

# » » » ATTENTION « « «

## Woodland owners affected by wildfires

**Did you have trees burn in a wildfire?** If so, the Oregon State University Extension Service is here to help you with information on many important topics related to caring for your land after a wildfire. These include:

- How to assess your land after a fire
- Assessing if your trees will live after a fire
- Sample contracts for hiring contractors
- Tax considerations for those impacted by wildfires
- Finding financial assistance opportunities to help with erosion, hazard tree removal, and reforestation your land after fire. Agencies providing this assistance include the Natural Resource Conservation Service, Farm Service Agency, Oregon Department of Forestry, among others.
- How to identify hazard trees
- Mitigating erosion
- Salvage logging
- Reforestation your land

These resources are all available online (see below). **We realize many people do not currently have good internet access.** So, if you would like to receive information on any of these topics, please contact your local OSU Extension Forestry Agent (see the “contact sheet” in this packet). **Your local Extension Forestry Agent will work with you to get you this information either via email or printed free of charge.**

As an educational organization, **we want to help you have all the tools necessary to make an informed decision on how to care for your land after a fire.** Call us whether you have 1 acre or 1,000 acres.

A great place to start, if you have web access, is to view our **free online post-fire webinar series.** You can do that anytime, just visit the *OSU Extension Fire Program Online Webinar Guide* at <https://beav.es/ozv>.

In addition to the webinar series, **we have a multitude of other helpful publications covering post-fire topics available to you.** Visit <https://beav.es/orv> to view/download.



**Oregon State University**  
**Extension Service**  
**Fire Program**

**Information provided in partnership with:** OSU Forestry & Natural Resources Extension Program, Oregon Department of Forestry (ODF), Oregon Forest Resources Institute (OFRI), Natural Resource Conservation Service (NRCS), Farm Service Agency (FSA), Barnes & Associates Inc., Oregon Department of Agriculture (ODA), & Oregon Watershed Enhancement Board (OWEB).

# After the Fire Checklist

IF YOUR PROPERTY HAS BEEN AFFECTED BY WILDFIRE, UTILIZE THIS CHECKLIST TO CHART A COURSE FORWARD AND MODIFY TO SUIT YOUR NEEDS.

NAME \_\_\_\_\_ ADDRESS \_\_\_\_\_  
CONTACT \_\_\_\_\_ TAXLOT# \_\_\_\_\_

## On the way back to your home

- Check with law enforcement for an end to evacuation and the all-clear to return
- Refer to TripCheck for road clearances
- Look for downed trees, shrubs, rocks loosened by the fire that could create road obstacles or fall on to the road/driveway
- Be aware of standing trees or utility poles by the side of the road that may or may not look burned, or partially burned - that can be loosened by the fire
- Watch out for downed powerlines.

## Once back on your property

- Wear proper personal protective equipment: thick boots (to prevent puncture wounds from sharp objects), heavy gloves, mask, eye protection, hard hat (protection from overhead hazards).
- Check around the house for hot embers in gutters, under decks, wood/debris piles, valleys of the roof, shrub/vegetation clumps – wisps of smoke or smell of smoke – call 911 if any heat found. Check for structural damage to the house (foundation cracks, support beams charred)
- Check for gas (smell of gas) and water leaks.
- Check the main power meter (normally outside). If turned off or no power, call the utility service provider
- Make sure pump house/well is in good working order – make sure water is safe to drink
- Any damage to gas lines, phone lines, power lines – stay clear and call utility service provider

## Going in the house

- Before turning any lights on - have a flashlight (turn it on prior to entering the house) from your go-kit. Look for embers (in the dark) or heat throughout the house, especially in the attic (smell and look for smoke)
- Check for structural damage inside the house
- Check the main circuit box. If turned off, make sure all appliances are off before turning the main circuit breaker back on
- Discard all food that's been exposed to heat, smoke, fumes, soot or flood waters. If the power has been out, discard food that could be spoiling

## Outside and around the property

- Percent of property area burned: \_\_\_\_\_  Not sure
- Identify slope of property (acres): 0-30%: \_\_\_\_\_ 30-60%: \_\_\_\_\_ >60%: \_\_\_\_\_  
 Not sure
- Overall percent and location of vegetation burn severity:  
Low \_\_\_\_\_ Moderate \_\_\_\_\_ High \_\_\_\_\_  Not sure
- Overall percent and location of soil burn severity:  
 Low \_\_\_\_\_ Moderate \_\_\_\_\_ High \_\_\_\_\_  Not sure
- How close did fire come to water courses: \_\_\_\_\_  
 Not sure
- How steep are the slopes (%) above and adjacent to water courses: \_\_\_\_\_  
\_\_\_\_\_  Not sure
- Was there erosion on the property prior to the fire? (gully, rill, sheet)  
 Yes  No  Not sure

## Outside and around the property: draw the following on a map with tax lot identified

- Forested area burn-severity and tree mortality (map out and label or fill in the blanks):  
Low: # acres \_\_\_\_\_ Mortality: % < 10% dead \_\_\_\_\_  
Moderate: # acres \_\_\_\_\_ Mortality: % 10-50% dead \_\_\_\_\_  
High: # acres \_\_\_\_\_ Mortality: % >50% dead \_\_\_\_\_  
*Need assistance to determine forested area burn severity and tree mortality?*  
 Yes  No
- Location and number of hazardous trees (proximity to roads, structures)  
 Not sure
- Damage to property improvements (water pipes, fences, gates)  
 Not sure
- Damage to road surface, ditches, or culverts  
 Not sure
- Location of fire  
 Not sure
- Bare, burned over soil  
 Not sure
- Identify natural draws, streams, and rivers (Perennial, Seasonal)
- Damage to water courses (irrigation structures/culverts/debris blockage)

## Comments/Summary:

For more information visit: [extension.oregonstate.edu/fire-program](http://extension.oregonstate.edu/fire-program)



# Tips for using page 2 of the *After the Fire Checklist*

- Draw on a map to the best of your ability.
- Be sure to include photos when possible with the map.
- **Percent of property area burned:** delineate how much was burned and how much was not burned.
- **Identify slope of property:** separate between tractor ground (0-30%) and cable ground (>30%).
- **Overall percent and location of vegetation burn severity:** estimate area where plants have burned and died from the fire. Separate to the degree burned – black, brown, singed (part green).
- **Overall percent and location of soil burn severity:** estimate area where soil was impacted by the fire. Separate by degree of soil scorch: **high** is all fuel burned off leaving bare, scorched ground; **moderate** is some litter and duff left; **low** is most litter, duff, and fuel left on the ground.
- **How close did the water come to water courses:** estimate how close the fire burned (in feet) and to what severity to water courses, ponds, seeps, meadows, etc.
- **How steep are the slopes above and adjacent to water courses:** estimate by percent slope adjacent to water courses. Tractor ground vs cable ground would be sufficient.
- **Was there erosion on the property prior to the fire:** yes or no. Estimate where and what type, if possible.
- **Forested area burn severity and tree mortality:** estimate percent of forest trees that died as a direct result of the fire – or that will die with reasonable certainty within the first three years following the fire. Estimate acres affected. Separate into three classes – less than 10%; 10 to 50%; >50%.
- **Location and number of hazardous trees:** locate on your map – locations and numbers. These are trees that will be likely to fall over and cause damage.
- **Damage to property improvements:** any pipes, fences, bridges, any structures, improvements, stock structures, human structures, irrigation lines, etc., damaged as a direct result of the fire, or by the fire suppression efforts.
- **Damage to road surface, ditches, or culverts:** map out any immediate damage and damage incurred after the winter snows and spring rains as a direct or indirect result of the fire.
- **Identify natural draws, streams, and rivers:** map out to the best of your ability where these are located on your property.

# After the Fire Flowchart

IF YOUR PROPERTY HAS BEEN AFFECTED BY WILDFIRES, HERE IS A GUIDE TO FOLLOW. THIS WILL PROVIDE SOME ORGANIZATION TO THE PROCESS.

## **ON THE WAY HOME**

1

Look up, down, and around for road obstacles, loose or downed powerlines, rocks, road damage.

## **BACK ON THE PROPERTY**

2

Make sure it's ok to return. Wear protective gear and do a walk-around. Check for smells or sights of embers. If power is off, call utility provider.

## **ENTER THE HOUSE**

3

Leave lights off, enter house to check for heat, smells or sights of smoke. Check for gas or water leaks. Once safe, turn on main circuit box. Throw out food tainted with smoke or that has not been refrigerated.

## **OUTSIDE ASSESSMENT**

4

Consult checklist and map out items checked for your property. This will set up for prioritizing, qualifying, and obtaining funding.

## **MAKE SPECIALIST CONTACTS**

5

Various local, non-profit, County, State, and Federal specialists and technical assistants can offer assistance for mapping, definitions, prioritizing, and planning.

## **OBTAIN FUNDING**

6

Work with specialists and technical assistants to determine if your project needs qualify for funding, if funding is available, and if short- or long-term projects are best suited for post-fire work.

## **CONTACT CONTRACTORS**

7

Specialists and technical assistants can provide a list of professionals for you to choose. Set up contracts with specifications unique to your project needs. Develop an economy of scale by working with neighbors where possible.

## **GET THE WORK DONE**

8

Timing is important for certain projects like erosion control and timber salvage. Plan with short- and long-term management goals and objectives

For more information visit: [extension.oregonstate.edu/fire-program](https://extension.oregonstate.edu/fire-program)

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**Oregon State University**  
**Extension Service**  
**Fire Program**

# AFTER THE FIRE – NOW WHAT? FIRE, WATER, EROSION, & MITIGATION TREATMENTS

## Fire and the Hydrologic Cycle

Intense heat can:

- Create hydrophobic soils
- Reduce water infiltration
- Cause a loss of organic layer
- Increase runoff, erosion, dry ravel
- Lead to localized debris flows
- Affect water quality, temperature, and sediment delivery

## Burn Severity

- Degree of fire effects on soils depend on severity and amount of the watershed affected.
- The potential for detrimental effects of wildfire are highest in areas of high burn severity and steep slopes in the first 1-3 years.

