

FireWise Landscaping

May 2018



CLEAR CREEK COUNTY
COLORADO STATE UNIVERSITY
EXTENSION

clearcreek.colostate.edu

We choose live here because of the natural beauty; plants make up a large part of that – we love our trees!



These areas prone to wildfires
that can destroy
homes and properties
in the blink of an eye.



Fire moves more quickly
than you think.



*“Home loss to wildfires is a solvable issue...
It’s NOT a miracle or luck,
fire is the process of combustion,
and if we manage the fuels,
combustion is interrupted and we win!”
~Pat Durland, national mitigation expert*

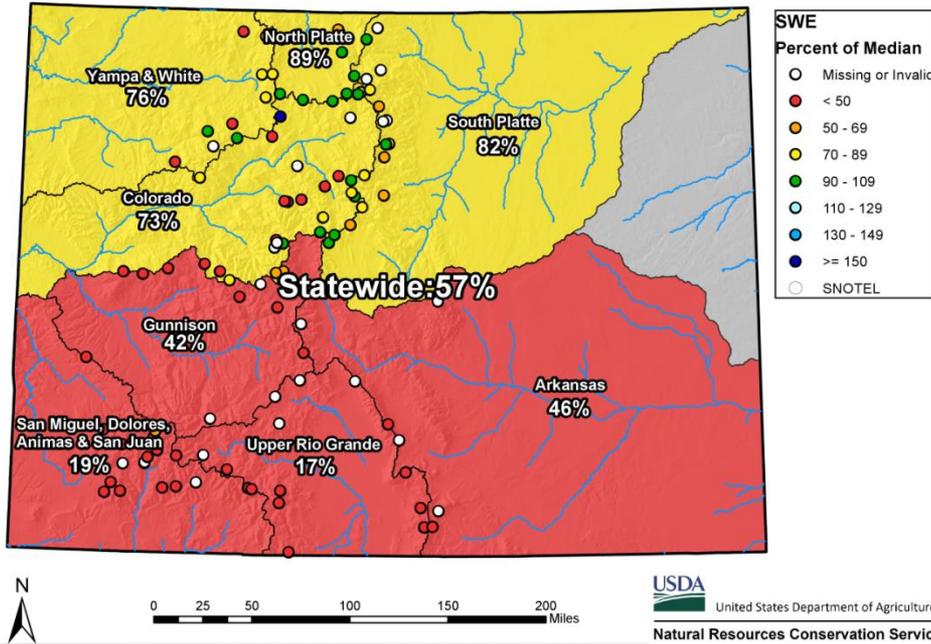


The 2017 wildfire season was one of the most challenging years on record. More than 71,000 wildfires burnt over 10 million acres. Federal agencies spent nearly \$3 billion on fire suppression, and 14 firefighters were killed in action.

Unfortunately, not a matter of IF, but WHEN...

Colorado SNOTEL Snow Water Equivalent (SWE) Update Map with Site Data

Current as of May 03, 2018



U.S. Drought Monitor Colorado

May 1, 2018
(Released Thursday, May 3, 2018)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	18.47	81.53	67.98	53.65	30.89	5.02
Last Week 04-24-2018	18.47	81.53	67.98	53.65	30.89	3.87
3 Months Ago 01-30-2018	0.59	99.41	75.90	29.21	0.00	0.00
Start of Calendar Year 01-01-2018	6.57	93.43	33.53	7.27	0.00	0.00
Start of Water Year 09-26-2017	67.63	32.37	3.72	0.00	0.00	0.00
One Year Ago 05-02-2017	83.52	16.48	3.57	0.00	0.00	0.00

Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:

David Simeral
Western Regional Climate Center



<http://droughtmonitor.unl.edu/>

Colorado Water Conservation Board

<http://cwcbb.state.co.us/water-management/drought/Pages/main.aspx>

Colorado Statewide Drought Response Portal

<http://coh2o.co/>

Linda & Cory survived the 2011 Crystal Fire in Colorado, but their house did not.



RESEARCH CONFIRMS:

- Proactive wildfire mitigation is effective.
- You can dramatically improve the chances of your home/structure surviving a wildfire with proper mitigation efforts.
- It is your personal responsibility to protect your property from wildfire.
- Fuel modification must occur within 100 to 200 feet of structures.
- You must maintain your “Defensible Space.”

The Cold Springs Wildfire

- July 2016
- Near Nederland at 8,200'
- Mainly Lodgepole, Ponderosa Pine, Douglas Fir forest
- Started by a careless spark caused by two transients
- Burned 528 acres predominantly on private lands



Wildfire Mitigation Success Stories by Cold Springs Wildfire Homeowners

Over the last few years, David and Trise Ruskay have been thinning and taking lower limbs off all the trees around their house, removing about 30 pine and spruce trees. They removed juniper and kinnikinnick bushes completely in that 30 foot range as well. As the flames steamed up his driveway, David ran along with Timberline and Nederland firefighter and only had about five minutes to take what he could. “I returned expecting to see very little left of our home and gorgeous property. What I found was a 360 degree, 50 foot swath all the way around the house in which there sat a green island, our house untouched in the middle of it, and black everywhere beyond that line.”

