

A life preserver for drowning trees

Are your trees drowning? Heavy snows and a wetter-than-normal spring in much of the country have left many trees sitting in soil saturated with water. Too much water at the base of a tree can cause myriad problems. A traditional life preserver might not be the answer for these leafy giants, but a little knowledge – and knowing where to seek assistance – can help trees survive spring thaw.

Too much water can be as bad for trees as too little water. While some trees are suited to survive occasional floods, most are not. In addition, as a tree becomes older, its ability to adapt to abrupt environmental changes decreases. “Trees must maintain a proper water balance,” says Robert Rouse, staff arborist with the National Arborist Association. “Although most trees can withstand moisture conditions from very dry to very wet for short periods of time, continued extremes can cause serious problems, depending on the tree species,” Rouse explains. Some species – such as some oaks, pines and junipers – have adapted to survive drier conditions. Trees that grow along rivers (such as willows, poplars, cottonwoods and sycamores) and trees that grow in or around swamps and ponds (such as red maples, gums and pond cypress) can also grow in wet conditions. Flood injury occurs when soil becomes saturated with water. There doesn’t need to be an actual flood to cause flood injury.

Here’s how to look for flood injury:

Flood injury is usually expressed through changes in the foliage. One symptom in particular, **chlorosis**, is commonly caused by flood injuries. Chlorosis is the yellowing of leaves caused by a decrease in the amount of chlorophyll (green pigment) in the leaves. This symptom can look like a symptom of a disease but is often caused by non-disease problems, such as excessive water. A professional arborist can determine if chlorosis is caused by a pest (which can be controlled), or by water damage.

When flood conditions are prolonged, **root dieback** occurs. During root dieback, soil is so saturated that there is not enough oxygen available to the tree roots. Without the proper balance of oxygen and carbon dioxide, roots can’t survive. Eventually the tree is not able to absorb adequate moisture, despite the flood condition. The tree will exhibit symptoms similar to **leaf scorch**, where a tree’s leaves turn brown and die due to a lack of moisture in the leaves.

Symptoms of flood injury, in the order that they develop on the foliage, are:

- ◆ slight wilting or drooping of the foliage;
- ◆ yellowing and browning (necrosis) of leaf edges;
- ◆ browning in the center of the leaf.

The symptoms usually start at the top of the tree or on the ends of branches, and spread throughout the entire crown. The symptoms are often more severe on the side of the tree facing the prevailing winds.

What to do

The best prevention for this problem is to avoid planting flood-intolerant trees in areas that are frequently flooded. There are a variety of wetland trees and shrubs that can be planted instead. There are not many practical short-term solutions other than improving drainage. Whenever changes in drainage are made, the impact to all the affected landscape and landscape plants needs to be considered. Avoid creating problems for flood-tolerant plants by providing drainage for intolerant plants.