## What Mitigation Measures Can You Take?

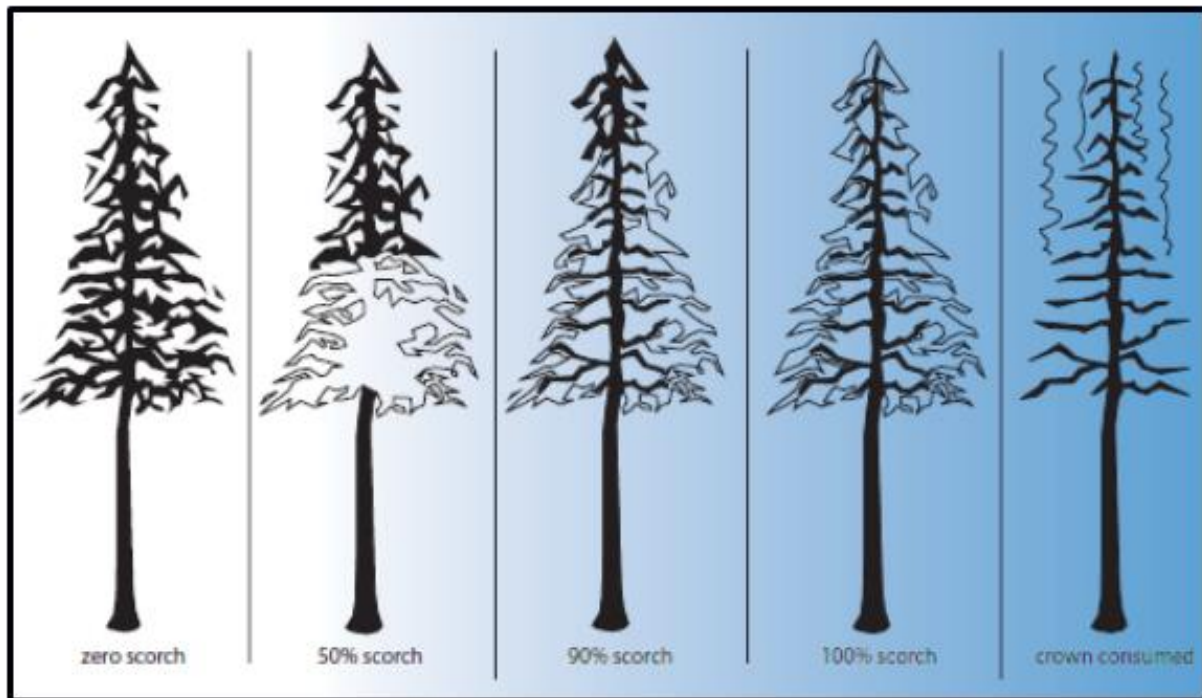
The following are some actions you can take to increase surface roughness to slow water movement, and improve infiltration to reduce erosion and sedimentation in targeted areas:

- Aerial and ground seeding of native grass/forbs
- Mulch only (weed free)
- Erosion control blankets/matting
- Contour wattles
- Contour logs placement
- Straw bales & silt fences
- Drainage maintenance & upgrades

## Mitigation measures include:

- Seeding
- Mulching (wood chips or straw)
- Erosion control matting
- Log erosion barriers
- Contour wattles
- Silt fences
- Straw bales
- Drainage upgrades (to accommodate increased stream flow post-fire)

## Assessing Fire Injury, Tree Damage, & Salvage Potential



### Fire and heat injuries to look for

- Crown scorch (foliage & buds)
- Bole/trunk char
- Root collar char
- Other factors:
  - Species
  - Pre-fire vigor
  - Bark beetles
  - Drought

### To Salvage or Not to Salvage?

- Do you have enough timber volume to harvest?
- What are current log prices?
- What are the logging costs?
- Can you salvage quickly before trees lose significant value through defect & decay?
- Is a logger available?
- Reforestation after salvage cutting

### Summary/Resources

*My Forest Burned: Now What?:* This publication provide initial guidance for restoring your land in a way that emphasizes the wildlife habitat a post-fire landscape can provide:

<https://woodlandfishandwildlife.com/wp-content/uploads/2019/12/After-the-Fire-final-reduced.pdf>

*Jute Matting Installation:* An excellent 4-minute video on how to properly install jute matting so it stays in place: <https://www.youtube.com/watch?v=cFgL60LVJNc>

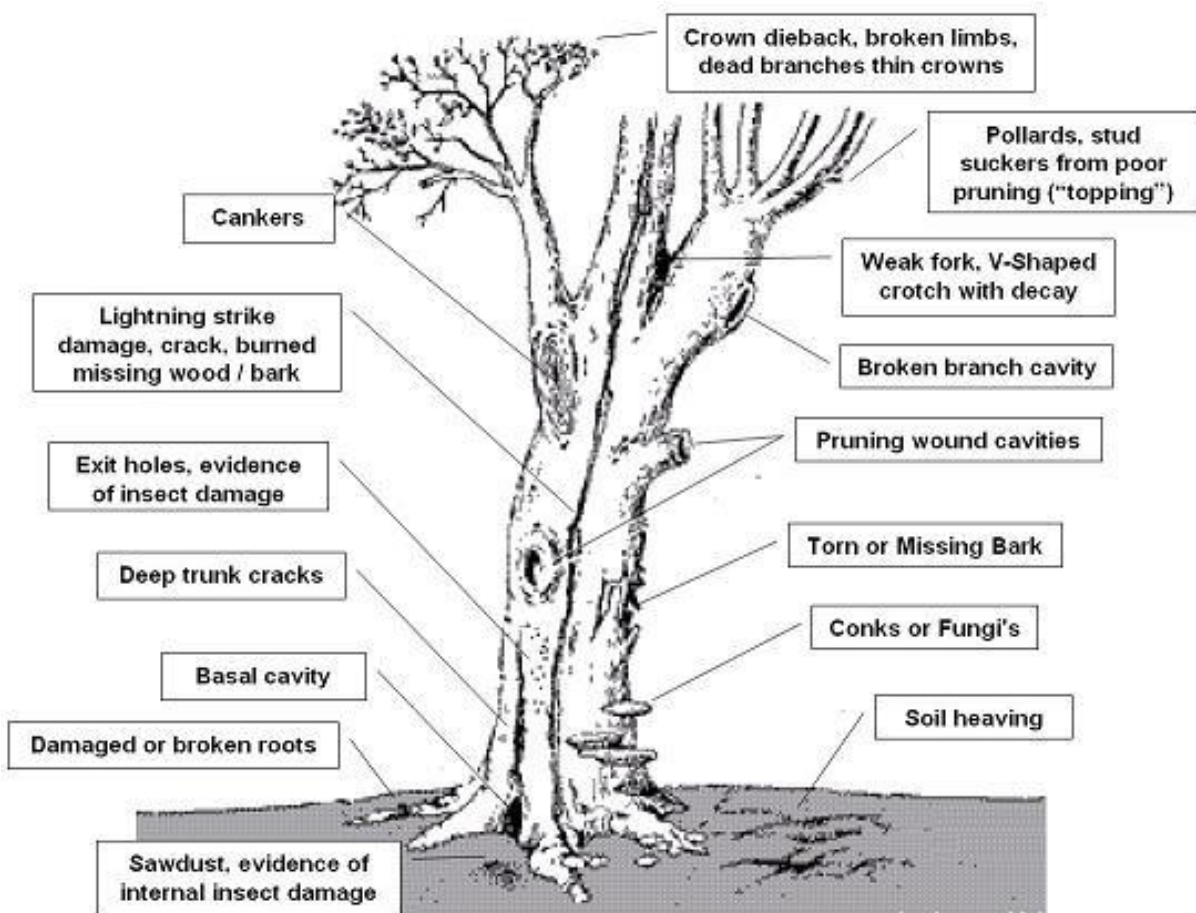
# POST-FIRE HAZARD TREE AWARENESS

## What makes a tree hazardous?

A tree is considered hazardous if it has defects or structural weaknesses that may cause failure resulting in property damage, personal injury or death. The post-burn environment surrounding a hazardous tree can be equally if not more dangerous than the tree itself!

## Common Pre-Fire Factors in Tree Failure

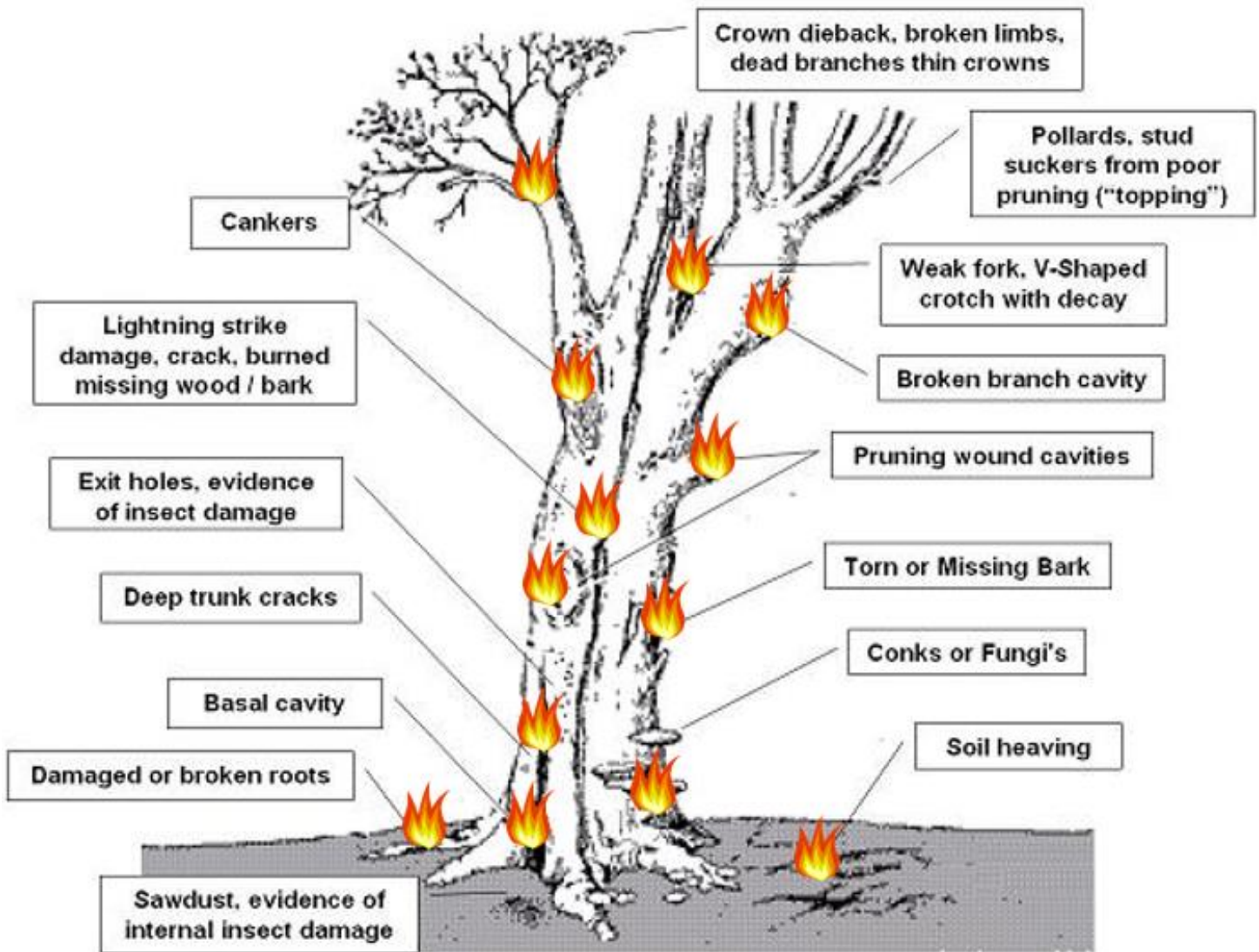
- Tree Species
- Tree Age
- Decay
- Wounds
- Cankers
- Seams
- Lean
- Branch Angle
- Branch Type
- Crown Vigor
- Crown Form/Shape
- Root Condition