Wildfire Mitigation Success Stories by Cold Springs Wildfire Homeowners

Bob Lanham has been working on mitigation of his mountain home for many years. His mitigation worked -- ground fires stopped about 20 feet from the structure and trees burned within about 100 feet. When he purchased the home, it suffered from 30 years of neglect and was a fire waiting to happen—wood shingles, lumber stacked under the wood decks, and dense conifers overhanging the home. The fire burned across half of his yard on the south side of the house. It stopped at the point where he'd earlier raked the grass down to bare dirt, removing accumulated pine needles and aspen leaves. He said it was “a lot of work, but worth it.” Bob's was the only surviving home of the three adjacent properties on Sherwood Road. He believes his neighbors' homes would have survived if they had mitigated to the extent he did. One of his neighbors just bought his house and hadn't even moved in yet.

BOTTOM LINE:

They performed comprehensive mitigation that often entailed many hours of hard work and hundreds of dollars of expense, and their homes survived.

Are You at Risk?

More than two million Coloradans live in the wildland-urban interface (WUI).

The wildland-urban interface is any area where man-made improvements are built close to, or within, natural terrain and flammable vegetation, and where high potential for wildland fire exists. If you live in the WUI, you are at risk.

What is Wildfire Mitigation?

As more people build homes, operate businesses and recreate in areas where wildlands border urban areas, wildfire threats to properties and lives increase.

Wildfire mitigation actions are on-the-ground treatments of forested properties implemented to reduce the threat of wildfire. These actions can take place before, during or after a wildfire has occurred.

The Colorado State Forest Service (CSFS) is the lead state agency in fuels mitigation expertise in Colorado and an excellent resource for residents who want to gain more information and take steps to decrease the threat of wildfire to their property.



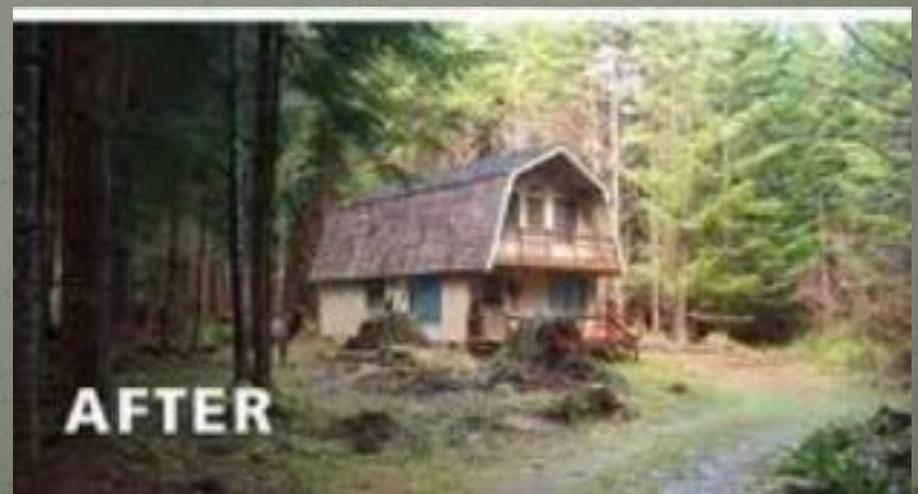
<https://csfs.colostate.edu/wildfire-mitigation/>

Defensible Space \neq Moonscape!



