

## WHAT TO DO WITH WOOD WASTE

Slash from thinning or clearing vegetation is typically burned, dumped, or left to rot—producing pollution or greenhouse gasses that contribute to global warming. But wood waste has value, and we



can use some of this material before it goes up in smoke.

Now there are alternatives to traditional clearing and burning. Grinding equipment

can eliminate stumps, small timber and underbrush where they stand. Waste biomass can also be burned in specially designed ovens that capture emissions and create energy and useful by-products.

## THE BIOCHAR OPTION

As the residual fine-grained charcoal from these *pyrolysis* (*pī-rōl'ī-sīs*) ovens, **biochar** has many environmental benefits beyond producing energy and reducing forest-fire risks. Long known to improve soils when used as a soil amendment, biochar locks up carbon and its climate-change impacts for hundreds to thousands of years. This also helps mitigate the significantly reduced capacity of dying forests to serve as carbon sinks.



With continued biochar research and a groundswell of interest around the world, pyrolysis ovens are becoming more available—the small, mobile units ideal for use on-site when removing forest-fire fuels to create defensible space, as well as stationary units for co-producing power and heat. Watch for future opportunities to use your biomass effectively.

## Sustainable Obtainable Solutions



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### Do You Feel Lucky?



*When fires devastated Yellowstone National Park in 1988, the wind changed suddenly up at the northeast entrance—and Silver Gate, Montana, got very lucky.*

**Don't gamble with your home and property values!**

Learn how you can help save the planet in your own backyard or back-40 through biochar. For more tips and guidelines about what to ask thinning contractors to help ensure the best decisions and forest management for your property, visit:

[www.s-o-solutions.org](http://www.s-o-solutions.org)    [www.biochar-us.org](http://www.biochar-us.org)

**Biochar:**  
An Elegant  
Solution  
to Complex  
Problems.

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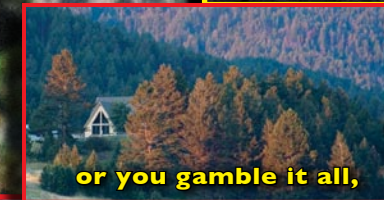


# You Can Protect Your Property from Wildfire— and Still Live in the Woods!

## Here's Why; Here's How.



**Opening up dense stands of  
timber can retain the forested  
property values you enjoy ...**



PRODUCED BY JANA M. SUCHY; PHOTOS © 2010  
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## DEFENDING YOUR SPACE

If you live amongst or near trees in the Intermountain West you also live with the risk of wildfire. Valiant efforts to save property in the fire's path are expensive, dangerous—and not always successful. No doubt you've heard that creating **Defensible Space** by removing fire fuels near the house greatly increases odds of surviving wildfire. Maybe you're reluctant to cut the trees that drew you to live there in the first place, thinking you'll lose the visual character and wildlife habitat of a wooded setting that makes living out of town so appealing.

**A fire-safe landscape does not have to look like a clearcut moonscape surrounding your home.**

By selectively removing trees through proper thinning techniques you can actually enhance property values, scenic beauty, views, forest vitality, productivity, bird diversity and wildlife habitat while reducing the risk of wildfire burning your home.

## BALANCE DISRUPTED

Despite human efforts to control our environment, nature always seeks balance. On a misguided notion, we prevented normal fire cycles for 100 years until "dog-hair" thickets and overcrowded forests with unnatural fuel buildup made them a virtual tinderbox today. Trees stressed from a warmer, drier climate become less resistant to



of epic proportions—a cumulative imbalance primed for a catastrophic perfect storm ... a firestorm.

Warmer winters preventing insect die-offs helped create tree kills

drought, disease, and the deadly ravages of insects leaving whole mountainsides of dying forests rusty red in their wake. Crowded, red, dead, combustible trees primed to ignite, burn, and scorch.

## RESTORING THE BALANCE

Selectively harvest live and dead trees to reduce density, leaving healthy trees adequately spaced, scattered, and clustered—both strengthening the stand and helping spare structures from fire. To reduce the fuel source, most dead and infested timber should be removed, saving some snags for nesting birds. Unfortunately, most infested trees will die; waiting until infested trees die before removing them can allow insects to spread.



Telltale signs of infestation: spruce budworm pupal case (top) after moth takes flight to infest again; pine bark beetle pitch tubes weep where insects bore through bark.

**A forest in balance is a self-sustaining forest—**don't take more vegetative biomass than is healthy for

regeneration of the habitat type or area. Rather than stripping the ground bare, leave scattered wood residue to protect soil from erosion and nutrient loss while creating favorable microclimates for new growth.

## PROTECTING YOUR INVESTMENT

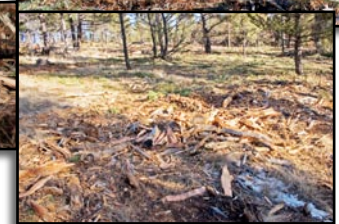
Choose your restoration-thinning contractor carefully. Interview prospective practitioners, get references to prior projects and visit those properties. Hire a professional with equipment and skills focused on

## You don't have to lose the forest for the trees!



Create defensible space around your structures by removing, reducing, relocating or replacing vegetation at high risk of becoming dangerous wildfire accelerants.

To open up dense stands, use maneuverable equipment to grind dead wood, stumps, woody debris and small trees into chips and sawdust left on the ground to decompose.



sound forest restoration

practices and techniques that enhance aesthetics, forest health and wildlife habitat.

### Considerations include:

- Equipment to grind debris in place.
- No dirt in slash piles and no piles near trees.
- Minimize soil impacts; operate equipment when ground is frozen, and definitely not when wet.
- Cut or grind stumps to soil level.
- Ensure contractor is bonded or insured.
- Seed bare soil promptly to prevent weeds.
- Quickly get insect-infested trees off property.
- Leave all sizes of trees, unevenly spaced, for a more natural look.
- Be clear about which trees you do *not* want removed.



**It's your property.**

**Hire the professional who respects your wishes!**