



**FEMA**



**COLORADO**  
Division of Homeland Security  
& Emergency Management  
Department of Public Safety



**COLORADO**  
Colorado Water  
Conservation Board  
Department of Natural Resources

## Flood After Fire & Wildfire Preparation and Recovery Webinar Series Colorado DR 4581 - Wildfire Disaster | 2021

### Resource List

**Webinar Videos - [Found Here!](#)**

**FEMA Mitigation Specialist Contact  
Information**

[FEMA-R8-Hmhelp@fema.dhs.gov](mailto:FEMA-R8-Hmhelp@fema.dhs.gov)

**State of Colorado Flood After Fire &  
Recovery Resources**

[Flood After Fire | Colorado Mitigation and  
Recovery Site](#)

[DR4581 Wildfire Recovery | Colorado  
Mitigation and Recovery Site](#)

**County Emergency Management  
Resources**

[Larimer County Office of Emergency  
Management](#)

[Grand County Office of Emergency  
Management](#)

**Colorado State University Extension  
Disaster Resources**

[CSU Extension Disaster Resources](#)

[CSU Extension Fire Resources](#)

**Small Business Administration  
Disaster Assistance Loans**

Applications for primary homeowners, renters,  
nonprofits, or businesses within the declaration  
area - **DUE APRIL 26th, 2021**

**You can apply online [here](#)**

Fact sheet [English](#) and [Spanish](#)

**U.S. Forest Service BAER Reports**

[East Troublesome Fire](#)

[Cameron Peak Fire](#)

**Insurance**

[How to Find an Insurance Agent](#)

[After the Fire Insurance Guide](#)

[National Flood Insurance Program](#)

**Rebuilding & Permitting**

[Larimer County](#)

[Grand County](#)

**Reseeding Fact Sheet - Attached**

### **Evacuation**

Saving the Whole Family - American Veterinary  
Medical Foundation publications  
English  
Spanish  
Community Animal Disaster Planning Toolkit

### **Flood After Fire**

Colorado Water Conservation Board  
National Flood Insurance Program  
FEMA Flood Maps  
Flood Map Search by Address  
Flood Risk Rating

### **Mitigation**

Creating Wildfire Defensible Zones  
Suburban Wildfire Adaptation Roadmap

### **Other FEMA Initiatives**

Rise Challenge

## **Webinar Speaker Biographies**

### **Welcome and Overview**

**Joan Huston** is a FEMA Hazard Mitigation Assistance Specialist and Community Education and Outreach Specialist for the past 18 years. Joan Huston has worked on nearly two dozen Federal Disasters helping survivor's recovery from natural disasters in her leadership, outreach, and grant roles.

**Carly Quisenberry** is a Recovery Natural Resources Specialist for the State of Colorado's Division of Homeland Security & Emergency Management. Previously, she has spent most of her career living and working in remote and isolated areas across the Pacific, Caribbean and Antarctic oceans as a research field station manager, science technician and park ranger. Her main interests center around conservation, climate science and natural resource management.

### **Phases of Recovery & U.S. Forest Service Lands**

**Reghan Cloudman** is a public affairs specialist with the Arapaho and Roosevelt National Forests and Pawnee National Grassland out of Fort Collins. She has worked for the Forest Service since 2002. Her public affairs position with the U.S. Forest Service focuses on communication efforts for the public, our partners and our employees. This work includes sharing information on wildfires and recovery efforts. She worked on the Cameron Peak Fire from the beginning and continues to be involved during fire suppression repairs, BAER (Burn Area Emergency Response) efforts, and long-term recovery with partners.

## **Insurance**

**Carole Walker** has served as Executive Director of the Rocky Mountain Insurance Association (RMIA) since 1998. RMIA is a non-profit trade organization that represents auto, home and business insurance companies in the Rocky Mountain Region.

The RMIA office, headquartered in Denver, is an insurance industry resource for consumer information on insurance, loss prevention and safety issues. Walker serves as an industry spokesperson and advocate in the four-state region of Colorado, New Mexico, Utah and Wyoming.

Walker has been at the forefront of insurance industry wildfire preparedness, response, and recovery efforts for more than two decades—acting as a liaison and building alliances between government agencies, fire officials and private sector partners on mitigation policy, community programs, education and risk reduction.

RMIA leads an extensive grassroots legislative network and spearheads key industry legislative and educational initiatives. Walker serves on a variety of boards and stakeholder groups, including the Colorado Homeland Security and All-Hazards Senior Advisory Committee, Colorado Fire Commission, Colorado State Recovery Task Force, Colorado Division of Insurance Producer Advisory Council, Wildfire Partners, Colorado Society of Association Executives, Colorado Young Drivers Alliance, and the Colorado Emergency Preparedness Partnership.

Walker has a B.A. in broadcast journalism from Gonzaga University in Spokane, Washington. Prior to joining RMIA, Walker worked for 11 years as a television news reporter and anchor for ABC and NBC affiliates in Washington, Montana and Wisconsin.

