Saving Our Trees

According to a recent Albuquerque Journal article we are in our sixth year of drought. Although many plants are suffering, in Albuquerque we're losing trees the fastest. This is surprising to me because many of the trees are in residential areas and are being watered regularly. I think some of this loss is due to xeriscaping when "how to water mature trees" is not considered before a conversion. Other loss is caused by a lack of winter watering for the trees. With less natural precipitation (both snow and rain) trees need to be watered at least once a month in winter on days when the temperature doesn't freeze that night or twice a month if there's no precipitation and it's warm like this February was. Another reason for tree loss is that many people believe all trees have tap roots so they water the tree at the trunk. Trees need water at the feeder (or growing) roots which occur where rain would naturally fall, at the edge of the leaf canopy and outwards.

Also many people don't water long enough – the largest percentage of tree roots are in the top 2-3 feet of the soil. Trees need to be watered all around (360 degrees) and for enough time to get the water at least 2 feet deep. How long this takes depends on your soil type and the tree location (is it in a hot spot next to a south facing wall?). Watering, waiting a day to let the water percolate, and then testing the depth with a very long screwdriver or a piece of rebar can tell you how deep the water has reached. With trees on the same zone as shrubs and flowers watering the trees for the proper amount of time often overwaters the shrubs and flowers. Most of us don't have the luxury of a separate irrigation zone for the trees so using a timer and a hose to water the trees may be the way to go periodically. You can attach a soaker hose to this setup and make it spiral around the tree. To know when to water again you need to get your hands dirty – work the soil with your hands and feel it to see when it's dry!

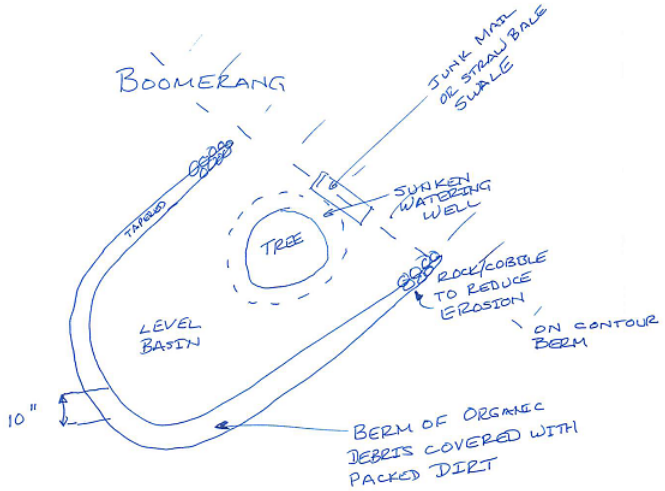
Lack of mulch is another reason for tree loss. Organic mulch, large shreds to keep the mulch from blowing away, can help conserve moisture especially if the irrigation drip or soaker hose is under the mulch. About 4 inches of mulch is recommended but not piled up on the trunk like a volcano. This encourages insects below the bark. Think of the way the forest floor looks and try to replicate this. Removing all your dead leaves may not be the best approach since this natural litter helps conserve moisture and returns nutrients to the soil. An alternative to mulch is a "living" ground cover like the native grass mix, verbenas, veronicas, germanders, or soapwort. The ground cover gets watered and so does the tree. Ground cover also helps shade the tree roots which causes the tree to need less moisture.

Many of us don't think about it but by compacting the air/water spaces out of the soil both oxygen and water become unavailable to the tree. Pathways, driveways, dog runs are all sources of compaction as is walking on wet soil near a tree.

One of the most common mistakes that stresses trees is planting too deeply. You can identify this situation by looking at the way the tree goes into the ground. If it's planted too deep, there will be no "flare" visible at the base just a cylinder and if you grab the trunk at breast height you can wobble it, the roots haven't taken hold. This causes the tree to grow very slowly. If the tree is young, the solution is to raise the tree until the first true root is exposed and fill the space with native soil.

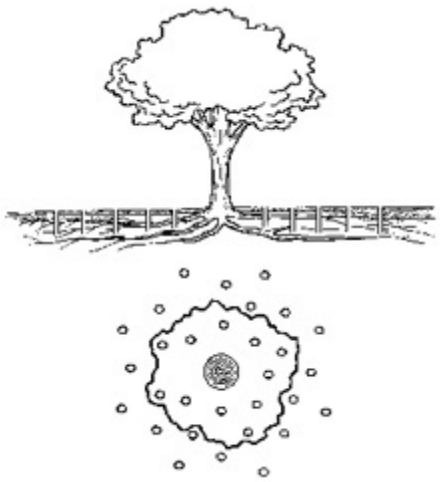
Beyond the suggestions above there are two permaculture (permanent or sustainable agriculture) techniques we can use to help save our trees. The first is called Boomerang and is effective for trees on steep slopes; the other is call Sponge and helps trees on level ground. Jim Brooks, owner of Soilutions in the South Valley, described these techniques for two members of the Landscape Committee: Elizabeth Calhoon and me. We are hoping in September to have Jim provide High Desert residents with a seminar and two hands-on workshops about how to use these techniques. There will be a cost associated with the workshops for residents interested in attending. Watch the Apache Plume for details.

Boomerang raises the soil in a small dirt covered berm that's boomerang shaped. It captures moisture that comes from uphill directing it into the area around the tree and into the swale above the tree. The basin area is mulched with organic mulch.



Sponge refers to a method similar to "vertical mulching". You dig holes at the drip line and further out then fill them with a compost like mixture from Soilutions which doesn't float when water is introduced. You cover this with organic mulch and water it all in. This provides an in-the-soil organic matter sponge that holds water during and after a rain and makes it available to the tree when it's dry.

Sponge



Using the techniques mentioned in this article hopefully we can save more trees. However, if you do lose a tree, think of it as an opportunity to choose a more appropriate water-wise one or to place it in a spot where it can be more successful.