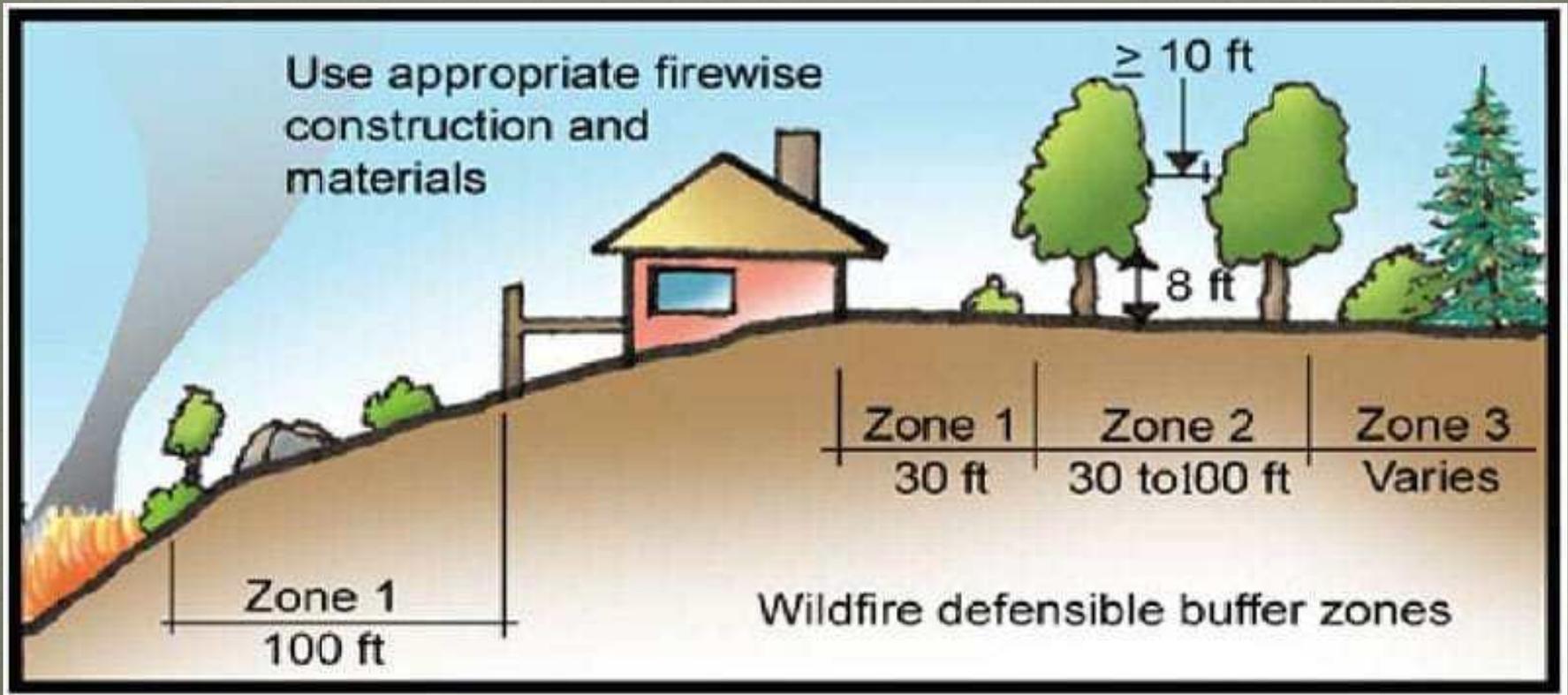
Firewise Landscaping

- To help minimize and hopefully prevent wildfire damage, the amount of flammable vegetation and materials (ladder fuels) surrounding your home must be reduced.
- Preventative action based on the science of how houses actually burn in wildfires.
- Allows you to transform your home's perimeter into a useable area that looks good and helps protect your home.
- Provides a safe space for firefighters.



The Home Ignition Zone

- The home itself and everything around it up to around 200 feet is known as the *Home Ignition Zone*. In the foothill communities of Colorado where the risk of wildfire is high, the home ignition zone extends out well beyond the actual home structure.



Structural Ignitability

What's wrong with these situations?



REMOVE PINE NEEDLES!

From roof, gutters, close to house, in garden/
landscape areas:

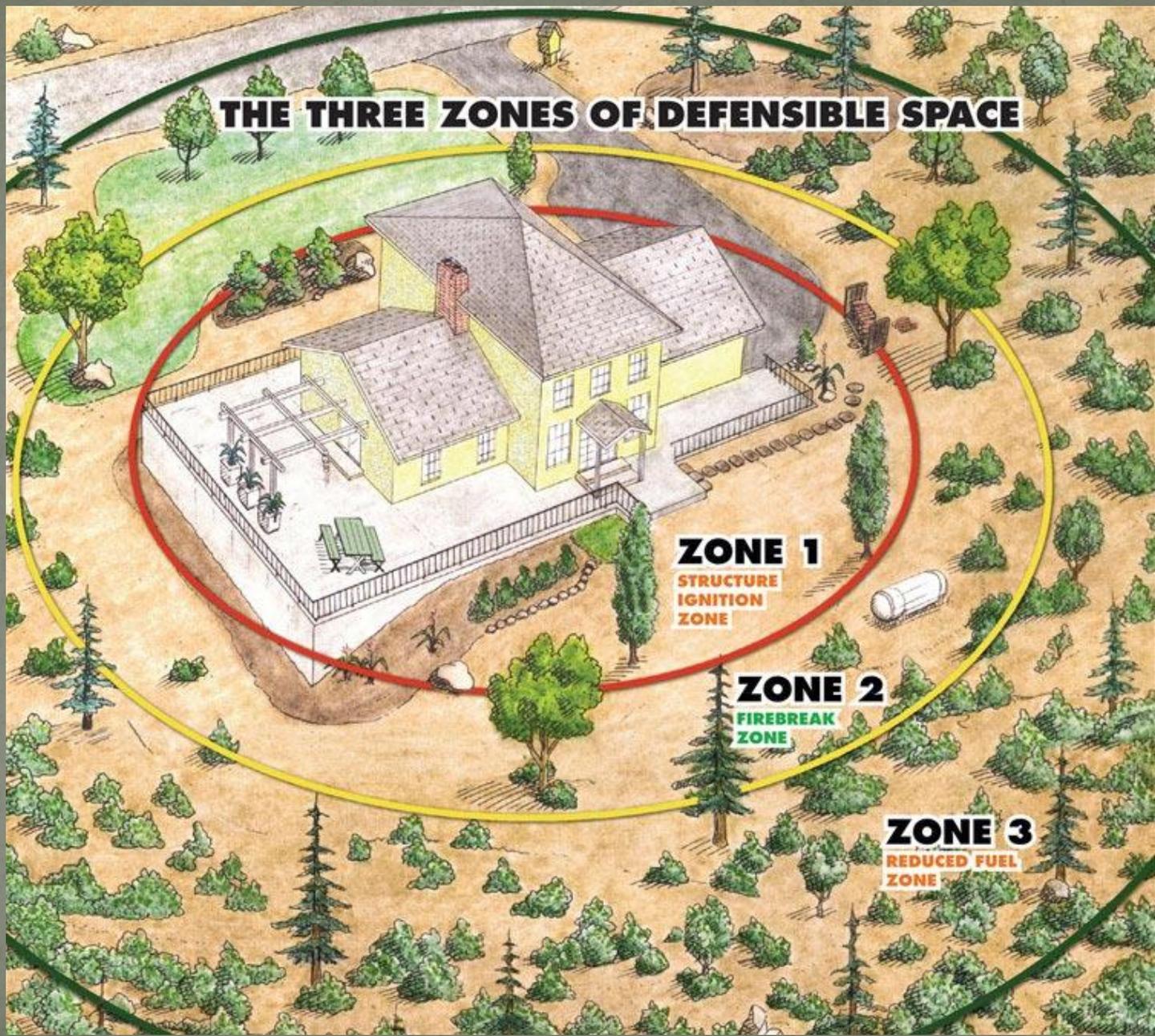
- **Highly Ignitable!**
- **Can Inhibit Growth**
- **Can be Somewhat Hydrophobic**
- **Can Prevent Seeds from Reaching Soil**



