

# Inspecting and Assessing Flood-damaged Trees

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## First Consideration—Safety, Safety, Safety

Even under the best of circumstances, half of a tree's living tissue is under the soil and out of sight. Since the root system is the portion of a tree most adversely affected by flooding, signs of flooding damage in the canopy are usually delayed. As a guiding element, in a long-term flooding situation you should expect that some level of damage has occurred to the root system as a result of low oxygen conditions. In most cases, the root flare and lower trunk bark often sustain damage as well, leaving it vulnerable to decay. When coupled with pre-flood defects, flooding can render a tree unsafe and at increased risk of windthrow and structural failure.



## Symptoms of flood damage

- ☛ leaning trunk
- ☛ mound of soil on the opposite side of the tree lean
- ☛ exposed roots
- ☛ cracks in the soil surrounding the root flare
- ☛ early fall coloration
- ☛ leaf yellowing, browning and/or wilting
- ☛ leaf drop
- ☛ branch or twig dieback

These symptoms may occur in stages or all at once. They can also occur several years after the flood, unlike other plants such as turfgrass, perennial flowers or crops. In subsequent years following an extended flood, large seed crops and water sprouts or suckers on trunks and branches are common.

## Caring for Flood-damaged Trees

- ☛ Carefully remove silt or sand that flood waters have deposited over the roots. These deposits are low in nutritive value and are likely to reduce the oxygen available to tree roots in the future.
- ☛ Replace eroded soils with a 2-3 inch layer of aged wood chip mulch to prevent drying and mechanical injury, which can further reduce the likelihood of tree survival.
- ☛ Regularly inspect flood-damaged trees for various insects and diseases, as several pest species are opportunistic on weakened or stressed trees. Inspect for additional flood damage symptoms as well.
- ☛ Do not fertilize trees unless a soil test has determined there are nutrient deficiencies. Fertilizing flood-damaged trees can lead to excessive top growth at the expense of root health and increase susceptibility to insect and disease attack.
- ☛ Large trees exposed to extended periods of flooding that could cause serious property damage or are in an area frequented by people should be evaluated by a professional arborist (ISA or NAA Certified) with flooding experience and removed promptly if necessary.
- ☛ Core aeration and vertical mulching on high value trees surrounded by turfgrass may be helpful.
- ☛ Monitor the soil for moisture level and irrigate accordingly. As mentioned above, damage to the root system is likely to have occurred, leaving the tree less able to absorb water.
- ☛ Replace failed trees with ones more tolerant of flooding such as baldcypress, larch and black willow; consider if a new tree is appropriate in regularly flooded areas.

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