## Common Post-Fire Factors in Tree Failure

• Live or dead	• Loose overhead limbs ("widowmakers")
• Burned out roots	• Species, resinous vs. non-resinous
• Limb weight	• Broken or uprooted trees supported by other trees
• Hollowed boles	• Catfaces and other impacts to percentage of sound bole wood
• Leaning and/or root sprung	• Incineration of other indicators of weakness (conks, mushrooms, etc.)





- **Resinous vs. Non-Resinous Species**

<b>Species Group</b>	<b>Resinous (decay resistant)</b>
<b>True-fir (<i>Abies</i> spp.)</b>	No
<b>Hemlock</b>	No
<b>Spruce</b>	Partially
<b>Douglas-fir</b>	Yes
<b>Larch</b>	Yes
<b>Pine</b>	Yes
<b>Cedar</b>	Non-resinous but decay resistant
<b>Hardwoods</b>	Non-resinous but some are more decay resistant than others

- **Live vs. Dead**

Dead trees should be considered to have a high potential for failure. Live trees should not automatically be considered to have a low potential for failure if they have been damaged by fire or present other failure indicators

## Post-Fire Hazard Tree Assessments

Based upon *probabilities* as well as some assumptions about the future

- Is the tree *likely* to fail/fall?
- When is tree *likely* to fail/fall?
- Is target *likely* to be present when tree fails/falls?

### Inspection and Hazard Assessment

- Check to ensure entry into and exit from areas surrounding the tree are safe
- Start at tree bottom or top depending on height, damage, and initial observations of potential failure
- Use binoculars
- Check from all angles
- Look for targets
- Document results
- Considering using a hazard assessment for decision-making

### Steps in developing a Tree Risk Rating

1. Identify the possible target
2. Identify the tree part(s) that could strike the target
3. Evaluate the likelihood for each part to fail
  - Improbable, possible, probably, imminent
4. Evaluate the likelihood of tree/part impacting target
  - Very low, low, medium, high
5. For each failure mode, identify the likelihood for tree failure impacting a specified target
  - Very unlikely, unlikely, somewhat likely, likely, very likely
6. For each failure mode, estimate the consequences of failure
  - Negligible, minor, significant, severe
7. For each failure mode, designate the risk
  - Low, moderate, high, extreme

### Example of International Society of Arboricultural (ISA) Rating System

Table 1: Matrix used to estimate the likelihood of a tree failure impacting a specified target

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat Likely	Likely	Very Likely
Probable	Unlikely	Unlikely	Somewhat Likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat Likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Table 2: Risk rating matrix showing the level of risk as the combination of likelihood of a tree falling and impacting a specified target, and the severity of associated consequences

Likelihood of Failure & Impact	Consequences			
	Negligible	Minor	Significant	Severe
Very Likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat Likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low

## **Awareness**

Ability to recognize hazard trees in the post-fire environment, understand their potential, and know who to call for further assistance!

## **References**

- Field Guide for Hazard-tree Identification and Mitigation On Developed Sites in Oregon and Washington Forests. Portland, Oregon: U.S. Department of Agriculture, Forest Service, Forest Health Protection, Pacific Northwest Region : Oregon Department of Forestry : Washington State Department of Natural Resources, 2014. <https://permanent.fdlp.gov/gpo52152/stelprd3799993.pdf>
- A Guide to Identifying, Assessing, and Managing Hazard Trees in Developed Recreational Sites of the Northern Rocky Mountains and the Intermountain West : US Department of Agriculture, Forest Service, 2017. [https://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/fseprd571021.pdf](https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd571021.pdf)
- International Society of Arborists Tree Risk Assessment Manual, Second Edition, 2017. <https://www.isa-arbor.com/store/product/442/>

# MITIGATING SOIL EROSION AFTER A FIRE

Soil erosion following wildfire is a concern for many forest owners. In many instances the site will recover on its own with minimal erosion. In other places, where the fire burned more severely, some erosion-control treatments may be needed.

The potential for significant erosion is related to the severity of the burn, slope steepness, soil type, and the amount and duration of rainfall following the fire.

## Fire Severity Classes

Wildfires burn at different intensity and can have varying effects on trees, plants, and soil. Three fire-severity classes include:

**Low Severity:** Most trees survive with scorch evidence. Most organic matter on soil top is intact and little consumption or charring of twigs and down logs is evident.

**Moderate Severity:** Most trees have been killed or are severely scorched and retain most of their needles. Some organic matter on soil top is consumed. Twigs may be consumed and downed logs are deeply charred.

**High Severity:** Nearly all trees are killed and have no needles. Nearly all organic matter, twigs, and logs have been consumed and soil may be damaged or altered.

## Soils after a fire

Forest soils are prone to erosion following severe wildfires. The tree canopy and protective organic layer covering the soil have been consumed, which help dampen and adsorb intense rainfall events. Severe heating can make the upper few inches of the soil “hydrophobic,” reducing infiltration and ability to adsorb rainfall. Instead of infiltrating, water moves across the soil surface displacing and transporting soil. The steeper the slope and the more intense the rainfall event, the greater the potential for significant soil movement and debris flows.

## Mitigating erosion on your land

Survey your property and determine the amount of light, moderate, or high severity areas. Some areas may need some type of erosion control treatment, particularly if streams, roads, or buildings are directly down slope from the burned area. Potential erosion controls:

### Seeding Grasses

Seeding of exotic annual and perennial grasses has been used in the past, however seeding provides little erosion-control the first year. Effectiveness generally increases as the plants become established. Seeding for erosion-control is a marginal practice and is generally not recommended on forest sites.

Seeding of exotic grasses suppresses establishment of native plants, competes with planted tree seedlings, and can increase fire hazard as grasses cure and dry out. Avoid seeding with non-native grasses.

When seeding, be aware seed may often wash down slope after heavy rains before it has had a chance to germinate and establish. Protective cover, such as mulch or some type of biodegradable fabric, may be needed to hold seed in place. In high damage areas where there is little re-growth of native plants, seeding of native grasses and plants may be desirable.

Finding sufficient amounts of native grass seed from suppliers is difficult and the seed is expensive.

### **Mulching Straw**

Mulch applied at 1 to 2 tons per acre across the soil surface can protect soil from raindrop impact and may significantly reduce erosion. Straw mulch may contain weed seeds, however, that can germinate and may require future control. Rice straw, free of weed seed, is preferred.

### **Silt Fences**

They are constructed of landscape fabric held in place with wire and stakes. They need to be anchored and sealed to the ground to be effective.

Placed in small swales, ephemeral drainages, or along hill slopes they provide temporary sediment storage. They work best on gentle slopes and where runoff and sediment is less concentrated.

### **Straw Bale Check Dams**

These are placed in small swales and drainages to reduce sediment in streams during the first winter or rainy season. Bales need to be in full contact with soil, curved up and keyed into the banks, and adequately staked. Their effectiveness decreases as they fill in after the first few storm events and usefulness is short lived. They can blow out in large storms. Bales can contain noxious weed seeds, so monitoring and weed control may be necessary.

### **Contour Log Placement**

This involves cutting burned trees and placing them along the contour of the slope to create an area behind the log for soil to settle. Logs 6 to 10 inches in diameter and 10 to 30 feet in length are typically used.

Logs need to be in full contact with the slope so that water and sediment do not run out beneath the log. This treatment is expensive, so target areas most prone to erosion.

### **Straw Wattles**

Straw wattles are long flexible tubes of straw, excelsior or other material held together with plastic netting. Apply in same manner as contour log placement.

For information and assistance with erosion control measures, contact your local Natural Resource Conservation Service or Soil and Water Conservation District.

# ASSESSING POST-FIRE SURVIVABILITY OF TREES

Extensive research on the fate of fire damaged trees provides guidance for assessing survival based on post-fire observations of crown scorch, bark char, and root damage. Vulnerability to fire damage depends on tree species and size. Larger trees with thicker bark and larger amounts of foliage can generally withstand more damage than smaller trees.

Thick-barked species including Douglas-fir, ponderosa pine, western larch, and incense cedar are resistant to fire damage. High levels of crown injury are typically required to kill thick-bark trees. Thin barked species such as western hemlock, western redcedar, spruce, and lodgepole pine are easily killed by fire, even with little crown damage.

It may take several years for trees to die from fire-related injury. Trees that survive direct injuries from fire often have increased vulnerability to secondary factors including insects and drought stress.

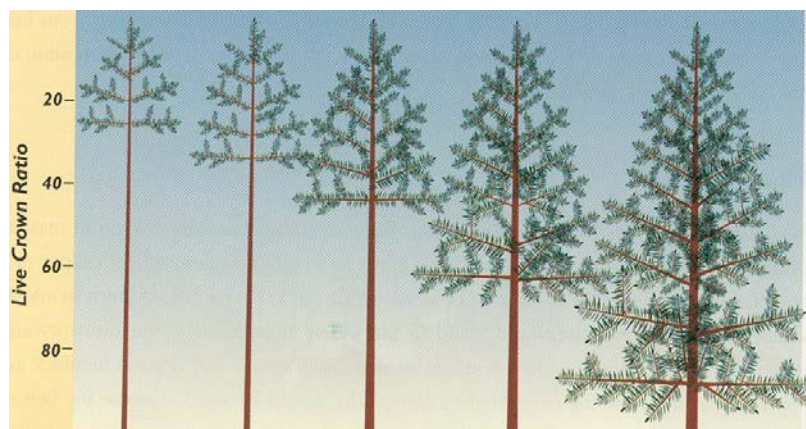
A general assessment to categorize damage across the range from light to heavy can help simplify the assessment. It is easy to judge the fate of trees on either the heavy or light end of the fire severity spectrum. The cases in the moderate damage category are less predictable.