Defensible Space

This area is divided into three zones depending on topography, access and distance to the home, how the home is constructed, vegetation, and property lines.

THE THREE ZONES OF DEFENSIBLE SPACE



ZONE 1
STRUCTURE
IGNITION
ZONE

ZONE 2
FIREBREAK
ZONE

ZONE 3
REDUCED FUEL
ZONE

ZONE 1: Area nearest the home and other structures; requires maximum hazard reduction.

ZONE 2: Transitional area of fuels reduction between Zone 1 and 3 (aka firebreak).

ZONE 3: The area farthest from the home; extends from the edge of Zone 2 to your property boundaries.

NOTE:

- ✓ Because each property is different, these measurements may vary.
- ✓ You have several options when addressing fire danger on your property – fire mitigation is definitely not a “one size fits all” approach.
- ✓ The three zones can be addressed over time as your budget allows and to ensure that property value is maintained.

Zone 1

- The width of Zone 1 extends a minimum distance of 15-30 feet outward from a structure, depending on property size.
- Most flammable vegetation is removed in this zone, with the possible exception of a few low-growing shrubs or fire-resistant plants.

NOTE: Avoid landscaping with common ground junipers, which are highly flammable!

- Increasing the width of Zone 1 will increase the structure's survivability. This distance should be increased 5 feet or more in areas downhill from a structure.
- The distance should be measured from the outside edge of the home's eaves and any attached structures, such as decks.

Zone 1- Recommended Treatments:

- Install nonflammable ground cover and plant nothing within the first 5 feet of the house and deck. This critical step will help prevent flames from coming into direct contact with the structure. This is particularly important if a building is sided with wood, logs or other flammable materials. Decorative rock creates an attractive, easily maintained, nonflammable ground cover.
- If a structure has noncombustible siding (i.e., stucco, synthetic stucco, concrete, stone or brick), widely spaced foundation plantings of low-growing shrubs or other fire-resistant plant materials are acceptable. However, do not plant directly under windows or next to foundation vents, and be sure areas of continuous grass are not adjacent to plantings.

NOTE: Information on fire-resistant plants is available on the CSFS website at www.csfs.colostate.edu

- Prune and maintain any plants in Zone 1 to prevent excessive growth. Also, remove all dead branches, stems and leaves within and below the plant.
- Irrigate grass and other vegetation during the growing season. Also, keep wild grasses mowed to a height of 6 inches or less.
- Do not store firewood or other combustible materials anywhere in this zone. Keep firewood at least 30 feet away from structures, and uphill if possible.
- Enclose or screen decks with 1/8-inch or smaller metal mesh screening (1/16-inch mesh is preferable). Do not use areas under decks for storage.

- Ideally, remove all trees from Zone 1 to reduce fire hazards. The more trees you remove, the safer your home will be.
- If you do keep any trees in this zone, consider them part of the structure and extend the distance of the entire defensible space accordingly.
- Remove any branches that overhang or touch the roof, and remove all fuels within 10 feet of the chimney.

- Remove all pine needles and other debris from the roof, deck and gutters.
- Rake pine needles and other organic debris at least 10 feet away from all decks and structures.
- Remove slash, wood chips and other woody debris from Zone 1.

