

# 2014 Drought and Bark Beetle Tree Mortality in Wrightwood





**Tree health in Swarthout Valley is seriously declining due to an extended drought**





# Annual rainfall in Swarthout Valley averages 17" per year

<b>2010-2011</b>	<b>36.91"</b>
<b>2011-2012</b>	<b>9.97"</b>
<b>2012-2013</b>	<b>5.83"</b>
<b>2013-2014</b>	<b>9.31"</b> (so far)





Bark beetles can cause high levels of tree mortality, primarily influenced by forest stand and drought conditions.

A dramatic rise in the number of dead trees follows one to several years of inadequate precipitation. The more severe and prolonged the drought, the greater number of dead trees.





**With this year's mild winter and little precipitation  
pockets of dead & dying trees started showing**





**California Fivespined Ips  
(Ips paraconfusus)**



Fading needle color is an early sign of colonization  
Needles fade from dark green to pale green to  
straw yellow to a rusty red.









# Pockets of Drought and Bark Beetle Tree Mortality







3-13-14















2-27-14





# Logs and Firewood Management









## **6 mil clear plastic sheeting**



**Edges completely covered with dirt to seal  
Left untouched for at least 6 months**





# Slash Management

(woody debris, branches & twigs)

**This beetle attacks fresh slash of almost any diameter**





# **Slash Management**

(woody debris, branches & twigs)

**Critical to remove from community immediately, take to landfill or chip**



**If chipped must be spread thinly in direct sunlight**





## Management - Tree Stumps

**Freshly cut tree stumps must be treated with Sporax to prevent spread of Annosus Root Disease**





## Deep watering high value trees



### Pine Tree Deep Watering

Apply water in a donut shaped area centered under the drip line.

Deep water with a soaker hose. Soil should be moistened to 2 feet in depth. 2-3 weeks later, dig a 6 inch deep test hole if dry, water.

Do **Not** over water!