## Fire injury categories

	<b>Heavy – Severe</b>	<b>Moderate – Significant</b>	<b>Light – Minor</b>
	<b>Trees very likely to die</b>	<b>Trees may die, less predictable, more careful assessment, or “time will tell”</b>	<b>Trees not likely to die</b>
<b>Crown</b>	Little or no live crown remaining	Varying levels of crown scorch	Most of the crown intact
<b>Bole</b>	Deep char	Varying levels of bole char	Very little bole char
<b>Base, Root crown</b>	Deep basal char; all 4 quarters - total circumference	Varying levels of basal char; 2-4 quarters	Very little basal char, 1 quarter or less

For in-depth guidance on assessing fire damaged conifers, refer to *Post Fire Assessment of Tree Status and Marking Guidelines for Conifers in Oregon and Washington*, Hood et al 2020.

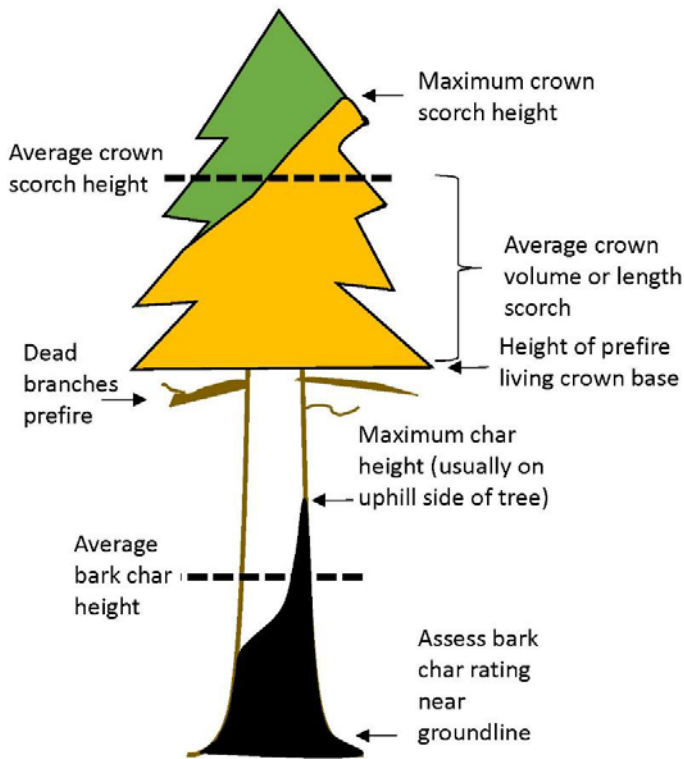
[https://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/fseprd814664.pdf](https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd814664.pdf)



### Live crown ratio

Regardless of fire injury, the vigor and survivability of trees is related to the amount of live crown or crown ratio, expressed as a percentage of the total tree height. When considering survivability of trees, especially if they are to be left more exposed after removing their neighbors, it is best to have at least a 35% crown ratio.

Figure 1: Live crown ration - a simple index of tree vigor.



### Crown injury rating

When assessing fire damage, injury to the live crown is the first and most important consideration.

### Crown scorch

An estimate of how much of pre-fire crown was killed. It is expressed as a percentage of pre-fire live crown that is damaged.

### Assessing damage based on bark char

This involves examination of the bole, base, & roots. Bark char on thin-bark species is a reliable indicator of cambium death, but is not as reliable on species with thick bark. Cambium is the living tissue under the bark.

Figure 2: Example of how to assess crown scorch and bark char.

## Guide for assessing damage based on bark char

Heavy - Severe	Moderate - Significant	Light - Minor
Bark burned into, not necessarily to the wood; species bark characteristics are lost; bark smoothed, all ridges are gone.	Bark is uniformly black except some inner fissures; species bark characteristics still discernable .	Bark is not completely blackened; species bark characteristics obvious; edges of bark plates charred.
Considerable or deep duff and woody debris consumption around base.	Some organic matter consumed in the burned area.	Little duff or organic matter consumed.
Many roots exposed and charred due to combustion of organic matter.	Some roots may be exposed and charred.	Roots not exposed or charred.

**Tolerance for risk** - Decisions about whether or not to remove injured trees depend upon your tolerance for risk. You may have a low tolerance for risk where it is important to avoid leaving trees that may die (for example where damaged trees could threaten safety or property). You may have a higher tolerance for risk of tree death in forest settings where your goal is to save any trees that may live.

**Longer-term outlook** - Damaged trees that do survive may recover their strength and have a long life ahead. But fire scars may allow wood decay to enter the main stem and increase risk of breakage over time. Trees must regain vigor enough to grow new wood around fire scars and keep up with wood rot. Also, fire scarred trees with partial decay make good wildlife trees.

**See the Tree Assessment Criteria** below for major conifer species in Oregon and Washington. For further assistance with assessment of fire injury on your trees, contact your local offices for OSU Extension and Oregon Department of Forestry.

**Tree Assessment Criteria** - The tree is likely to die (>50% chance) if damage exceeds the criteria for either crown scorch or bark char. From: *Post Fire Assessment of Tree Status and Marking Guidelines for Conifers in Oregon and Washington*, Hood et al 2020.

[https://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/fseprd814664.pdf](https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd814664.pdf)

Species	Criteria	Diameter Class		
		5 – 11.9”	12 – 20.9”	21”+
ABAM: Pacific silver fir	Crown scorch	> 30% volume		> 40% volume
	Bark char	≥ 50% any char		
ABCO: white fir or hybrids	Crown scorch	≥ 70% volume		
	Bark char	≥ 75% deep char		
ABGR: grand fir	Crown scorch	≥ 60% volume		
	Bark char	≥ 50% any char	≥ 75% moderate or deep char	
ABLA: subalpine fir	Crown scorch	> 30% volume		> 40% volume
	Bark char	> 50% any char		
ABMA: red fir	Crown scorch	≥ 70% volume		
	Bark char	> 75% deep char		
CADE: Incense cedar	Crown scorch	≥ 85% volume		
	Bark char	> 75% deep char		
LAOC: Western larch	Crown scorch	If needles on: ≥ 80% crown length If needles off: average char height over entire tree length > 70%		
	Bark char	> 75% deep char	Bole char not a predictive injury indicator	
PIEN: Engelmann spruce	Crown scorch	≥ 75% volume		
	Bark char	> 75% any char		
PISI: Sitka spruce	Crown scorch	≥ 75% volume		
	Bark char	> 75% any char		
PICO: Lodgepole pine	Crown scorch	≥ 40% volume		
	Bark char	≥ 75% any char		
PIAL: Whitebark pine	Crown scorch	≥ 40% volume		
	Bark char	≥ 75% any char		
PILA: Sugar pine	Crown scorch	≥ 70% volume		
	Bark char	> 90% moderate or deep char		
PIMO: Western white pine	Crown scorch	> 30% volume		
	Bark char	≥ 90% any char		
PIPO: Ponderosa pine	Crown scorch	Pre-bud break (volume): • ≥ 85% needles scorched if < 10% blackened needles OR • > 40% needles scorched if > 10% blackened needles Post-bud break (volume): > 70% crown volume killed (no new growth)		
	Bark char	> 90% deep char		
PSME: Douglas-fir	Crown scorch	> 65% crown volume		
	Bark char	> 50% deep char	> 75% deep char	
THPL: Western red cedar	Crown scorch	> 20% crown volume	> 40% crown volume	> 60% crown volume
	Bark char	> 50% any char		> 75% any char
TSHE: Western hemlock	Crown scorch	≥ 20% crown volume		
	Bark char	≥ 90% any char		
TSME: Mountain hemlock	Crown scorch	≥ 20% crown volume		
	Bark char	≥ 90% any char		

**Note: If a species is host to bark beetles or wood borers and there is boring dust and attack signs that are not RTB around > 50% of the bole circumference, the tree will die regardless of fire injury.**

RTB = Red turpentine beetle, a large bark beetle attacking the base of pine species.



# ASSESSING THE POTENTIAL FOR SALVAGE HARVESTING AFTER WILDFIRE

## What is salvage harvesting?

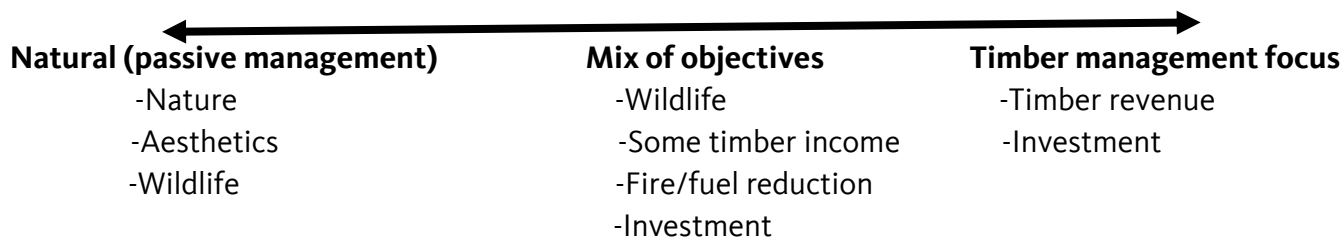
Primary purpose of salvage harvesting is to recover the economic value of trees killed or damaged by unforeseen and uncontrollable events (insects, wildfire, wind, ice & snow, volcanoes, etc.)

### Other objectives of salvage harvest:

- Reduce heavy fuels
- Create strategic fuel breaks
- Improve safety around homes, roads and other infrastructure
- Prepare the site for reforestation
- Reduce the potential for insects to increase

## What Are Your Management Objectives?

### Management Spectrum



The need for and the role of salvage harvesting will be different depending on where you are on this management spectrum. Other factors that could influence where you are on the spectrum after a fire include the location of your property, acreage burned, proximity of your property to other burned properties, and your economic situation.