Zone 2–Fuels Reduction

- An area of fuels reduction designed to diminish the intensity of a fire approaching your home.
- The width of Zone 2 depends on the slope of the ground where the structure is built; typically extends at least 100 feet from all structures.
- If it extends beyond your property lines, try to work with adjoining property owners.
- These actions help reduce continuous fuels surrounding a structure, while enhancing home safety and property aesthetics.
- Provide a safer environment for firefighters.

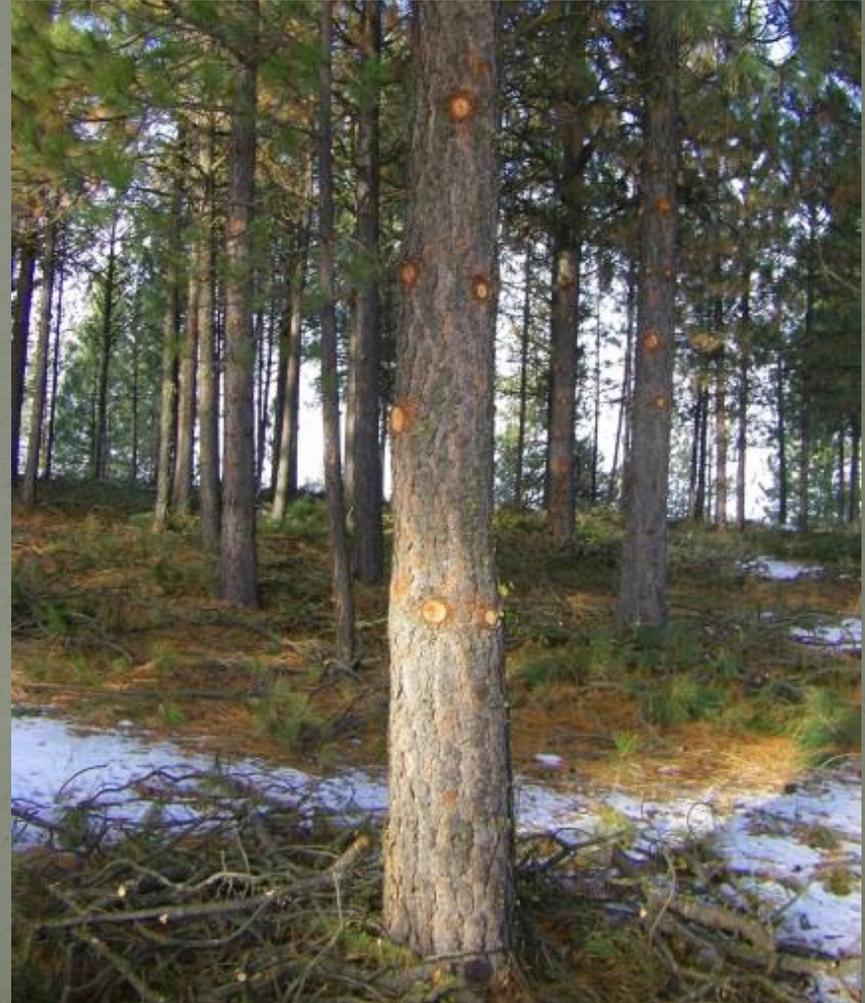
Zone 2 - Recommended Treatments:

Tree Thinning and Pruning

- Remove stressed, diseased, dead or dying trees and shrubs to reduce the vegetation available to burn, and makes the forest healthier.
- Remove enough trees and large shrubs to create at least 10 feet between crowns. Crown separation is measured from the outermost branch of one tree to the nearest branch to the next tree. Increase distance on steep slopes.

Tree Thinning and Pruning...

- Remove all ladder fuels from under remaining trees.
- Prune tree branches off the trunk to a height of 10 feet from the ground, or $\frac{1}{3}$ the height of the tree – whichever is less.



Tree Thinning and Pruning...

- If your drive way extends more that 100 feet from your home, thin out trees within a 30-foot buffer along both sides of driveway, all the way tot the main access road. And again, thin all trees to create 10-foor spacing between crowns.
- Small groups of 2-3 trees may be left in Zone 2, but leave a minimum of 30 feet between the crowns of these clumps and surrounding trees.

Tree Thinning and Pruning...

- Because Zone 2 forms an aesthetic buffer and provides transition, it is necessary to blend the requirements for Zones 1 and 3. For example, if you have a tree in Zone 2 with branches extending into Zone 1, the tree can be retained if proper crown spacing.
- Limit number of dead trees (snags) to 1 or 2 per acre. Make sure snags cannot fall onto house, powerlines, roads or driveways.
- As in Zone 1, the more trees/shrubs removed, the more likely your house will survive a wildfire.

Shrub Thinning/Pruning and Surface Fuels

- Isolated shrubs may be retained in Zone 2, provided they are not growing under trees.
- Keep shrubs at least 10 feet away from the edge of tree branches. This will prevent the shrubs from becoming ladder fuels.
- Minimum spacing recommendations between clumps of shrubs is 2 1/2 times the mature height of the vegetation.
- The maximum diameter of the clumps themselves should be twice the mature height of the vegetation. As with tree- crown spacing, all measurements are made from the edge of vegetation crowns. Example – For shrubs 6 feet high, spacing between shrub clumps should be 15 feet or more (measured from the edge of the crowns of vegetation clumps). The diameter of these shrub clumps should not exceed 12 feet.