## **Rebuilding & Permitting**

**Eric Fried** has been a code administrator since 1992. He has worked as a building inspector, code compliance officer, Chief Building Official (CBO) and Damage Assessment Coordinator for Larimer County. With more natural disasters than any other county in Colorado, Larimer has lived through and recovered from wildfires, floods, tornadoes, high winds and heavy snows.

## **Revegetation**

**Eugene Backhaus** is the State Resource Conservationist for the Natural Resources Conservation Service. Eugene has worked for the Natural Resources Conservation Service / Soil Conservation Service (NRCS / SCS) for over 37 years, which includes about 3 years in Iowa, 1 year in Arizona, and 33+ years in Colorado. He grew up on a farm in North Central Iowa where he farmed for 10 years (corn, soybeans, and pigs) while going to school and beginning his career with NRCS. He received a BS degree in Ag Studies from Iowa State University in 1982.

Eugene's responsibilities in the Colorado NRCS State Office include oversight of technical specialists in Agronomy, Biology, Cultural Resources, Forestry, GIS, Irrigation/Water Resources, Plant Materials,

and Range. He also oversees the Technical Service Provider (TSP) program, conservation planning training and certification, technical content of the Conservation Reserve Program, Field Office Technical Guide, and invasive species programs in Colorado. Currently he is serving on a national team to streamline NRCS processes and procedures in relation to planning and practice standards development.

### **Flood After Fire & Preparing for Wildfire Season**

**Doug Mahan** is the National Flood Insurance Program (NFIP) Community Assistance Coordinator with the Colorado Water Conservation Board, assisting local communities and their residents with questions about floodplain development, regulatory compliance, and flood hazard mitigation. Doug has been with the Colorado Water Conservation Board since 2014 and assumed his current role in 2019.

**Peter Reinhardt** is originally from Upstate New York, has a degree in Geology from Denison University, and has been working in floodplain management for over 15 years. Peter began his career back east at an engineering firm working under FEMA's NFIP contract supporting both MT-1 and MT-2 processing. After several years in the consulting field, he relocated to Colorado and began working in floodplain management at the local government level. Peter recently started working for FEMA in the Floodplain Management and Insurance Branch focusing on the Flood After Fire program. With the rise in the number and magnitude of wildfires in Colorado this past year Peter is working to increase awareness of the higher risk of flooding after fires.

**Tracie Harrison**, BS, CFM, grew up in the suburbs of Salt Lake City, Utah spending summer vacations camping or enjoying the area's five National Parks, where her love of nature grew. After spending seventeen years in the insurance industry she decided to go back to school and received her bachelor's degree in Geography and Environmental Sustainability from the University of Utah. She completed a one-year internship with the Utah Division of Emergency Management focusing on their Risk Map program. She joined FEMA in the fall of 2018 as a Hazard Mitigation Specialist deployed to Florida for Hurricane Irma support. One year later she was offered a position with FEMA Region VIII, here in Denver Colorado, in the Mitigation Division-Floodplain Management and Insurance Branch. Utilizing her numerous years of experience as an insurance agent and her combined knowledge of flood mitigation, she assists communities and states in Flood After Fire risk education and outreach to communities impacted by Wildfire events.

### **Preparing Animals for Wildfire Evacuations**

**Ragan Adams**, MA, DVM is the CSU Extension Veterinary Specialist in which she focuses on community level problems concerning animal health and welfare. She is a member and vice chair of the agriculture / natural resource committee of the Extension Disaster Education Network (EDEN, [extensiondisaster.net](http://extensiondisaster.net))

## **Investment in Wildfire Mitigation**

**Jim Webster** designed and leads Wildfire Partners, a nationally recognized, public-private partnership to help homeowners prepare for wildfire. He also wrote Boulder County's Community Wildfire Protection Plan. Jim has designed and implemented innovative partnerships for more than 30 years. He has worked for organizations such as Trees Water & People, World Wildfire Fund, US Forest Service and Peace Corps. Jim received his Master's in Environmental Management from Duke University.

## **Investments in Wildfire Mitigation**

**Ms. Patricia Gavelda** is a hazard mitigation professional with more than 25 years of experience and expertise in Federal Emergency Management Agency (FEMA) pre- and post-disaster mitigation and emergency management grant programs. Currently supporting the State of Colorado as Mitigation Planning Program Manager, Mitigation Planning Team Supervisor, and Alternate Deputy State Hazard Mitigation Officer for the Department of Public Safety (CDPS), Division of Homeland Security & Emergency Management (DHSEM) she oversees the mitigation planning program for 64 counties and two tribes, and ensures maintenance of Colorado's Enhanced State Hazard Mitigation Plan (E-SHMP) which provides for an increased share of federal disaster funds to Colorado. She serves as the subject matter expert on all policies, procedures, implementation, and compliance requirements for state and local mitigation planning. Ms. Gavelda previously supported the State of Colorado's Department of Local Affairs, Office of Emergency Management (OEM) as a Regional Field Manager responsible for up to 23 counties and two tribes in all aspects of a holistic, comprehensive emergency management program.

