Fuel Management Objectives within Dry Forest Landscapes on the Okanogan-Wenatchee NF

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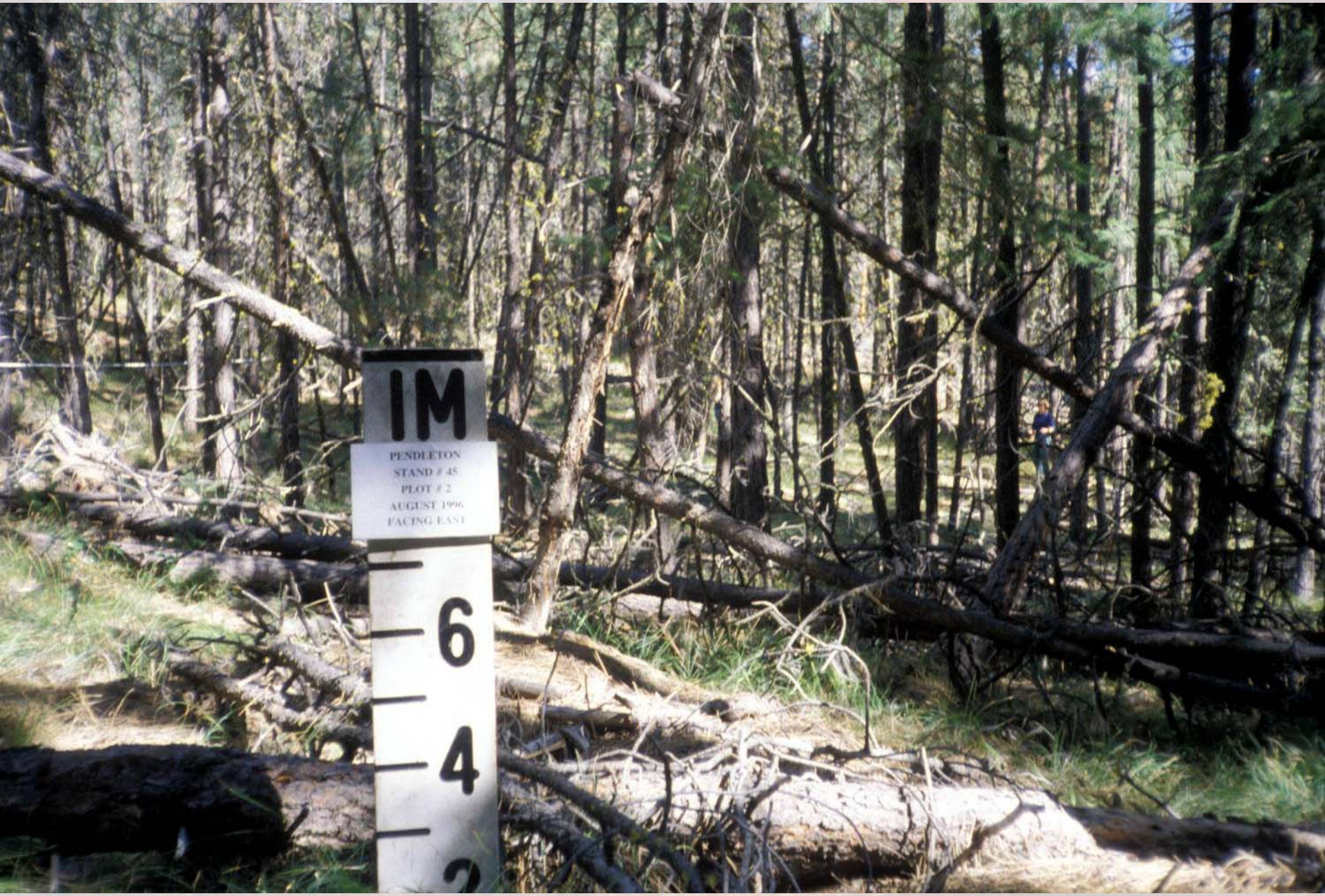
Okanogan-Wenatchee National Forest


