Tree Mortality

Sierra National Forest
Bass Lake Ranger District
Beetle Killed Pine Trees
• Forests with large number of beetle-killed trees are at a significantly higher risk of burning as actively spreading crown fires.
• Crown fires cannot be directly suppressed by ground resources, and are very dangerous to firefighters and communities.

  *Jolly, Matt et al 2012.*
Red needle stage of tree mortality is the most flammable.

- Fuel moisture reduced to less than **10%** compared to 90-120% for live green needles.
- Less intense surface fire would ignite dead canopy fuels 3 times faster.
Lodgepole Pine Forests in Colorado

- Notice the lack of heavy shrubs and ladder fuels in the understory.
- Shorter needles of lighter density than Ponderosa Pine.
Ponderosa Pine Forest in California
• Notice heavy shrubs and incense cedar ladder fuels in the understory.
• Longer needles and more dense canopy.
Long term fuels buildup

- Tree fall will begin to occur within 3-5 years.
- What is the unique weather feature that occurs on the Bass Lake RD? “Mono Winds”
Long term fuels buildup

- Heavy surface fuel loading 100+ tons per acre that will persist for decades.
Fire Fighter Safety

• Snags increase the risk of injury in an already dangerous working environment.
Sierra National Forest Priorities
What is a Hazard Tree?

Hazard Tree = Defective Tree + Target Within Range
What is a target?

- People
- Vehicles & Equipment
- Buildings
- Facilities:
  - Tent Sites
  - Parking Pads
  - Trails to Facilities
  - Picnic Tables
  - Resting Benches
Treatment Strategies

- **MOVE** the target
- **CORRECT** the tree
- **REMOVE** the tree
- **CLOSE** the area
Life and Property
Forest Service Structures and Recreational Facilities
Trailheads
Forest Roads
Clearance Standards Considerations

- Free use permit
  - No wheeled/tracked equipment
  - Limb and top trees
  - No piling on FS lands
  - Lop and scatter w/in 18” of ground all tree limbs/tops or remove slash to pvt prop for disposal by chipping or burning during winter/spring.

- Wood collecting permit
  - If homeowner desires firewood from FUP required to obtain fuelwood personal use permit. $10/cord, 2 cord min.