

Threat: INSECTS

Why INSECTS can be a threat to trees:

Insects are an important part of the environment so why would they be a threat to trees? If they are native insects that belong in that location, they are not a problem. In fact, many insects and trees live together very happily for years and years, in balance with each other. However, when a new insect is introduced to an area, the trees there may not be able to protect themselves from this new attack and the balance is disturbed. Trees may begin to die in large numbers as the new insects move in.

An example of this is the goldspotted oak borer (GSOB) in San Diego. This beetle normally lives in oak trees in Mexico and Arizona and is not a problem in those areas. When the beetle came to California (hidden in someone's firewood), the oak trees here didn't have the right protections and the beetles were able to kill the trees. Thousands of oak trees have died so far and many more may die if this beetle gets moved around California.

What you can do to keep trees safe from INSECTS:

First, keep new insects away from your trees by not moving firewood long distances. Second, watch your trees closely and report any unusual bugs to your local County Agriculture Department or Cooperative Extension. If the insect is new to your area, you may be able to stop it from spreading and killing trees before the problem gets out of hand. For specific information on pests like GSOB, check online for current recommendations.



Threat: DISEASES

Why DISEASES can be a threat to trees:

Just like insects, diseases can play an important role in keeping our environment in balance by removing older, weaker trees to make room for new plants to grow. If a new disease enters an area, though, even trees that are otherwise healthy may get sick and die. This is similar to a very powerful strain of flu that may make young, healthy people sick instead of only people with weaker immune systems.

An example of this is the disease named Sudden Oak Death (SOD). This disease is caused by a microscopic pathogen that is not native to California but was brought here accidentally on plants people bought from other countries. When SOD moves into a new area, the trees can't defend themselves and thousands of them can die. In California alone, more than a million trees have died, and millions more will likely die in the coming years since there is no cure for this tree disease.

What you can do to keep trees safe from DISEASES:

You can help keep new diseases away from trees by not buying and planting imported nursery plants, or only buying these plants from nurseries that take special care that they are free from diseases. Watch your trees to see if there are any signs of disease and report unusual symptoms to local officials. For specific help with diseases like Sudden Oak Death, look online for current recommendations.



Threat: ROOT DAMAGE

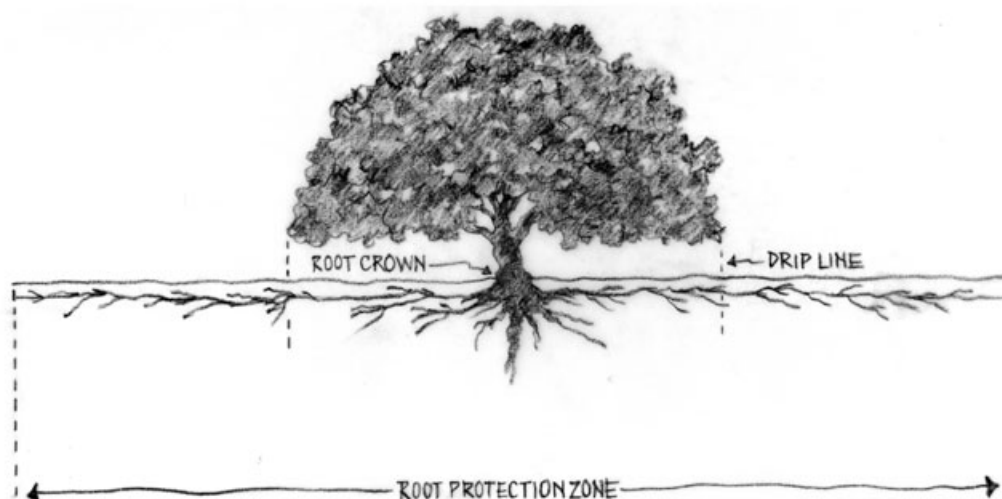
Why ROOT DAMAGE can be a threat to trees:

Roots are important to trees for so many reasons – can you name some? – but they are easy to forget about because they're under the ground where we can't see them. Tree roots can grow very deep but even more importantly, tree roots grow out much wider than aboveground parts of the tree – sometimes roots can grow out a distance 3 times as far as the leaves on the top of the tree!

When roots are damaged, there isn't a way for the tree to get all of the water and nutrients it needs. The damaged roots also can be attacked by diseases. And when roots get cut or diseased and are weak, the tree doesn't have a strong anchor to keep it in the ground. Trees with weakened roots might get blown over by heavy winds. Keeping roots healthy and strong is necessary for a healthy and strong tree.

