TREE SURVIVAL

A landowner's guide to rapid assessment

This guide is meant to support forest landowners in doing a quick, preliminary assessment of tree health after a wildfire. This guide is not meant to be comprehensive. For more information and detailed assessments, landowners are encouraged to contact:

- Natural Resource Conservation Service
- Conservation Districts
- Department of Natural Resources
- Private Consulting Foresters

For more detailed information on assessing tree mortality, check out these resources:

- University of Idaho Extension
- Montana State University Extension
- Idaho Department of Lands
- Oregon Department of Forestry

A mix of dead, fire-damaged, and undamaged trees after a wildfire. Photo: Carlene Anders, OCLTRG

Look for...

Phloem/cambium health (inner bark). Moist and green or cream colored phloem indicate a higher likelihood of survival. If the inner bark is dried and brown, it has likely been killed by heat. If more than 50% of the circumference is damaged, survival is unlikely. You should also check the phloem on major structural roots and the root collar area. Generally, thicker bark trees will be able to handle more stem damage.

Tree age. In general, younger, smaller trees are more susceptible to fire damage.

Needle drop. Live branches will drop scorched needles within a month or two before growing new needles the following spring. Dead branches will hold onto scorched needles well past the fire event. A tree that drops scorched needles is more likely to survive and regenerate on its own.

Green buds. If dormant buds have already developed, a tree is more likely to survive, even amidst crown scorch.

Crown scorch. Pines may be able to survive up to 75% crown scorch, while firs may be able to survive up to 50% crown scorch. A fully "torched" tree, where only a blackened trunk and skeletal branches remain is not likely to survive. However, some "scorched" trees, with needles turned brown by heat, may still survive. Survival is going to depend on tree species.

- *More resistant species with higher crowns and thicker bark:* ponderosa pine, western larch
- *Less resistant species with thinner bark and crowns closer to the ground:* douglas firs, true firs, spruce, lodgepole pine, cedar, and hemlock

Be aware of pests.

Fire injured trees may be more likely to be damaged by insects. Common pests to look for after fire:

- Bark beetles
- Wood borers

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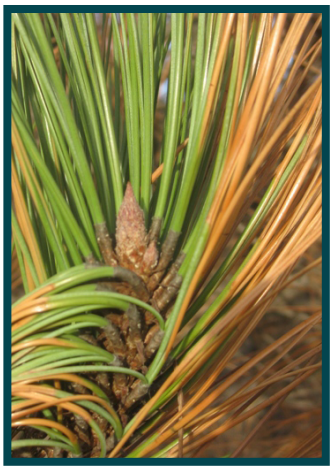
CROWN SCORCH


More likely to survive due to smaller percentage of crown scorch. Photos: IDL, Tom Eckberg


Less likely to survive due to larger percentage of crown scorch. Photos: IDL, Tom Eckberg

BUD HEALTH

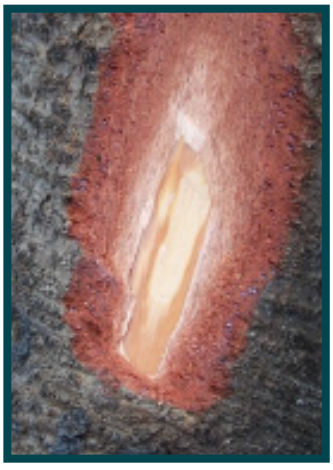



More likely to survive due to evidence of live buds. Photos: IDL, Tom Eckberg


Less likely to survive due to evidence of dead buds. Photos: IDL, Tom Eckberg and MSU Extension Forestry

STEM DAMAGE

More likely to survive due to evidence of healthy inner bark. Photo: IDL, Tom Eckberg.




Less likely to survive due to the evidence of damaged inner bark. Photo: MSU Extension Forestry