## Wildfire, Succession, & Wildlife Habitat

Early seral stage is important for wildlife, include the snags (dead trees)



Figure 1: This area was salvage logged, leaving large snags for wildlife and abundant early seral vegetation (shrubs, grasses). It was also planted with native tree seedlings.

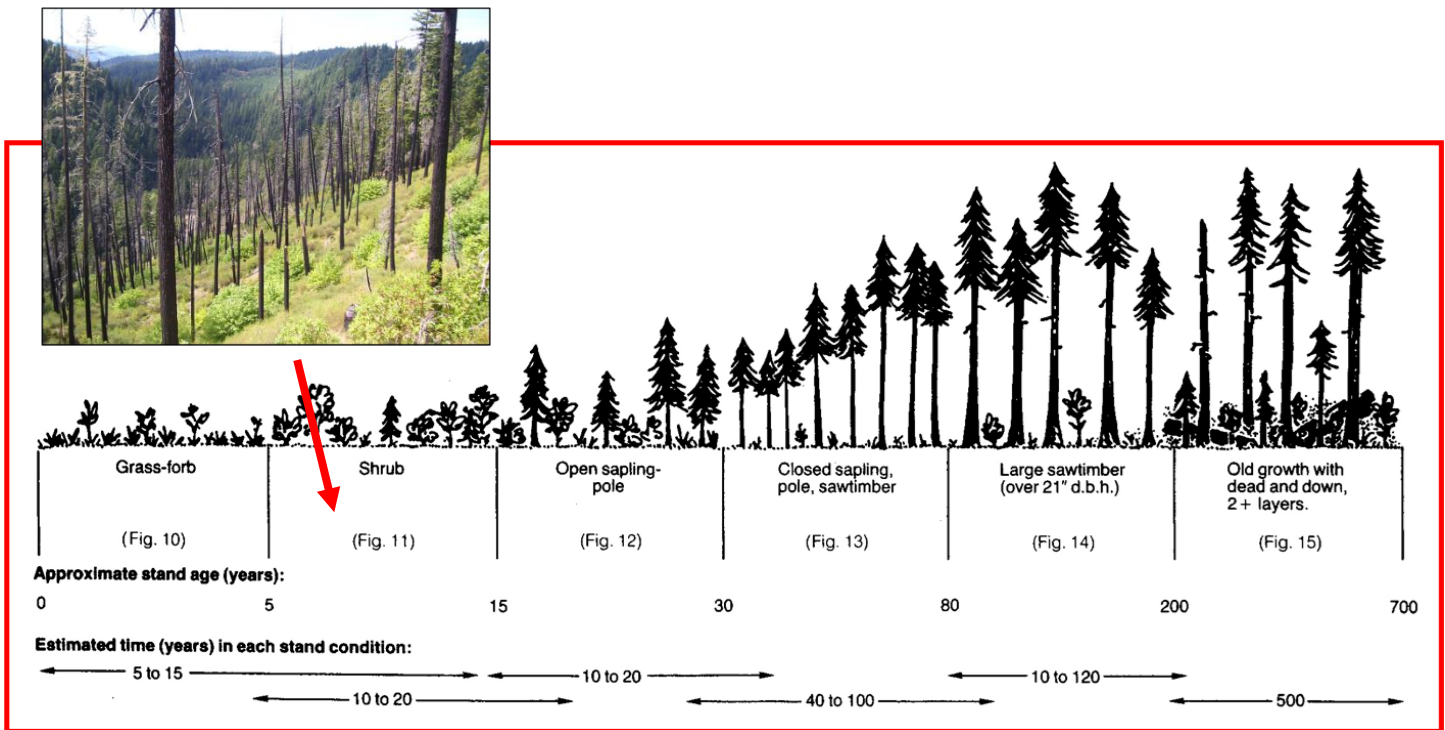


Figure 2: Forest successional stages. The shrub stage, or early seral stage, is shown in the photograph.

## Some Definitions/Units of Measure/Costs

- Board foot – a board that is 12" x 12" x 1"
- MBF - Thousand Board Feet
- Logs are bought and sold based on a thousand board feet (MBF) delivered to the mill (or by the ton). Example: \$700/MBF
- A log truck contains anywhere from 5,200 to 6,800 board feet (5.2 MBF and 6.8 MBF, respectively)
- Logging costs and hauling costs are quoted on a per MBF basis.
  - Logging costs \$150/MBF    Trucking costs \$50/MBF

## Measurement of Logs ("scaling")

- Measure the small end diameter inside bark (dib) in inches two directions
- Measure the length of the log in feet
- Look-up volume tables (gross scale)
- Deduct for decay & defect
- Calculate net scale for payment



## To Salvage or Not to Salvage?

- Do you have enough timber volume to harvest?
  - Two weeks of work?
  - Average volume per acre to be removed?
    - 5 mbf, 10 mbf, 15 mbf, or more per acre?
    - You may need to hire a consulting forester to estimate volume
- Can you salvage quickly before trees lose significant value through defect & decay?
  - 44 logging sides (equipment) lost in the Labor Day wildfires in Oregon

- Demand for operators will be high
- How far out will you be able to secure a logging contractor?
- Insects, decay, and checking will become a reality the longer you wait to salvage

### Decay and Defect

- Insects – bark beetles and wood borers
- Weather checking
- Stain
- Decay
- Breakage

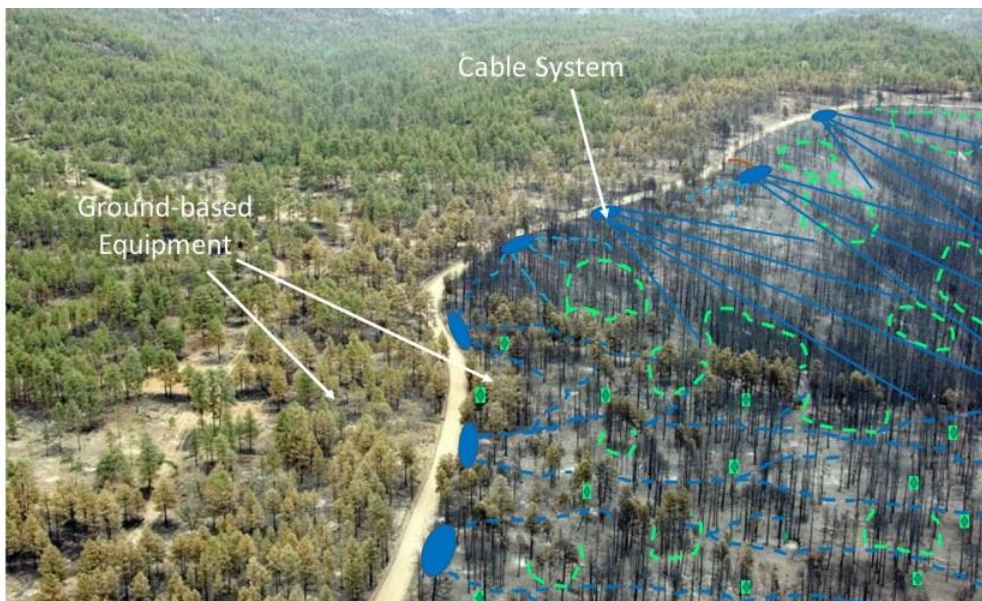
Table 4. Percent wood volume affected by stain, cracks, and decay in fire-killed Douglas-firs by years since death.

Wood Change	Year 1	Year 2	Year 3	Year 4	Year 5
Stain	3.1	9.0	22.4	NC*	NC*
Cracks	6.5	19.0	28.8	30.9	40.3
Decay	0.0	1.1	3.3	6.4	16.4

\* Not Calculable due to decay.

### Economics of salvage

- What are current/future log prices?
  - Current prices are decent (as of fall 2020)
  - Flood of salvage wood going to market in the coming months and years
- What are the logging costs?
  - Ground-based harvesting \$110-200/MBF
  - Cable harvesting \$185-\$300+ /MBF
  - Complexity of the terrain, access, and volume removed



The figure to the left shows both ground-based (with skid trails and landings) and cable logging in the steeper terrain. Leave areas (no harvest) of dead and dying trees are left (green dashed areas) for wildlife.

## Wildlife considerations

- Early seral habitat is often created after a fire
- Snag habitat is created after a fire
- Other special habitats that may be worth protecting: seeps, springs, riparian areas, old trees, etc.

## Reforestation after salvage harvesting

- Natural recovery (enough seed from seed trees?)
- Planting tree seedlings
- Vegetation control – necessary to ensure successful seedling establishment

## Checklist

- Go back to the check list that you filled out
- Refine the amount and burn severity of vegetation and trees.
  - Fill in the percent area of low, medium, and high vegetation burn severity
  - This will provide roughly the amount of area and potential tree volume for salvage harvesting.

### After the Fire Checklist

IF YOUR PROPERTY HAS BEEN AFFECTED BY WILDFIRE, UTILIZE THIS CHECKLIST TO CHART A COURSE FORWARD AND MODIFY TO SUIT YOUR NEEDS.

NAME \_\_\_\_\_ ADDRESS \_\_\_\_\_  
CONTACT \_\_\_\_\_ TAXLOT# \_\_\_\_\_

#### Outside and around the property

Percent of property area burned: \_\_\_\_\_  Not sure

Identify slope of property (acres): 0-30%: \_\_\_\_\_ 30-60%: \_\_\_\_\_ >60%: \_\_\_\_\_  
 Not sure

Overall percent and location of vegetation burn severity:  
Low \_\_\_\_\_ Moderate \_\_\_\_\_ High \_\_\_\_\_  Not sure

Overall percent and location of soil burn severity:  
 Low \_\_\_\_\_ Moderate \_\_\_\_\_ High \_\_\_\_\_  Not sure

How close did fire come to water courses: \_\_\_\_\_  
 Not sure

How steep are the slopes (%) above and adjacent to water courses: \_\_\_\_\_  
 Not sure

Was there erosion on the property prior to the fire? (gully, rill, sheet)  
 Yes  No  Not sure

# POST-FIRE REVEGETATION OVERVIEW

## How does vegetation recover after wildfires?

- Little mortality and rapid recovery after low severity fire
- Grasses, forbs, shrubs, hardwood trees generally return on their own, even after severe fire that kills most of the trees. Hardwood trees and shrubs are typically top-killed and re-sprout; some perennial grasses and forbs regenerate from underground parts; other vegetation comes in from seed. Also some from seed stored in the soil.
- Conifers regeneration tends to be variable – from none to abundant.
- Longer timeframes for conifer tree establishment compared to planting
- This image shows a burned area 10 years after fire. Lots of hardwoods and grass, few conifers.