What you can do to keep trees safe from ROOT DAMAGE:

Remember that a tree's roots growing underground are mostly invisible to us and can grow out very far from the trunk. Think about this whenever you are doing any digging near trees. And be careful what you put into the ground – don't just pour your extra soda into the grass at the park – there might be some delicate tree roots under there! For healthy tree roots, make sure there is an open area of loose soil for growing, watch for signs of overwatering, and keep construction work far away.



Threat: AIR POLLUTION

Why AIR POLLUTION can be a threat to trees:

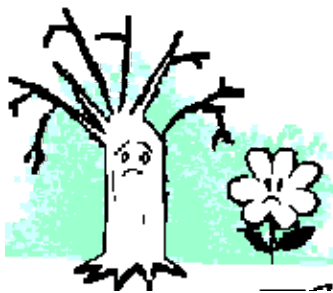
Trees “breathe” in much the same way we do, absorbing necessary gases from the air through tiny holes in their leaves (stomata). When air is dirty, this pollution can also enter the tree’s leaves and cause damage.

Trees growing in areas with lots of air pollution may have yellow, weak leaves that aren’t able to produce the food the plant needs. Certain types of air pollution can create actual “burns” – small dead patches on leaves. Damaged leaves may eventually drop off the tree, forcing the tree to spend energy growing new leaves. The stress of air pollution can make it easier for insects and diseases to attack a tree. Finally, pollution in the air can dissolve in water and enter soils when rain falls to the ground. “Acid rain” is well known in areas with high levels of air pollution, and is responsible for weakening or killing trees across large areas.

What you can do to keep trees safe from AIR POLLUTION:

Air pollution is a very difficult problem for just one person to tackle on their own, especially in urban areas with lots of cars, buildings, and factories. However, there are some steps you and your community can do locally.

Follow local alerts to “Spare the Air” and reduce air pollution on days when it’s most dangerous. Walk, ride your bike, or take the bus instead of a single car to help reduce your own contribution to air pollution. You can also plant and maintain more trees! Trees clean the air – even though they might be damaged in the process – and the more trees there are to filter out pollution, the less there will be for other plants, animals, and people to breathe. Trees are especially important in cities where there is more pollution and more people.



Threat: PRUNING MISTAKES

Why PRUNING MISTAKES can be a threat to trees:

As trees grow, their branches reach out toward the light in the shape common to that particular tree. Some trees need help to grow into that shape – the same way we might need to cut our hair into a particular style – and that cutting and shaping is called “pruning.” People have pruned trees for thousands of years, sometimes to get more fruit to grow, sometimes to make the tree more upright and stable, and sometimes just to make the tree more beautiful to our eyes.

However, pruning mistakes can happen, and when they do, they can seriously damage a tree. One mistake is to prune a tree at a time of year that might make it sick from disease. Another mistake is to prune a young tree into a shape it can’t hold as it grows. This would be like your parents buying you adult clothes and making you wear them now when they didn’t fit at all!

What you can do to keep trees safe from PRUNING MISTAKES:

First, make sure that a tree needs to be pruned at all. There may be good reasons for pruning some trees, while others may grow beautifully and naturally on their own. Next, if the tree does need pruning, check to see what time of year is the safest for both the tree’s growth and to keep away diseases. Finally, cut carefully and only just enough to keep the tree growing in the right direction for the coming years – don’t try to make a young tree look “old” before it’s time!



Threat: VANDALISM

Why VANDALISM can be a threat to trees:

It can be a common sight on picnic tables and benches around the world: initials and dates carved into the wood as a marker of people's visits. What might happen when someone tries to carve those same initials into wood on a still-living tree? Other injuries, like nails and staples hammered into bark and wood, or a rope tied tight and left on too long, can also hurt a tree as it grows. Even swinging from a small branch too weak to hold your weight may cause it to break.

What parts of a tree could be damaged by cutting or nailing? What would the breaking of a branch mean to a tree? Can you describe how leaving something tied tightly to a tree trunk or branch might damage it as it grows over time?

What you can do to keep trees safe from VANDALISM:

Remember that a tree's bark is like our own skin, a living tissue that protects vulnerable parts underneath. Don't cut or make holes in bark and wood on a still-living tree. Make sure there's enough room for a tree to grow wider as well as taller and don't leave any tight-fitting ropes, cords, or ties that might cut into bark over time. Pick strong, sturdy branches for climbing and swinging that can hold your weight without bending or breaking.

