

## Protecting Pinyon Trees in Construction Sites

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Pinyon pine trees throughout western Colorado and neighboring regions are dying from attacks by pinyon Ips bark beetles. Pinyon mortality is caused by two underlying factors: drought and stress caused by overcrowded stand conditions. Pinyon mortality has reached 100% in some areas, and trees are still dying in many other affected areas. The epidemic will continue until there is a long term return to normal precipitation, or the Ips beetles run out of food and pinyon mortality nears 100%.

Construction sites in affected areas are especially vulnerable to pinyon mortality. This is because of increased stress levels on pinyons within these sites because of drought coupled with root damage from excavation work and soil compaction from construction traffic.

These guidelines will form a decision-making basis for construction managers to use to protect pinyon trees. Without active management, there is a high probability that many pinyon pines will die in the near future. With proactive management, pinyons can be protected, and can be an integral part of landscaping around newly constructed homes and businesses.

1) Determine your risk. Look around and observe pinyon mortality in the region. If pinyon mortality is evident in areas near the construction site, the risk is high. If pinyon trees continue to die in the area, the threat is greatest. Pinyons in high risk areas will suffer mortality if preventative actions are not taken. The amount of preventative action needed in any area is based on a combination of risk and tree value.

2) If trees are at risk, identify priority trees on the construction site, and start a protective spray program on them immediately. Trees should be sprayed with either permethrin (Astro, Permethrin 38+) or carbaryl (Sevin, several formulations). Sprays should be applied to the trunks and larger branches early in the spring (early April) and then again in August. Use commercial, high % active ingredient formulations, and follow label directions. Mix at the higher label rate for better control and longer residual. The late season spray is especially important to manage flights of overwintering beetles.

3) Avoid cutting trees during Ips flight periods if possible. Ips beetles are flying from April through October. If trees are cut during this time, remove or destroy by burning or burying ALL green slash and wood chips. Green slash dump sites should be more than two miles from the nearest living pinyon trees. If any cutting takes place during April-October, the risk factor for unprotected trees in the vicinity is greatly increased and protective sprays on high value trees are essential.

4) Take every action to reduce stress on priority pinyons. Deep watering the trees once or twice during the hot, dry periods will aid in reducing stress. Pinyon roots extend 2-3 X the tree height,

so a significant area around the trees should be watered to a depth of 1-2 feet. Vehicle/equipment traffic near the trees should be limited to avoid soil compaction. There should be no pruning of any sort on high value trees.