1M
PENDLETON
STAND # 45
PLOT # 2
AUGUST 1996
FACING EAST
6
4

Ecological Restoration

- **Ecological restoration aims to enhance the resilience and sustainability of forests through treatments that incrementally return the ecosystem to a state that is within a historic range of conditions (Landres et al. 1999).**
- **The process of assisting the recovery and management of ecological integrity (Society for Ecological Restoration).**

Okanogan-Wenatchee NF Dry Forest Strategy

- **2020.3 – FSM Policy**
  1. **All resource management programs have a responsibility for ecological restoration…**
- **Emphasize restoration efforts in the dry and mesic forests**
- **Provided recommendations for types of and placement of treatments**
- **Key emphasis on integration of resource values**

Relatively open stands of ponderosa pine developed dense Douglas-fir, white fir, and grand fir understories.

Goals of Fuel Management

- **Change how fire behaves within stands and across landscapes**
- **Create stands and landscapes that are resilient to fire**
- **Mitigate fire hazard in the wildland/urban interface**

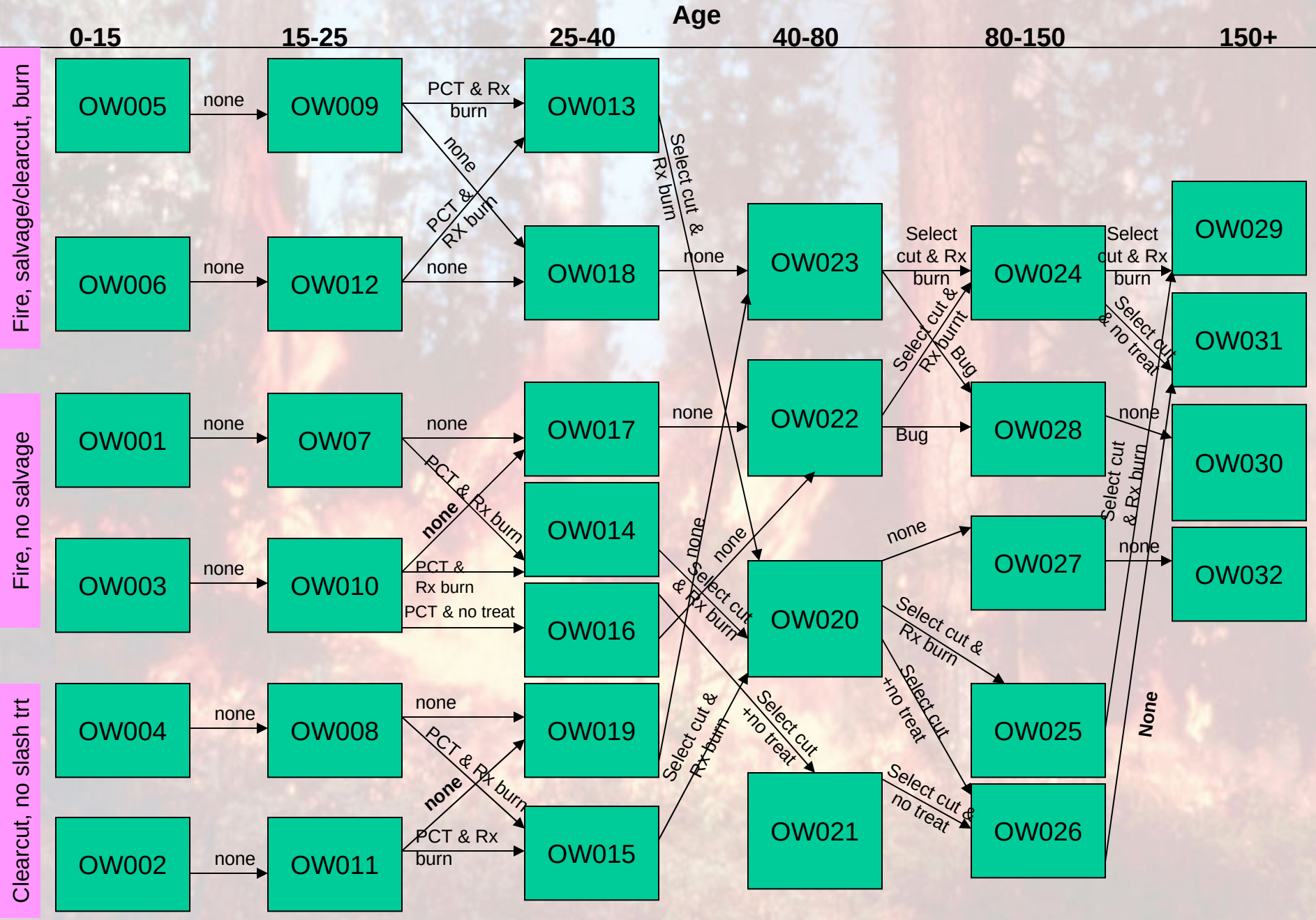
Fuel Management Objectives

- Reduce surface fuels
- Increase height to live crown
- Decrease crown density

Fuel Management Objectives

- **Treatment sequence**
  - **Harvest, pile, pile burn, underburn**
  - **Thin, pile, underburn**
  - **Underburn**
- **Can use FCCS to determine sequence**

Potential Dry Douglas-fir, Ponderosa Pine, Grand Fir Fuelbed Series Pathway



Reduce Surface Fuels

- **In dry forest types, average of 3-5 tons/acre within stands**
- **Loading should be discontinuous, variability is desired.**

Reduce Surface Fuels

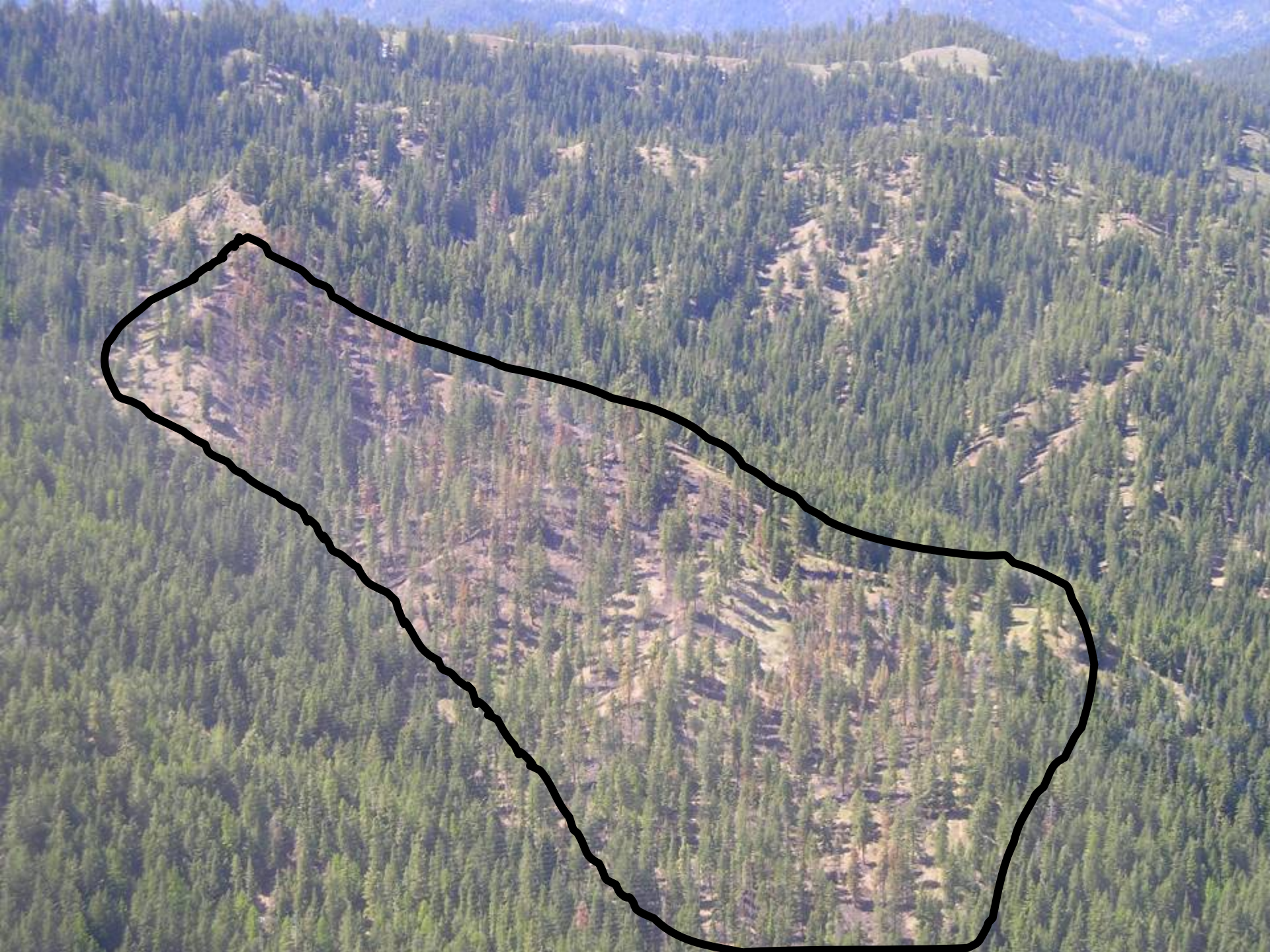
- **Goal is to reduce flame length**
  - **A measure of fire intensity which determines fire severity**
  - **Long lengths leads to high torching potential**