## What about natural regeneration of conifers?

Depends on proximity of seed trees – most seed falls within 1-2 tree heights of seed tree. Also depends on timing of good seed crops, receptive seed bed (post fire mineral soil seedbed is good for most conifers), freedom from excessive brush and other vegetative composition. All these factors must align for good natural regeneration. In practice, can be spotty – from abundant to none.

## What are basic options for post-fire reforestation?

### Let nature take its course – no active management.

- Vegetation will come back...but maybe not the vegetation you want
- Habitat, diversity objectives
- Good for remote sites, poor access
- No reforestation requirement, but possible property tax implications

### Encourage natural regeneration/interplanting

- Good for mixed or multiple objectives, e.g., habitat, timber
- Suitable for moderate severity, smaller high severity patches
- Not a “do nothing” option – must manage seedbed & competing vegetation
- Longer timeframes for conifer establishment, less reliable
- Interplant where regeneration is inadequate
- Alternate reforestation plan required if salvaging

### Replant with or without salvage

- Can plant without salvage (may require site prep) or after salvage
- Good for mixed or multiple objectives, e.g., habitat, timber
- Reforestation legally required after salvage
- Moderate to high severity burns
- Compared to passive or natural regeneration, this option has shorter timeframes for conifer establishment, more control over composition, genetics, more reliable, also higher costs

# KEYS TO REFORESTATION SUCCESS AFTER FIRE

Anyone faced with the need to plant forest trees (after fire or otherwise) should become familiar the basic steps for successful reforestation, covered in the following Extension publications:

- Successful Reforestation: An Overview: <https://catalog.extension.oregonstate.edu/ec1498>
- Selecting and Buying Quality Tree Seedlings: <https://catalog.extension.oregonstate.edu/ec1196>
- Sources of Forest Tree Nursery Seedlings:  
<https://www.oregon.gov/odf/Documents/workingforests/seedling-catalog.pdf>

If you don't have access to these on the internet, contact your local OSU Extension office to order paper copies of these publications.

## Plan ahead?!

Planning ahead is key to success, so with the unexpected event of wildfire, it is important to start as soon as possible. The first step is to assess the fire damage across your property, identify specific areas where you wish to plant trees, and estimate the acreage of those areas. The basic steps are:

- Assess reforestation need in burned areas
- Seek Disaster-related assistance where needed
- Match species & seedling type to site conditions
- Order seedlings as soon as you know what you need - anticipate delays due to availability
- Prepare the site – anticipate timing and delays
- Handle and plant seedlings properly
- Control competing vegetation
- Monitor animal damage

## Know your land

Getting to know your land is key to evaluating your planting environment and selecting suitable tree species and genetic types within species. This involves looking at:

- Soils and soil maps (available from the NRCS)
- Topographic features and microsities
- Vegetation types and clues – species indicate soil & site conditions
- Full sun or shady
- Known areas of disease and insect hazards
- Wildlife damage hazards

## Use an appropriate seed source

Note that for a given tree species, it is essential to use an appropriate *seed source* to ensure that seedlings are from parent trees adapted to local conditions. For this, refer to geographic and elevational *seed zones* for Oregon. For more on matching species, seed zones, and seedling types to your planting environment, refer to the publication *Selecting and Buying Quality Tree Seedlings* <https://catalog.extension.oregonstate.edu/ec1196>

A further consideration in selecting the seed source is the risk of climate change. Forest genetics researchers have concluded that current populations (of trees) are expected to be poorly adapted to future climates. Trees adapted to future climate may be found at lower elevations or further south than current seed zones. People may consider using mixtures of seed sources to account for uncertainty and climate change over the

life of a stand (assisted migration). However, there is no clear guidance for this yet. Look for “climate-based seed zones” to be developed over the next few years.

## **Avoid common problems**

Proper attention to planning and implementing all key steps will help you avoid the most common causes of reforestation failure, including:

- Poor site preparation
- Unsuitable or poor quality planting stock
- Improper storage, handling, and planting
- Competition for water and light by surrounding vegetation
- Animal damage

For many landowners, **the timeframe for active reforestation is likely to be delayed** beyond the normal 1-2 year period for planting after timber harvest. Due to the large area burned in Oregon, we expect that the demand for tree seedlings and planting contractors will be much higher than available supply. **Unless you already have contractors and seedlings secured, it could be 2-5 years before you will be able to get seedlings and tree planters.** You can use the extra time to: seek assistance, assess your situation, observe natural recovery/regeneration, and plan your actions.

For further assistance with any of the key steps, contact your local offices for OSU Extension and Oregon Department of Forestry.

# Tax Considerations for Natural Disasters

- **What kinds of events qualify for casualty loss treatment?**
  - Must be identifiable event that results in sudden loss and is both unusual and unexpected (hurricanes, ice storms, tornados, fire all qualify).
- **Is the damaged/destroyed property personal use (home, household goods, personal vehicle)?**
  - If yes, in order to be able to deduct must be a federally declared disaster area.
  - If no declaration, there is no deduction for any loss.
- **How is the loss determined?**
  - Lesser of the decrease in fair market value or the adjusted basis
  - For personal property in federally declared disaster area, take the above amount, subtract \$100 and then reduce it by 10% of adjusted gross income
  - Loss is calculated on record-keeping unit (for many that is by stand or by tract/property)
  - Normally taken in year of loss but may go back one year in federal disaster areas
  - Must take into account any amount received for salvage or from insurance (these will reduce the loss)
- **What if I harvest timber and sell it for salvage?**
  - May result in a gain (if receive more than adjusted basis)
  - Gain may be deferred for two years by purchasing appropriate replacement property
  - Any revenue from salvage of timber will be reported as timber sale income
- **If I receive cost share money to help with reforestation do I report that?**
  - Cost share funds may be available through NRCS or FSA
  - Taxpayers may be able to exclude all or part of cost share funds from income (see cost share exclusion or section 126 exclusion for the formula)
- **Once I have harvested or cleaned up I'll spend money on reforestation**
  - Funds spent on site preparation or planting up to \$10,000 in a tax year on a unit may be deducted in the year of expense (section 194)
  - Amounts above \$10,000 may be deducted in the following 7 tax years resulting in a complete deduction of reforestation expenses by year 8
  - This is an election and must be made on the tax return for the year of expense
- **How will this impact my OR property taxes?**
  - If you are in the Small Tract Forestland Option, any harvest of timber will trigger the severance tax. If you don't know if you are in Small Tract, ask your assessor.
  - OR Forest Practices Act requires reforestation (and a minimum stocking level). If you harvest, you are required to reforest. Any questions should be directed to local stewardship forester. Failure to stay in compliance with reforestation/stocking requirements may result in penalties and removal from the forestland property tax program.



## After the Fire Assistance Contacts

### Clackamas County

<p><b>Farm Services Agency</b> <i>funding for reforestation</i> 221 Molalla Ave, Oregon City, Or 97045 503-655-3144</p>
<p><b>Natural Resources Conservation Service</b> <i>funding for erosion control, hazard tree removal, and more</i> Kimberly Galland 221 Molalla Avenue Street Suite 120, Oregon City, Or 97045 503-655-3144</p>
<p><b>Oregon Department of Forestry, Stewardship Forester</b> <i>list of contractors, site visits, and more</i> Mike Haasken 14995 S Hwy 211, Molalla, Or 97038 503-829-2216 File notice of operations at: <a href="https://ferns.odf.oregon.gov/E-Notification/">https://ferns.odf.oregon.gov/E-Notification/</a></p>
<p><b>Oregon State University, Forestry Extension Agent</b> <i>site visit, educational webinars, resources</i> Glenn Ahrens 200 Warner Milne Rd, Oregon City, Or 97045 503-655-8631</p>
<p><b>Oregon State University, Regional Fire Extension Specialist</b> <i>site visits, educational webinars, resources</i> Vacant</p>
<p><b>Oregon State University, Fire Program</b> <i>webinars and resources</i> <a href="https://extension.oregonstate.edu/forests/fire/after-wildfire">https://extension.oregonstate.edu/forests/fire/after-wildfire</a></p>
<p><b>Soil and Water Conservation District</b> <i>technical assistance</i> Lisa Kilders 22055 Beaver Creek Road, Beaver Creek, Or 97004 503-210-6000</p>
<p><b>County Tax Assessor</b> Tami Little 150 Beaver Creek Road Rm 135, Oregon City, Or 97045 503-655-8671</p>
<p><b>Partnership for Forestry Education</b> <i>free webinars and resources</i> <a href="http://www.knowyourforest.org">www.knowyourforest.org</a></p>

## After the Fire Assistance Contacts

### Deschutes County

<p><b>Farm Services Agency</b> <i>funding for reforestation</i> 625 SE Salmon Ave Bldg. A, Redmond, Or 97756 541-923-4358</p>
<p><b>Natural Resources Conservation Service</b> <i>funding for erosion control, hazard tree removal, and more</i> Lars Santana 625 SE Salmon Av Suite #4, Redmond Oregon 97756 541-699-3206</p>
<p><b>Oregon Department of Forestry, Stewardship Forester</b> <i>list of contractors, site visits, and more</i> 3501 E 3rd Street, Prineville, Or 97754 541-447-5658 File notice of operations at: <a href="https://ferns.odf.oregon.gov/E-Notification/">https://ferns.odf.oregon.gov/E-Notification/</a></p>
<p><b>Oregon State University, Forestry Extension Agent</b> <i>site visit, educational webinars, resources</i> Thomas Stokely 3800 SW Airport Way Building #4, Redmond, Or 97756 541-548-6088</p>
<p><b>Oregon State University, Regional Fire Extension Specialist</b> <i>site visits, educational webinars, resources</i> Ariel Cowan 3800 SW Airport Way, Building #4, Redmond, Or 97756 541-548-8919</p>
<p><b>Oregon State University, Fire Program</b> <i>webinars and resources</i> <a href="https://extension.oregonstate.edu/forests/fire/after-wildfire">https://extension.oregonstate.edu/forests/fire/after-wildfire</a></p>
<p><b>Soil and Water Conservation District</b> <i>technical assistance</i> Tammy Hart 625 SE Salmon Av Suite #4, Redmond Oregon 97756 541-923-2204</p>
<p><b>County Tax Assessor</b> Scot Langton 1300 NW Wall ST 2nd Floor, Bend, Or 97703 541-388-6508</p>
<p><b>Partnership for Forestry Education</b> <i>free webinars and resources</i> <a href="http://www.knowyourforest.org">www.knowyourforest.org</a></p>