## **Other FEMA Initiatives - RISE Challenge**

**Vince Meldrum** with Earthforce is a leading advocate for the incorporation of youth voice and civic engagement into STEM and environmental education. Over the last 35 years, Vince has taught, coached, developed programs, and managed organizations all with an eye toward preparing young people to be active participants in their community and our democracy. With a passion for environmental issues he is committed to ensuring that young people have a deep understanding of STEM and the ability to apply that knowledge to solve problems. Vince has worked with many of the leading environmental education organizations, numerous school districts, and hundreds of educators. In addition to his passion for environmental civic engagement, Vince has helped a number of organizations develop new program offerings, redesign strategies to incorporate emerging technologies, and develop partnerships.

# Seeding

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## Why seed after a wildfire?

Loss of vegetation leaves land vulnerable to increased runoff, erosion, and sedimentation. It also encourages weeds; degrades habitat; and impairs forest regeneration. Reestablishment of permanent vegetation provides long-term erosion control, may restore lost habitat values, and may help suppress noxious weed invasion after a wildfire.

However it takes time and favorable climatic conditions to establish vegetation from seeding operations. Therefore it may be six months or a year before the benefits of seeding are realized. Seeding must be combined with other land treatments, such as mulching, to provide an immediate erosion control benefit, and to assure the seed remains in place until it can germinate.

## What areas need to be seeded?

Severely burned sites should be seeded to decrease the likelihood of erosion and sediment movement down slopes, to discourage weed invasion, or to fulfill management objectives. The area to be seed should have adequate soil to support vegetation. Seeding slopes steeper than 60% is difficult, and not especially effective for reestablishing permanent vegetation.

Vegetation in areas of light and moderate burn severity will recover on its own after a wildfire, and seeding perennial species is usually not necessary. Seeding a temporary species may provide some ground cover or reduce intrusion of weeds until the permanent vegetation can reestablish.

## When is the right time to seed after a fire?

Grasses and forbs should be planted after the wildfire when the soil surface is loose. Seeding in late fall or winter (even if there are a few inches of snow) improves success. The prime time to seed is immediately prior to the ground freezing. Trees or shrubs should be planted in the fall or early spring when plants are dormant.

## How should the seeding be done?

Most seeding are done by hand, use of self-propelled ground equipment, or by aircraft. Landowners can seed small areas using a hand-crank seed broadcaster. If there is access to the site and the slope is less than about 30% it is usually easier and more cost effective to seed areas larger than about 1-2 acres with broadcast seeders mounted on all terrain vehicles or tractors.

Large contiguous areas lend themselves to aerial seeding, which can also be used on slopes that are too steep or otherwise inaccessible for use of ground equipment. Seeding included with a hydro mulching operation should be considered when revegetation is essential to protecting high value properties immediately downstream of the area being treated.

**What variety of seeds should be used?**

Perennial grasses and forbs are slower to establish, but provide long-term cover for reseeded sites. For example, slender wheatgrass is a native grass that establishes quickly and is moderately long-lived. Over time, as the slender wheatgrass begins to die out, other native species begin to fill in the site.

Annual ryegrass and small grains are useful when quick establishment is key; however, they only provide one year of protection. Revegetate with annual species where perennial grasses will recover naturally, including moderately burned sites with slopes greater than 15 percent.

You should use certified seed of a known variety to get the best results. If a specified variety is not available, be sure the seed originated within a 500-mile radius of your property. Be sure seed does not contain any noxious weeds.

Most seeding recommendations are expressed in terms of pounds of pure live seed (PLS) per acre. Double recommended seeding rates on severely burned areas or steep slopes.

Contact the local NRCS, Extension Service, or conservation district office for recommended varieties and seeding rates.

**What should be done along with the seeding?**

**Mulching** will stabilize the soil surface to prevent movement of soil particles and loss of seed. Use straw or grass hay mulch. Apply mulch at 70 lbs/1,000 sq. ft. (about 43 bales per acre). Use weed free material. Do not fertilize the first year. Use netting to keep the mulch in place on small areas of steep slopes. Hydro mulching and seeding is very expensive, but it can be accomplished in one operation.

Maintain seeded areas by repairing any spots of failure with new seed and mulch if possible. (additional O&M suggestions?).

Grass/Forb Species	Native (N) or Introduced (I)	Pounds PLS per acre (40 seeds per sq. ft.)

**NOTE:** *After a fire many trees are weakened from burning around the base of the trunk. The trees can fall over or blow down without warning. Shallow rooted trees can also fall. Therefore be extremely alert when around burned trees.*

Natural Resources Conservation Service