Reduce Ladder Fuels

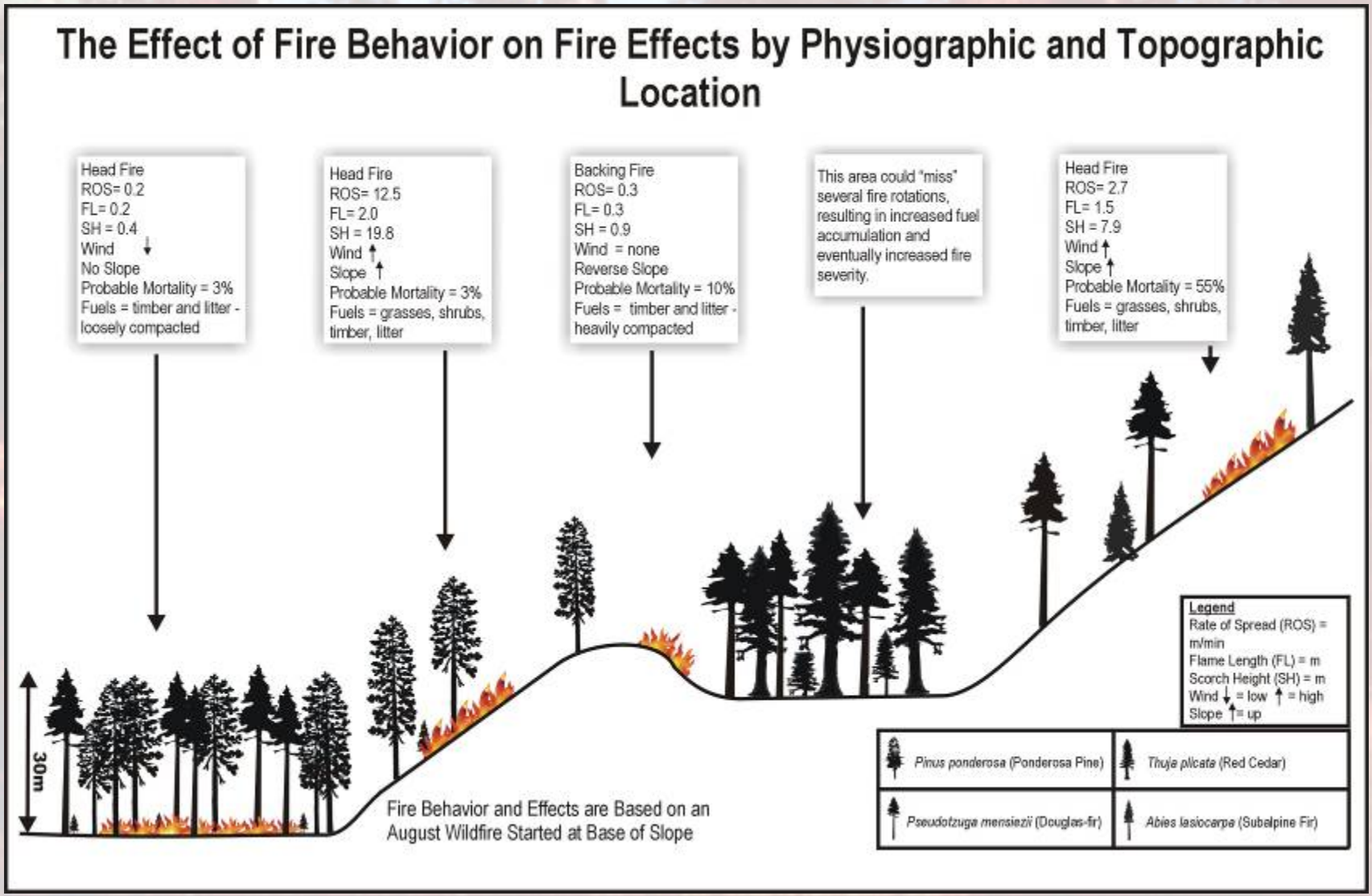
- **Decrease potential for torching**
  - **Eliminate branches on large trees**
  - **[illegible]**
- **V[illegible]rable**