## After the Fire Assistance Contacts

### Douglas County

<p><b>Farm Services Agency</b> <i>funding for reforestation</i> 2593 NW Kline St, Roseburg, Or 97471 541-673-6071</p>
<p><b>Natural Resources Conservation Service</b> <i>funding for erosion control, hazard tree removal, and more</i> David Ferguson 2593 NW Kline Street, Roseburg, Or 97471 541-378-3551</p>
<p><b>Oregon Department of Forestry, Stewardship Forester</b> <i>list of contractors, site visits, and more</i> Keith Waldron 1758 NE Airport Rd, Roseburg, Or 97470 541-440-3412 File notice of operations at: <a href="https://ferns.odf.oregon.gov/E-Notification/">https://ferns.odf.oregon.gov/E-Notification/</a></p>
<p><b>Oregon State University, Forestry Extension Agent</b> <i>site visit, educational webinars, resources</i> Alicia Christiansen 1134 SE Douglas Ave., Roseburg, Or 97470 541-236-3002</p>
<p><b>Oregon State University, Regional Fire Extension Specialist</b> <i>site visits, educational webinars, resources</i> Christopher Adlam 569 Hanley Rd., Central Point, Or 97502 541-776-7371</p>
<p><b>Oregon State University, Fire Program</b> <i>webinars and resources</i> <a href="https://extension.oregonstate.edu/forests/fire/after-wildfire">https://extension.oregonstate.edu/forests/fire/after-wildfire</a></p>
<p><b>County Tax Assessor</b> 1036 SE Douglas Ave, Roseburg, Or 97470 541-440-4222</p>
<p><b>Partnership for Forestry Education</b> <i>free webinars and resources</i> <a href="http://www.knowyourforest.org">www.knowyourforest.org</a></p>

## After the Fire Assistance Contacts

### Jackson County

<p><b>Farm Services Agency</b> <i>funding for reforestation</i> 89 Alder Street, Central Point, Or 97502 541-423-6156</p>
<p><b>Natural Resources Conservation Service</b> <i>funding for erosion control, hazard tree removal, and more</i> Peter Winnick 89 Alder Street, Central Point, Or 97502 541-423-6175</p>
<p><b>Oregon Department of Forestry, Stewardship Forester</b> <i>list of contractors, site visits, and more</i> Steve Wetmore 5286 Table Rock Rd, Central Point, Or 97502 541-664-3328 File notice of operations at: <a href="https://ferns.odf.oregon.gov/E-Notification/">https://ferns.odf.oregon.gov/E-Notification/</a></p>
<p><b>Oregon State University, Forestry Extension Agent</b> <i>site visit, educational webinars, resources</i> Max Bennett 569 Hanley Rd, Central Point, Or 97502 541-776-7371</p>
<p><b>Oregon State University, Regional Fire Extension Specialist</b> <i>site visits, educational webinars, resources</i> Christopher Adlam 569 Hanley Rd., Central Point, Or 97502 541-776-7371</p>
<p><b>Oregon State University, Fire Program</b> <i>webinars and resources</i> <a href="https://extension.oregonstate.edu/forests/fire/after-wildfire">https://extension.oregonstate.edu/forests/fire/after-wildfire</a></p>
<p><b>Soil and Water Conservation District</b> <i>technical assistance</i> Randy White 89 Alder Street, Central Point, Or 97502 541-423-6159</p>
<p><b>County Tax Assessor</b> 10 South Oakdale Ave. Room 300, Medford, Or 97501 541-774-6059</p>
<p><b>Partnership for Forestry Education</b> <i>free webinars and resources</i> <a href="http://www.knowyourforest.org">www.knowyourforest.org</a></p>

## After the Fire Assistance Contacts

### Jefferson County

<p><b>Farm Services Agency</b> <i>funding for reforestation</i> 625 SE Salmon Ave Bldg. A, Redmond, Or 97756 541-923-4358</p>
<p><b>Natural Resources Conservation Service</b> <i>funding for erosion control, hazard tree removal, and more</i> Lars Santana 625 SE Salmon Av Suite #4, Redmond Oregon 97756 541-699-3206</p>
<p><b>Oregon Department of Forestry, Stewardship Forester</b> <i>list of contractors, site visits, and more</i> 3501 E 3rd Street, Prineville, Or 97754 541-447-5658 File notice of operations at: <a href="https://ferns.odf.oregon.gov/E-Notification/">https://ferns.odf.oregon.gov/E-Notification/</a></p>
<p><b>Oregon State University, Forestry Extension Agent</b> <i>site visit, educational webinars, resources</i> Thomas Stokely 3800 SW Airport Way Bldg. #4, Redmond, Or 97756 541-548-6088</p>
<p><b>Oregon State University, Regional Fire Extension Specialist</b> <i>site visits, educational webinars, resources</i> Ariel Cowan 3800 SW Airport Way, Building #4, Redmond, Or 97756 541-548-8919</p>
<p><b>Oregon State University, Fire Program</b> <i>webinars and resources</i> <a href="https://extension.oregonstate.edu/forests/fire/after-wildfire">https://extension.oregonstate.edu/forests/fire/after-wildfire</a></p>
<p><b>Soil and Water Conservation District</b> <i>technical assistance</i> Stacy Merkt 625 SE Salmon Av Suite #4, Redmond Oregon 97756 541-699-3208</p>
<p><b>County Tax Assessor</b> Jean McCloskey 66SE D street Suite D, Madras, Or 97741 541-475-2443</p>
<p><b>Partnership for Forestry Education</b> <i>free webinars and resources</i> <a href="http://www.knowyourforest.org">www.knowyourforest.org</a></p>

## After the Fire Assistance Contacts

### Josephine County

<p><b>Farm Services Agency</b> <i>funding for reforestation</i> 89 Alder Street, Central Point, Or 97502 541-423-6156</p>
<p><b>Natural Resources Conservation Service</b> <i>funding for erosion control, hazard tree removal, and more</i> David Ferguson 2593 NW Kline Street, Roseburg, Or 97471 541-378-3531</p>
<p><b>Oregon Department of Forestry, Stewardship Forester</b> <i>list of contractors, site visits, and more</i> Doug Thackery 5375 Monument Dr, Grants Pass, Or 97526 541-474-3152 File notice of operations at: <a href="https://ferns.odf.oregon.gov/E-Notification/">https://ferns.odf.oregon.gov/E-Notification/</a></p>
<p><b>Oregon State University, Forestry Extension Agent</b> <i>site visit, educational webinars, resources</i> Max Bennett 569 Hanley Rd, Central Point, Or 97502 541-776-7371</p>
<p><b>Oregon State University, Regional Fire Extension Specialist</b> <i>site visits, educational webinars, resources</i> Christopher Adlam 569 Hanley Rd., Central Point, Or 97502 541-776-7371</p>
<p><b>Oregon State University, Fire Program</b> <i>webinars and resources</i> <a href="https://extension.oregonstate.edu/forests/fire/after-wildfire">https://extension.oregonstate.edu/forests/fire/after-wildfire</a></p>
<p><b>Soil and Water Conservation District</b> <i>technical assistance</i> (Jackson County) Randy White 89 Alder Street, Central Point, Or 97502 541-423-6159</p>
<p><b>County Tax Assessor</b> Constance Roach 500 NW 6th Street Dept3, Grants Pass, Or 97526 541-474-5260</p>
<p><b>Partnership for Forestry Education</b> <i>free webinars and resources</i> <a href="http://www.knowyourforest.org">www.knowyourforest.org</a></p>

## After the Fire Assistance Contacts

### Klamath County

<p><b>Farm Services Agency</b> <i>funding for reforestation</i> 1945 Main Street Suite 100, Klamath Falls, or 97601 541-883-6924</p>
<p><b>Natural Resources Conservation Service</b> <i>funding for erosion control, hazard tree removal, and more</i> Josh Elke 1945 Main Street Ste 200, Klamath Falls, Or 97601 541-883-6924</p>
<p><b>Oregon Department of Forestry, Stewardship Forester</b> <i>list of contractors, site visits, and more</i> Jason Pettigrew 3200 DeLap Rd, Klamath Falls, Or 97601 541-883-5681 File notice of operations at: <a href="https://ferns.odf.oregon.gov/E-Notification/">https://ferns.odf.oregon.gov/E-Notification/</a></p>
<p><b>Oregon State University, Forestry Extension Agent</b> <i>site visit, educational webinars, resources</i> (Vacant) 6923 Washburn Way, Klamath Falls, Or 97603 541-883-7131</p>
<p><b>Oregon State University, Regional Fire Extension Specialist</b> <i>site visits, educational webinars, resources</i> Ariel Cowan 3800 SW Airport Way, Building #4, Redmond, Or 97756 541-548-8919</p>
<p><b>Oregon State University, Fire Program</b> <i>webinars and resources</i> <a href="https://extension.oregonstate.edu/forests/fire/after-wildfire">https://extension.oregonstate.edu/forests/fire/after-wildfire</a></p>
<p><b>Soil and Water Conservation District</b> <i>technical assistance</i> Brian Quick 1945 Main Street Ste 200, Klamath Falls, Or 97601 541-887-3502</p>
<p><b>County Tax Assessor</b> Nathan Bigby 305 Main Street, Klamath Falls, Or 97601 541-883-5111</p>
<p><b>Partnership for Forestry Education</b> <i>free webinars and resources</i></p>