Shrub Thinning/Pruning and Surface Fuels...

- Periodically prune and maintain shrubs to prevent excessive growth, and remove dead stems from shrubs annually.
- Common ground junipers should be removed whenever possible because they are highly flammable and tend to hold a layer of duff beneath them.
- Mow or trim wild grasses to a maximum height of 6 inches. This is especially critical in the fall, when grasses dry out.
- Avoid accumulations of surface fuels, such as logs, branches, slash and wood chips greater than 4 inches deep.

Firewood

- Stack firewood uphill from or on the same elevation as any structures, and at least 30 feet away.
- Clear all flammable vegetation within 10 feet of woodpiles.
- Do not stack wood against your home or on/under your deck, even in the winter. Many homes have burned as a result of a woodpile that ignited first.

Propane Tanks and Natural Gas Meters

- Locate propane tanks and natural gas meters at least 30 feet from any structures, preferably on the same elevation as the house.
- The tank should not be located below your house because if it ignites, the fire would tend to burn uphill. Conversely, if the tank or meter is located above your house and it develops a leak, gas will flow downhill into your home.
- Clear all flammable vegetation within 10 feet of all tanks and meters.
- Do not visibly screen propane tanks or natural gas meters with shrubs, vegetation or flammable fencing. Instead, install 5 feet of nonflammable ground cover around the tank or meter.

Little/No Vegetation Under Dense Conifers



Cutting out excess plants and trees will increase the moisture and nutrients available to the remaining vegetation, leaving it healthier and greener...

Clearing Trees Promotes Herbaceous Growth

NOTE:
No
growth
under
trees;
new
growth
where
trees
cut.



Type of Trees Can Influence Soil/Moisture



- Little Vegetation Under Pine Trees
- Aspen Favor Flowers
 - ✓ Denser Groves = Shade Lovers
 - ✓ Less Dense Groves = All Sorts of Wildflowers

Zone 3 - Forest Management

- Zone 3 has no specified width. It should provide a gradual transition from Zone 2 to areas farther from the home that have other forest management objectives. Your local Colorado State Forest Service forester can help you with this zone.
- This zone provides an opportunity for you to improve the health of the forest through proper management. With an assortment of stewardship options, you can proactively manage your forest to reduce wildfire intensity, protect water quality, improve wildlife habitat, boost the health and growth rate of your trees, and increase tree survivability during a wildfire.
- In addition, properly managed forests can provide income, help protect trees against insects and diseases, and even increase the value of your property.
- Typical forest management objectives for areas surrounding home sites or subdivisions provide optimum recreational opportunities; enhance aesthetics; improve tree health and vigor; provide barriers against wind, noise, dust and visual intrusions; support production of firewood, fence posts and other forest commodities; or cultivate Christmas trees or trees for transplanting.

Zone 3 Considerations:

- The healthiest forest is one that includes trees of multiple ages, sizes and species, and where adequate growing room is maintained over time.
- Remember to consider the hazards associated with ladder fuels. A forest with a higher canopy reduces the chance of a surface fire climbing into the tops of the trees, and might be a priority if this zone has steep slopes.
- A greater number of snags – two or three per acre, standing or fallen – can be retained in Zone 3 to provide wildlife habitat. These trees should have a minimum diameter of 8 inches. Make sure that snags pose no threat to power lines or firefighter access roads.

Zone 3 Considerations:

- While tree pruning generally is not necessary in Zone 3, it may be a good idea from the standpoint of personal safety to prune trees along trails and firefighter access roads. Or, if you prefer the aesthetics of a well-manicured forest, you might prune the entire area. In any case, pruning helps reduce ladder fuels within tree stands, thus reducing the risk of crown fire.
- Mowing grasses is not necessary in Zone 3.
- Any approved method of slash treatment is acceptable, including piling and burning, chipping or lop-and-scatter.

Go from no defensible space to home saved by clearing some trees.



Use the following checklists to build and maintain your defensible space (lists are not all-inclusive).

Defensible Space: Initial Projects

- ✓ Properly thin and prune trees and shrubs within the defensible space.
- ✓ Dispose of slash from tree/shrub thinning.
- ✓ Stack firewood uphill from or on the same elevation as any structures, or at least 30 feet away from structures.
- ✓ Screen attic, roof, eaves and foundation vents, and periodically check them to ensure that they are in good condition.
- ✓ Screen or wall-in stilt foundations and decks; screens should be 1/8-inch or smaller metal mesh (1/16-inch mesh is best).
- ✓ Post signs at the end of the driveway with your last name and house number that are noncombustible, reflective and easily visible to emergency responders.
- ✓ Make sure that the driveway is wide enough for fire trucks to enter and exit, and that trees and branches are adequately cleared for access by fire and emergency equipment. Contact your local fire department or check the CSFS website for information specific to access.