Decrease Crown Density

Hard to Meet Restoration Objectives

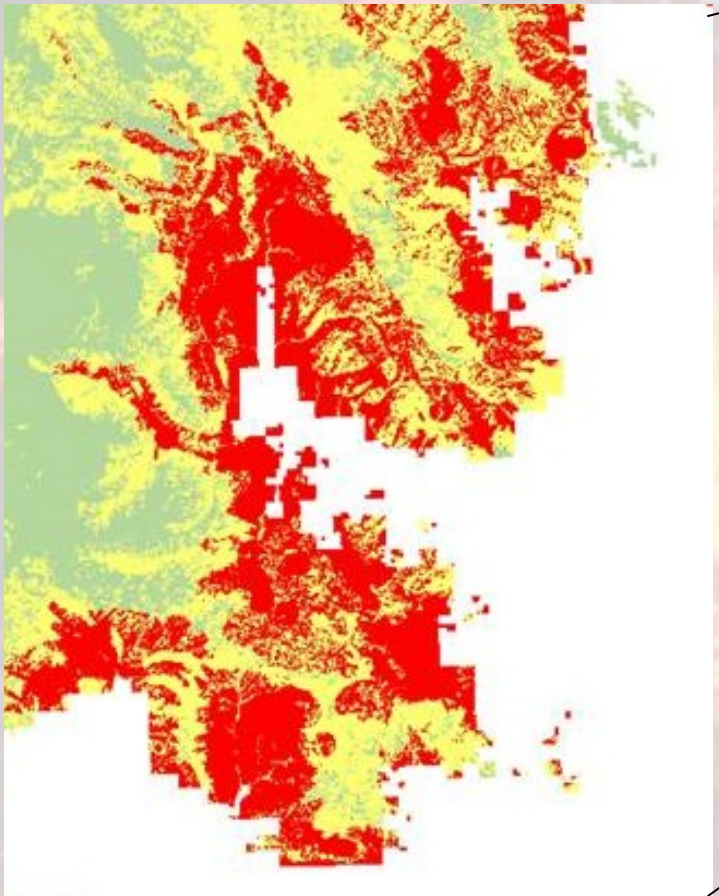


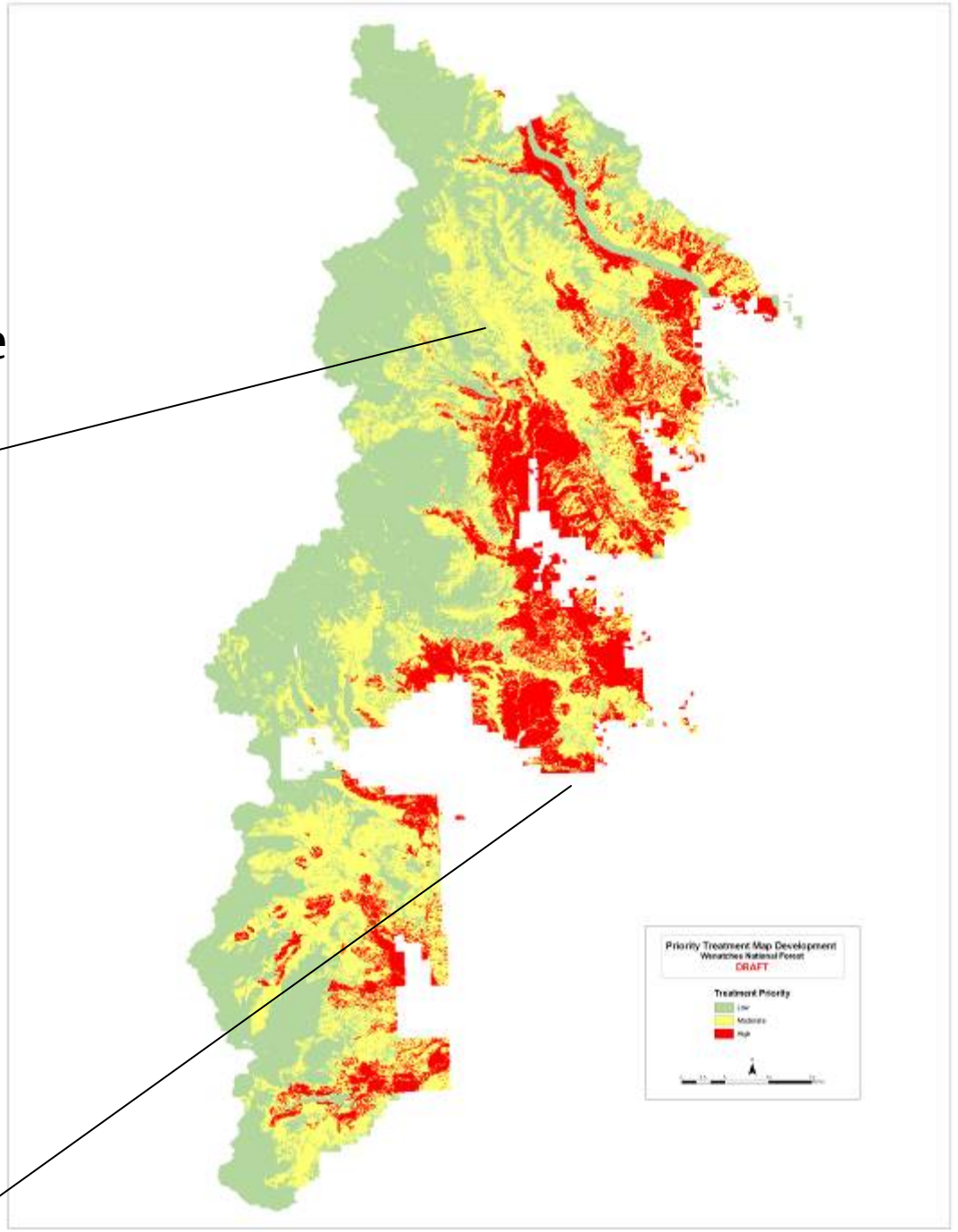
LANDSCAPE CHARACTERISTICS



Priority Treatment Areas- developed using Analytical Hierarchy Process

