freely and do their jobs in a safer environment.

WHEN TO LEAVE

Do not wait to be advised to leave, if there is a threat to your home or evacuation route. Leave early enough to avoid being caught in fire, smoke, or road congestion. If you are advised to leave by authorities, do not hesitate!

WHERE TO GO

Leave to a predetermined location (it should be a low-risk area, such as a well-prepared friend or relative's house, a Red Cross shelter or evacuation center, motel, etc.). Local authorities may designate a specific evacuation center.

EVACUATION ROUTE

Have several travel routes in case one is blocked, but be prepared to follow the evacuation route **designated by local authorities**.

WHAT TO TAKE

Take your **emergency supply kit** containing your family and pet's necessary items.



Courtesy of CDOT

Special thanks to the following for their collaboration:
Colorado State Forest Service
South Metro Fire Rescue Authority
Colorado Springs Fire Department
Colorado State Fire Chiefs Association
Fire Marshals Association of Colorado
Fire & Life Safety Educators of Colorado
Fire Adapted Colorado (FACO)

NFPA's Firewise Communities Program encourages local solutions for safety by involving homeowners and communities taking responsibility for preparing their homes and neighborhoods from the risk of wildfire.

The following communities in West Metro's District have achieved Firewise Communities Recognition:

Roxborough Park (since 2007)

<http://www.roxboroughparkco.com/page/21453~451541/Fire-Mitigation>

Ken-Caryl Ranch (since 2015)



<http://firewise.org/?sso=0>

Tax credit available for mitigation work

As authorized by §39-22-104(4)(n), C.R.S., individuals, estates and trusts may subtract from federal taxable income certain costs incurred while performing wildfire mitigation measures on their property that meet the following qualifications and limitations:

- The taxpayer must own the property upon which the wildfire mitigation measures are performed.
- The property must be located in Colorado and within a wildland-urban interface area.
- For tax years 2009 through 2012 only, the wildfire mitigation measures must be authorized by a community wildfire protection plan (CWPP) adopted by a local government within the interface area.
- The total amount of the subtraction may not exceed \$2,500.
- The deduction is available for tax years 2009 through 2024.

An approved CWPP identifies and prioritizes areas for hazardous fuel reduction treatments and recommend the types and methods of treatments. It also must recommend measures to reduce structural ignitability. Further information regarding community wildfire protection plans can be found online at

<http://csfs.colostate.edu/wildfire-mitigation/>



Costs

Costs include any actual out-of-pocket expense incurred and paid by the landowner and documented by receipt for performing wildfire mitigation measures. The following expenses are specifically excluded within statute and do not qualify for this subtraction:

- Inspection or certification fees
- In-kind contributions
- Donations
- Incentives
- Cost sharing
- Expenses paid by the landowner from any grants awarded to the landowner for performing wildfire mitigation measures

Wildfire mitigation measures include the following activities to the extent that they meet or exceed any Colorado State Forest Service standards or any other applicable state rules:

- Creating and maintaining a defensible space around structures
- Establishing fuel breaks
- Thinning of woody vegetation for the primary purpose of reducing risk to structures from wildland fire
- Secondary treatment of woody fuels by lopping and scattering, piling, chipping, removing from the site or prescribed burning

Additional ways to save money on mitigation:

- Consider sharing the costs of these mitigation measures with your neighbors
- Certain state and federal grants are available for neighborhoods and communities only
- Involve youth or school groups that are looking for a community service project
- Local businesses may be willing to donate rental equipment
- Ask West Metro Firefighters for other ideas



<http://wildlandfirersg.org/>

Our Personal Wildfire Action Plan

Write up your Wildfire Action Plan and post it in a location where every member of your family can see it. Rehearse it with your family and neighbors. During Red Flag Warning days in your area, monitor your local news media and social media for information on wildfires and be ready to implement your plan.

Important Phone Numbers: _____

Out-of-town Contact: _____ **Phone:** _____

Work: _____

School: _____

Neighbors: _____

Others: _____

Evacuation Routes: _____

Meeting Place: _____

Location of Emergency Supply Kit: _____

Notes: _____

Colorado's Partners in Wildfire Mitigation Education