Defensible Space: Annual Tasks

- ✓ Clear roof, deck and gutters of pine needles and other debris.
- ✓ Mow grass and weeds to a height of 6 inches or less.
- ✓ Rake all pine needles and other flammable debris away from the foundation of your home and deck.
- ✓ Remove trash and debris accumulations from the defensible space.
- ✓ Check fire extinguishers to ensure that they are not expired and are in good working condition.
- ✓ Check chimney screens to make sure they are in place and in good condition.
- ✓ Remove branches that overhang the roof and chimney.
- ✓ Dispose of slash from tree/shrub thinning.

Be Prepared

- ✓ Complete a checklist of fire safety needs inside your home (these should be available at your local fire department). Examples include having an evacuation plan and maintaining smoke detectors and fire extinguishers.
- ✓ Develop your fire evacuation plan and practice family fire drills. Ensure that all family members are aware of and understand escape routes, meeting points and other emergency details.
- ✓ Contact your county sheriff's office and ensure that your home telephone number and other important phone numbers appear in the county's Reverse 911 or other emergency notification database.

Be Prepared...

- ✓ Prepare a “grab and go” disaster supply kit that will last at least three days, containing your family’s and pets’ necessary items, such as cash, water, clothing, food, first aid and prescription medicines.
- ✓ Ensure that an outdoor water supply is available. If it is safe to do so, make a hose and nozzle available for responding firefighters. The hose should be long enough to reach all parts of the house.

WATER ISSUES:

If you are on a well, check your well permit to see what's allowed and/or contact the Colorado Division of Groundwater Resources.

Explore rain water harvesting and/or water diversion from impervious surfaces.

Given our water rights and scarcity issues, you might want to research installing a cistern and hauling in water.



FIREWISE LANDSCAPING

A well designed landscape around your home is the first step toward reducing risk from wildfire. Maintaining it is the second step.

All vegetation is potential fuel for fire. There are no truly “fire proof” plants. All will burn if the conditions are right. There are, however, plants that are **FIRE-PRONE**, and those that are **FIRE-RESISTANT**.

FIRE-PRONE PLANTS

Traits include:

- needle-like or other fine leaves.
- resinous, oily or waxy foliage or wood.
- loose or papery bark.



FIRE-RESISTANT PLANTS

Traits include:

- little or no seasonal accumulation of dead leaves.
- non-resinous wood and leaves.
- high moisture content of leaves.



Design your landscaping to include a combination of fire-resistant plants/trees and noncombustible *hardscape* materials, such as decorative stone/brick walls, patios, decorative stone borders around the foundation, stone or brick fences, or a stone or brick pillar in the fence separating the fence from the house. Look at existing natural fire-breaks on your property and incorporate them into your design. Examples include utility rights-of-way, roads, trails, meadows, rocky areas and streams.



Click me for a complete list of FIREWISE plants, shrubs and trees.



So...what grows in the
mountains?

Tips for Sowing from Seed:

- Best to sow seeds in the fall – this is how it happens in nature!
- Seeds need the cool stratification to break dormancy
- In a “normal” year, will establish with no watering
- Less expensive, more varieties
- Be sure to use COLORADO native seed mixes
- Attend EXTENSION THURSDAY on June 28 for more!

Choose plants that:

- Are hardy to USDA Zones 3 and 4 (-40 to -20)
- Bloom no later than mid-summer (short growing season)
- Have low-water and low-maintenance needs
- Avoid noxious weeds and invasive species
- Highly recommend: Native or well-adapted non-natives (will do well at elevation and lower)

Let's look at some plants!



Herbaceous Perennials:

- Pearly everlasting
- Pussy Toes
- Colorado Columbine
(State flower – blue)
- Golden Columbine
- Sages
- Harebells
- Showy daisy
- Sulfur flower
- Blanket flower
- Wild geraniums
- Coral bells (not CO native)
- Candy tuft (non-native)
- Scarlet gilia (Fairy trumpet)
- Iris
- Lupines
- Maltese cross (non-native)
- White tufted evening primrose
- Pasque flower
- Penstemons (spring and summer blooming varieties) – 3-15' from house)
- Black-eyed Susan
- Salvia (non-native)
- Golden banner

Rocky Mountain Penstemon
Penstemon strictus



**Scarlet Bugler
Penstemon
*Penstemon barbatus***



Pasque flower
Pulsatilla patens



Showy daisy
Erigeron
speciosus



Note:

Don't be afraid of the Latin names. This is the only way to be certain you are getting the plant you want.

Sulphur flower
Eriogonum umbellatum



Colorado columbine
Aquilegia caerulea



DENVER
GOLD® Columbine
*Aquilegia
chrysantha*





Pussytoes
Antennaria sp.





Prairie sagebrush
Artemisia frigida

Tips for FireWise Landscaping with Shrubs:

- ✓ Plant at least 15' away from house
- ✓ Plant in groups to provide cover for birds (put bird baths nearby)
- ✓ Plant at edge of patio to restore some visual privacy lost to fire mitigation
- ✓ Plant at far edge of perennial bed(s) on landscape edge, but not close enough to be ladder fuel.