## After the Fire Assistance Contacts

### Lake County

<p><b>Farm Services Agency</b> <i>funding for reforestation</i> 17612 Hwy 395, Lakeview, Or 97630 541-947-2367</p>
<p><b>Natural Resources Conservation Service</b> <i>funding for erosion control, hazard tree removal, and more</i> Max Corning 17612 Hwy 395, Lakeview, Oregon 97630 541-947-2367</p>
<p><b>Oregon Department of Forestry, Stewardship Forester</b> <i>list of contractors, site visits, and more</i> Kevin Burdon 2290 N 4th Street, Lakeview, Or 97630 541-947-3311 File notice of operations at: <a href="https://ferns.odf.oregon.gov/E-Notification/">https://ferns.odf.oregon.gov/E-Notification/</a></p>
<p><b>Oregon State University, Forestry Extension Agent</b> <i>site visit, educational webinars, resources</i> (Vacant) 103 S E street, Lakeview, OR 97630 541-947-6054</p>
<p><b>Oregon State University, Regional Fire Extension Specialist</b> <i>site visits, educational webinars, resources</i> Ariel Cowan 3800 SW Airport Way, Building #4, Redmond, Or 97756 541-548-8919</p>
<p><b>Oregon State University, Fire Program</b> <i>webinars and resources</i> <a href="https://extension.oregonstate.edu/forests/fire/after-wildfire">https://extension.oregonstate.edu/forests/fire/after-wildfire</a></p>
<p><b>Soil and Water Conservation District</b> <i>technical assistance</i> Justin Ferrell 17612 Hwy 395, Lakeview, Oregon 97630 541-947-5855</p>
<p><b>County Tax Assessor</b> Dave Knowles 513 Center Street, Lakeview, Or 97630 541-947-6000</p>
<p><b>Partnership for Forestry Education</b> <i>free webinars and resources</i></p>



## After the Fire Assistance Contacts

### Lane County

<p><b>Farm Services Agency</b> <i>funding for reforestation</i> 780 Bailey Hill Rd, Eugene, Or 97402 541-465-6443</p>
<p><b>Natural Resources Conservation Service</b> <i>funding for erosion control, hazard tree removal, and more</i> Tom Snyder 780 Bailey Hill Rd Suite 5, Eugene, Or 97402 541-465-6443</p>
<p><b>Oregon Department of Forestry, Stewardship Foresters</b> <i>list of contractors, site visits, and more</i> West Lane Co.: Dan Menk   87950 Territorial Hwy, Veneta, Or 97487   541-935-2283 East Lane Co.: Tim Meeham   3150 Main Street, Springfield Or, 97478   541-726-3588 File notice of operations at: <a href="https://ferns.odf.oregon.gov/E-Notification/">https://ferns.odf.oregon.gov/E-Notification/</a></p>
<p><b>Oregon State University, Forestry Extension Agent</b> <i>site visits, educational webinars, resources</i> Lauren Grand 996 Jefferson Street, Eugene, Or 97402 541-579-2150</p>
<p><b>Oregon State University, Regional Fire Extension Specialist</b> <i>site visits, educational webinars, resources</i> Vacant</p>
<p><b>Oregon State University, Fire Program</b> <i>webinars and resources</i> <a href="https://extension.oregonstate.edu/forests/fire/after-wildfire">https://extension.oregonstate.edu/forests/fire/after-wildfire</a></p>
<p><b>Soil and Water Conservation District</b> <i>technical assistance</i> (Vacant) 780 Bailey Hill Rd Suite 5, Eugene, Or 97402 541-465-6443</p>
<p><b>County Tax Assessor</b> Michael Cowles 125 East 8th Ave, Eugene, Or 97401 541-682-4321</p>
<p><b>Partnership for Forestry Education</b> <i>free webinars and resources</i> <a href="http://www.knowyourforest.org">www.knowyourforest.org</a></p>

## After the Fire Assistance Contacts

### Lincoln County

<p><b>Farm Services Agency</b> <i>funding for reforestation</i> 31978 N Lake Creek DR, Tangent, Or 97389 541-967-5925</p>
<p><b>Natural Resources Conservation Service</b> <i>funding for erosion control, hazard tree removal, and more</i> Annie Young-Mathews P.O. Box 99, Waldport, Or 97394 541-563-5627</p>
<p><b>Oregon Department of Forestry, Stewardship Forester</b> <i>list of contractors, site visits, and more</i> Joe Koch 763 NW Forestry Rd, Toledo OR, 97391 541-336-2273 File notice of operations at: <a href="https://ferns.odf.oregon.gov/E-Notification/">https://ferns.odf.oregon.gov/E-Notification/</a></p>
<p><b>Oregon State University, Forestry Extension Agent</b> <i>site visit, educational webinars, resources</i> Dan Stark 1211 SE Bay Blvd, Newport, Or 97365 503-325-8573</p>
<p><b>Oregon State University, Regional Fire Extension Specialist</b> <i>site visits, educational webinars, resources</i> Christopher Adlam 569 Hanley Rd., Central Point, Or 97502 541-776-7371</p>
<p><b>Oregon State University, Fire Program</b> <i>webinars and resources</i> <a href="https://extension.oregonstate.edu/forests/fire/after-wildfire">https://extension.oregonstate.edu/forests/fire/after-wildfire</a></p>
<p><b>Soil and Water Conservation District</b> <i>technical assistance</i> Mark Stone 411 NE Avery Street, Newport, Or 97365 541-265-2631</p>
<p><b>County Tax Assessor</b> Joe Davidson 225 West Olive Street Rm 207, Newport, Or 97365 541-265-4102</p>
<p><b>Partnership for Forestry Education</b> <i>free webinars and resources</i> <a href="http://www.knowyourforest.org">www.knowyourforest.org</a></p>

## After the Fire Assistance Contacts

### Linn County

<p><b>Farm Services Agency</b> <i>funding for reforestation</i> 31978 N Lake Creek Dr, Tangent, OR 97389 541-967-5925</p>
<p><b>Natural Resources Conservation Service</b> <i>funding for erosion control, hazard tree removal, and more</i> Amy Kaiser 31978 N. Lake Creek Drive, Tangent, Or 97389 541-801-2691</p>
<p><b>Oregon Department of Forestry, Stewardship Forester</b> <i>list of contractors, site visits, and more</i> Steve Kendall 4690 Hwy 20, Sweet Home, Or 97386 541-367-6108 File notice of operations at: <a href="https://ferns.odf.oregon.gov/E-Notification/">https://ferns.odf.oregon.gov/E-Notification/</a></p>
<p><b>Oregon State University, Forestry Extension Agent</b> <i>site visits, educational webinars, resources</i> Brad Withrow-Robinson 33630 McFarland Road, Tangent, Or 97389 541-766-3554</p>
<p><b>Oregon State University, Regional Fire Extension Specialist</b> <i>site visits, educational webinars, resources</i> Vacant</p>
<p><b>Oregon State University, Fire Program</b> <i>webinars and resources</i> <a href="https://extension.oregonstate.edu/forests/fire/after-wildfire">https://extension.oregonstate.edu/forests/fire/after-wildfire</a></p>
<p><b>Soil and Water Conservation District</b> <i>technical assistance</i> (Vacant) 33630 McFarland Road Suite 3656, Tangent, Or 97389 541-926-2483</p>
<p><b>County Tax Assessor</b> Andy Stevens 300 4th Ave Rm 214, Albany, or 97321 541-967-3808</p>
<p><b>Partnership for Forestry Education</b> <i>free webinars and resources</i> <a href="http://www.knowyourforest.org">www.knowyourforest.org</a></p>

## After the Fire Assistance Contacts

### Marion County

<p><b>Farm Services Agency</b> <i>funding for reforestation</i> 650 Hawthorne Ave SE Suite 130, Salem, Or 97301 503-399-5741</p>
<p><b>Natural Resources Conservation Service</b> <i>funding for erosion control, hazard tree removal, and more</i> Les Bachelor 650 Hawthorne Ave SE Suite 130, Salem, Or 97301 503-399-5741</p>
<p><b>Oregon Department of Forestry, Stewardship Forester</b> <i>list of contractors, site visits, and more</i> Mike Thompson 22965 No. Fork Rd SE, Lyons, Or 97358 503-510-1213 File notice of operations at: <a href="https://ferns.odf.oregon.gov/E-Notification/">https://ferns.odf.oregon.gov/E-Notification/</a></p>
<p><b>Oregon State University, Forestry Extension Agent</b> <i>site visit, educational webinars and resources</i> Glenn Ahrens 200 Warner Milne Rd, Oregon City, Or 97045 503-655-8631</p>
<p><b>Oregon State University, Regional Fire Extension Specialist</b> <i>site visits, educational webinars, resources</i> Vacant</p>
<p><b>Oregon State University, Fire Program</b> <i>webinars and resources</i> <a href="https://extension.oregonstate.edu/forests/fire/after-wildfire">https://extension.oregonstate.edu/forests/fire/after-wildfire</a></p>
<p><b>Soil and Water Conservation District</b> <i>technical assistance</i> Jane Keppinger 338 Hawthorne Ave SE, Salem or 97301 503-391-9927</p>
<p><b>County Tax Assessor</b> Tom Rohlfing 555 Court Street NE, Salem, Or 97301 503-588-5144</p>
<p><b>Partnership for Forestry Education</b> <i>free webinars and resources</i> <a href="http://www.knowyourforest.org">www.knowyourforest.org</a></p>

## After the Fire Assistance Contacts

### Washington County

<p><b>Farm Services Agency</b> <i>funding for reforestation</i> 1080 SW Baseline Suite B2, Hillsboro, Or 97123 503-648-3174</p>
<p><b>Natural Resources Conservation Service</b> <i>funding for erosion control, hazard tree removal, and more</i> Jessica Wells 1080 SW Baseline Rd suite B-2, Hillsboro, Or 97123 503-648-3174</p>
<p><b>Oregon Department of Forestry, Stewardship Forester</b> <i>list of contractors, site visits, and more</i> Jason McCoy 801 Gales Creek Rd Forest Grove, Or 97116 503-357-2191 File notice of operations at: <a href="https://ferns.odf.oregon.gov/E-Notification/">https://ferns.odf.oregon.gov/E-Notification/</a></p>
<p><b>Oregon State University, Forestry Extension Agent</b> <i>site visit, educational webinars, resources</i> Brad Withrow-Robinson (<i>Interim for Washington Co.</i>) 4077 SW Research Way, Corvallis, OR 97333 541-766-3554</p>
<p><b>Oregon State University, Regional Fire Extension Specialist</b> <i>site visits, educational webinars, resources</i> Vacant</p>
<p><b>Oregon State University, Fire Program</b> <i>webinars and resources</i> <a href="https://extension.oregonstate.edu/forests/fire/after-wildfire">https://extension.oregonstate.edu/forests/fire/after-wildfire</a></p>
<p><b>Soil and Water Conservation District</b> <i>technical assistance</i> Lacy Townsend 7175 NE Evergreen #400, Hillsboro, Or 97124 503-334-2288</p>
<p><b>County Tax Assessor</b> 155 N First Ave., Hillsboro, Or 97124 503-846-8741</p>
<p><b>Partnership for Forestry Education</b> <i>free webinars and resources</i> <a href="http://www.knowyourforest.org">www.knowyourforest.org</a></p>