

Fire-Resistant landscape training notes

Purpose: Explain/Introduce the Firewise concepts so you will have a basic understanding of why this is such an important program in Chelan/Douglas County.

Objectives:

- Gain a basic understanding of Fire behavior
- Understand the principles of Firewise
- Know the attributes of Firewise vegetation

Explanation - not a fire behavior course just a basic understanding of fire spread and intensity

Fire triangle

heat, fuel, oxygen

Fire Behavior: the components that affect fire spread and intensity are fuels, weather and topography

Wildland fuels - live or dead organic (as well as milled lumber) materials that burns

Fuel Characteristics

Volume

Arrangement

Size

Moisture content

Fuel types

Ground

Surface

Ladder

Crown

Weather factors

Temperature

Humidity

Wind

Topography effects

Slope

Aspect

Energy transfer

Radiation

Convection

Conduction

Basic fire behavior

Rate of spread function of:

Moisture content, fuel size, arrangement, slope

Fire Intensity function of:

Moisture, volume, size, arrangement

Types of fire spread

Creeping or smoldering

Surface

Torching

Crowning

Spotting

Fire statistics

98% of all fire are caught at less than 1 acre

2% of fires account for 98% of acreage burned

Fire suppression resources

Local

Area

Regional/State

National

International

Wildland Urban Interface - the WUI

That area where wildland fuels intertwine with urban development. This interface is the most challenging area for the loss of life and personal property.

Research (Jack Cohen) has shown that home and wooden structures will not sustain ignition from very high intensity forest fires on flat ground at distance of 100 feet or more.

A conclusion can be made from this. If you are can keep a high intensity fire at least 100 feet from a house it has a high probability of surviving the fire. (some additional work is also needed to further increase the probability of survival).
Who owns this land? Or at least a high percentage of it. Federal, State, or Private?

Firewise Concepts

(Fire Safe, Defensible Space, Living with Fire, Fire Adapted Communities, Home ignition zone, etc.)

Wildfire Strikes Home basically started the ball rolling in 1980s.

Reduce flammable vegetation around the home

Construction with flame resistant materials

Provide definable, safe access for fire suppression resources

Be prepared develop an emergency action plan

Attribute of Firewise Vegetation:

Low growing

Open configuration

High water content

Water like sap

Broad-leaves

Herbaceous vs. woody

Low surface to volume ratio

Low accumulation of dead material

Tight bark

Moist/succulent plant parts

Home Ignition Zone

- 100 feet – well spaced wildland fuels and pruned up so nothing can ignite crowns – native vegetation is okay (low intensity)
- 30 feet – Well spaced, pruned up, green, no dead fuels (no spread)
- 0-5 feet (10ft)- basically non-flammable (No Ignitions)

Categories of Vegetation and where they best fit in the landscape zones

Zones 1

Ground Covers

Herbaceous Perennials and Annuals

Vines

Turf Grasses

Zones 2 or 3

Shrubs

Trees

Native/Adaptive grasses

Fire Resistant vs Fire Prone Vegetation

- Short vs. Tall
- Herbaceous vs. woody
- Deciduous vs. Evergreen
- Spread out vs. Thick/dense
- Tight vs. loose bark/wood
- Watery vs. thick/sticky sap

Summary of Home Ignition Zone

- 0-20% 100 feet to reduce radiant heat transfer
- Remove dead fuels
- Separate fuels horizontally (2x the height)
- Separate fuels vertically (not ladder fuels)
- Lean, Clean and Green 30 feet from the structure
- Prevent ignitions
- Reduce spread and intensity

- Maintenance

Practices that can reduce Fire Hazard (Maintenance)

- Washing out plants
- Pruning/Thinning/Spacing
- Raking
- Weeding
- Mowing/Weed Eating
- Mulches
 - ☞ Organic
 - ☞ Inorganic near structures
- Watering
- Roofs and Gutters
- Clean-up and proper yard waste disposal

Role of Master Gardeners

- Plant selection (Book)
- Plant placement (by Zone)
- Plant care and maintenance (Brochure)