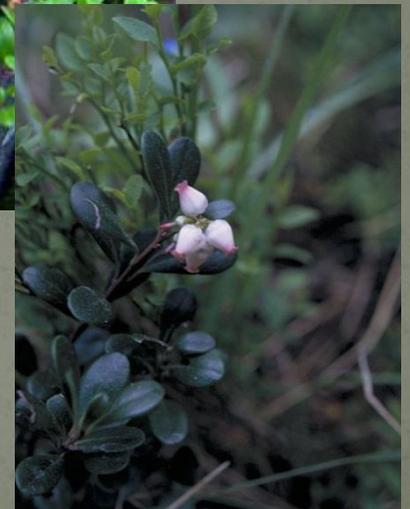
Shrubs:

- Serviceberry
- Kinnickinnick
- Red-osier dogwood
- Creeping mahonia
- Chokecherry
- Shrubby cinquefoil
- Golden currant
- Wax currant
- Woods rose
- Boulder raspberry
- Cheyenne mock orange
(near native!)



Serviceberry
Amelanchier alnifolia





Kinnickinnick
Arctostaphylos uva-ursi



Boulder raspberry
Rubus deliciosus



CHEYENNE® Mock Orange
Philadelphus lewisii



BEWARE of Noxious Weeds!

- ✓ Illegal to grow
- ✓ Cause damage to ecosystem
- ✓ Can appear when soil is disturbed (ie, after you do fire mitigation) – dormant in seed bank or brought in on equipment, etc.
- ✓ Can be accidentally planted as an ornamental

Common Noxious Weeds:

- ✓ Cheatgrass (Downy brome)
- ✓ Yellow toadflax
- ✓ Oxeye daisy
- ✓ Scentless chamomile
- ✓ Canada thistle
- ✓ Musk thistle
- ✓ Common mullein

Clear Creek County Office of Emergency Management

- ✓ Coordinates for disaster preparedness, including wildfire.
- ✓ Works to continually evaluate potential hazards.
- ✓ Seeks ways to keep citizens and emergency responders prepared for natural and manmade disasters.
- ✓ Conducts training exercises throughout the year help maintain staff proficiency and response capability.

In 2006 the Clear Creek County Office of Emergency Management embarked on Clear Creek County's County-Wide Community Wildfire Protection Plan (CWPP) as a means to improve our ability to help protect the communities from the threat of a wildfire disaster. The CWPP will help communities develop a response plan to be used should a major wildfire event occur. This program is ongoing and will continue to evolve as the communities work on their Implementation Plans.

To contact the Office of Emergency Management:

kkrebs@co.clear-creek.co.us

jthomas@co.clear-creek.co.us

303-679-2320 or 303-679-4237

(HAND-OUT)

RED CROSS: Be Prepared for an Emergency

Being prepared means being equipped with the proper supplies you may need in the event of an emergency or disaster. Keep your supplies in an easy-to-carry emergency preparedness/kit/backpack that you can use at home or take with you in case you must evacuate. At a minimum, you should have the basic supplies listed below:

- **Water:** one gallon per person, per day (3-day supply for evacuation, 2-week supply for home)
- **Food:** non-perishable, easy-to-prepare items (3-day supply for evacuation, 2-week supply for home).
- [Flashlight \[Available on the Red Cross Store\]](#)
- [Battery-powered or hand-crank radio \(NOAA Weather Radio, if possible\) \[Available on the Red Cross Store\]](#)
- Extra batteries
- [First aid kit \[Available on the Red Cross Store\]](#)
- Medications (7-day supply) and medical items
- Multi-purpose tool
- Sanitation and personal hygiene items
- Copies of personal documents (medication list and pertinent medical information, proof of address, deed/lease to home, passports, birth certificates, insurance policies)

- Cell phone(s) with chargers
- Family and emergency contact information
- Extra cash
- [Emergency blanket \[Available on the Red Cross Store\]](#)
- Map(s) of the area

Consider the needs of all family members and add supplies to your kit. Suggested items to help meet additional needs are:

- Medical supplies (hearing aids with extra batteries, glasses, contact lenses, syringes, etc)
- Baby supplies (bottles, formula, baby food, diapers)
- Games and activities for children
- Pet supplies (collar, leash, ID, food, carrier, bowl)
- Two-way radios
- Extra set of car keys and house keys
- Manual can opener

Additional supplies to keep at home or in your survival kit based on the types of disasters common to your area:

- Whistle
- N95 or surgical masks
- Matches
- Rain gear
- Towels
- Work gloves
- Tools/supplies for securing your home
- Extra clothing, hat and sturdy shoes
- Plastic sheeting
- Duct tape
- Scissors
- Household liquid bleach
- Entertainment items
- Blankets or sleeping bags

For more information on mountain gardening:



Christine Crouse,
Director/Agent
&/or
Clear Creek County
Master Gardeners

1111 Rose Street
Georgetown CO
303-679-2424



CLEAR CREEK COUNTY
COLORADO STATE UNIVERSITY
EXTENSION

clearcreek.colostate.edu