



Post Fire Erosion

Erosion potential is heavily dependant on:

- Rainfall intensity
- Wind erosion
- Slope
- Burn severity
- Hydrophobicity
- Amount of cover/material/vegetation on soil surface

Hydrophobic Soils

- Hydrophobic soils are water repellent, and can increase the rate of water runoff
- Test if your soils are experiencing hydrophobicity by:
 - Placing a bead of water on the soil surface. If it does not infiltrate into the soil after approximately 15 seconds, your soil may be hydrophobic.
 - Test this across your property, some areas may have burned hotter than other areas.
- Freezing and thawing and animal activity will help break up the hydrophobic layer over time.

Methods to Minimize Erosion

- Natural Revegetation
- Grass Seeding
- Tree Planting
- Mulching
 - Straw mulch
 - Woody debris/lop and scatter
 - Netting/matting
 - Chipping
 - Pine needles
- Log Erosion Barriers

Natural Vegetation

- Reseeding and Resprouting
 - Many areas already showing signs of natural recovery
 - Be careful to identify noxious and/or invasive species
 - Burn severity will impact how quickly some areas will revegetate.

Grass Seeding/Replanting

- Grasses can be applied by hand, seed spreaders, or aerially
- Native perennial grasses
- Short lived annual grasses
 - Ex. Winter wheat
- Success rates of seeding are variable
 - Seeding rates should be double drill rates if broadcasted (approximately 20 lbs/acre)
- Tree establishment is necessary in areas of high burn severity
 - Important to plant Ponderosa Pine before understory becomes abundant to reduce competition.

Mulching

- Straw Mulch
 - Mulch can be spread by hand or use bales or wattles to create check dams
 - Careful spreading mulch in windy areas! Your investment could blow away
 - Check dams are highly effective in draws or along steep slopes
 - Weed free straw is ALWAYS preferred
 - Anchor straw bales to prevent sliding






Fig. 3 A set of straw bale erosion barriers installed in a burned

Mulching




- Lop and Scatter/Chipping
 - Apply woody slash or debris across the landscape
 - Can be achieved by using a masticator , chipper, or by hand
 - Breaking off dead branches or dead shrubs will help create the “plinko” affect.





Mulching



- Needle cast
 - Ponderosa Pine needles reduce erosion caused by water running over the soil
 - Douglas-fir needles reduce erosion caused by rain hitting and splashing into soil
 - 50% ground cover of ponderosa pine needles reduced water flow erosion by 40% and rain-induced erosion by 60% (Robichaud and Pannkuk, 2003)

Log Erosion Barriers/Contour Felling

- Useful when there are many dead trees on the property
- Trees are cut so that the trunks drop across the slope perpendicular to the flow of water
- Falling dead trees is typically very hazardous work and using a licensed faller or contractor is recommended





Questions?