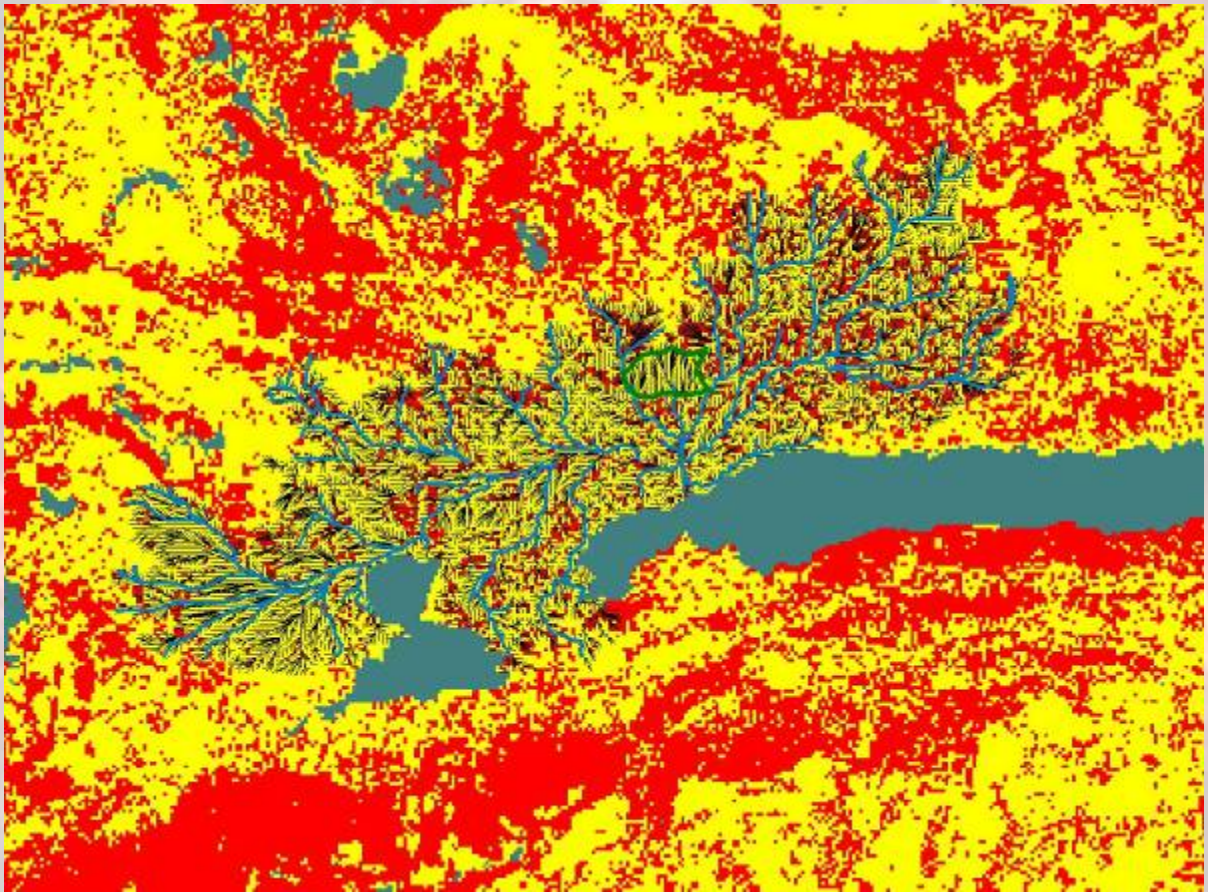
- **Weight factors**
- **Applied at the landscape scale.**





Restoration Approach

Determine where on the landscape to place your treatments.



Summary

- **Treatments need to be strategically placed on the landscape**
- **Stand level treatments should focus on three principles of fuel management**
- **Treatments need to consider the importance of spatial patterns, fire tolerant structures, and species composition**
- **Important to integrate resource objectives, not about reducing fuels everywhere.**