

 UI Extension Forestry Information Series

## Salvaging Beetle-Killed Trees

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It is hard to watch pockets of trees dying on your property. But all is not necessarily lost. Salvage sales provide a way to secure income from timber killed or damaged by insects, disease, ice, fire, or high winds.

**How long can you wait before the trees lose value?** When bark beetles invade a tree, they usually bring in a fungus called blue stain (primarily on pines). Blue stain does not damage the structural integrity of the wood, but most mills still deduct for the discoloration. Therefore, landowners often ask how much time they have to salvage trees before they “turn blue”. Unfortunately, there is no clear answer. The speed at which wood “blues” seems to be highly variable, depending on moisture or other local environmental factors. Basically, if you want to avoid price reductions for blue-stain, get beetle-attacked trees to the mill as soon as possible.

Beyond blue stain, pouch fungus (another decay fungus brought in by bark beetles) is of more consequence because it decays the sapwood. To prevent decay from pouch fungus and other factors, try to salvage beetle-killed trees in less than 2 years. You may get away with waiting longer, but it gets riskier the longer you wait. Furthermore, you should remove trees killed by Douglas-fir beetle before May of the following year, regardless of anticipated wood degradation, so beetles from those trees do not emerge and kill additional trees.

**Salvage & Sanitation.** The Society of American Foresters’ (SAF) *Dictionary of Forestry* describes salvage cutting as “the removal of dead trees or trees damaged or dying because of injurious agents other than competition, to recover economic value that would otherwise be lost”. Salvage would thus include cutting green trees at the edge of a beetle pocket that

is infested with bark beetles and likely to die. Cutting relatively healthy, un-infested green trees would not be salvage.

However, cutting additional green trees is often worth considering. For one thing, you may need to cut more trees to provide enough volume to make a salvage sale economically feasible. For another, many, if not most, Inland Northwest forests are over-stocked. Thinning the rest of the stand will often reduce the need for salvage cutting later on, especially if you cut trees that are most vulnerable to insects and disease for a given site. For example, Douglas-fir and grand fir on drier sites often tend to be more vulnerable to root disease, defoliating insects, and other pathogens. “Preemptively” cutting them can be legitimately referred to as a form of sanitation cutting, which the aforementioned SAF dictionary defines as “the removal of trees to improve stand health by stopping or reducing the actual or anticipated spread of insects and disease”. The idea is not to “sterilize” a forest, but to culture a forest that is more naturally resilient to factors that can kill trees – a forestry form of “integrated pest management”.

**Regeneration in small openings.** Don’t forget to PLAN for regeneration. Prompt site preparation and tree planting is often needed to successfully prevent brush or other competing vegetation from taking over the site. If you want to establish a species that is more resistant to the problems that killed the trees you are salvaging, active intervention is often even more essential, especially on sites dominated by shade tolerant species such as Douglas-fir or grand fir.

What species have seed sources nearby? If it is mostly Douglas-fir, guess what seeds back in? Even if you

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have larch or pine seed sources nearby, if the salvaged site is relatively shaded (say 1 acre or smaller openings), Douglas-fir and grand fir (shade tolerants) will out-compete pine seedlings there. After natural and/or planted regeneration is started, early, aggressive, precommercial thinning in these openings to favor pines and larch may partially compensate for the competitive edge that shade tolerant trees have in small openings.

**Should I take every dead tree?** Assuming they no longer harbor insects that will attack living trees, and they are not crowded enough to present a fire hazard, leaving dead trees (especially low-value trees with defects) can be a good thing.

Dead standing trees (snags) provide habitat for a variety of wildlife species. Logs on the ground (sometimes called “coarse woody debris” or “large organic debris”) are also beneficial to a variety of forest flora and fauna. They also help improve soil structure and nutrition as they decay.

**Salvage: an opportunity to accomplish other objectives.** Recent Forest Service discussions on salvaging Douglas-fir beetle killed trees in northern Idaho have focused on using income from salvaged timber to pay for riparian restoration and other efforts. Private landowners can do the same thing! Try to take advantage of equipment, expertise, or income associated with a timber sale to address your other values for the property. For example, if you already have a cat coming out to skid logs, consider taking advantage of that equipment to accomplish other objectives, such as building or maintaining roads and trails, or establishing a pond. You are already paying the cost to get the equipment out there, you might as well take care of some other tasks as well.

Do you have a forest management plan for your property? Be sure to carry out the salvage in concert with that plan, so roads and harvests are consistent with your long-range goals. Design new roads and skid trails to be useful for future harvests and other activities on you property as well.

**Assistance.** To help you plan and contract a salvage sale, it is wise to seek assistance from a professional

forester. This is particularly true if you are making decisions about trees which appear to have some insect or disease symptoms but which may or may not be near death. If someone claiming to be a logger or forester knocks on your door, and seems to imply every tree with some brown needles will die shortly, ask for credentials and check with a reputable forester to confirm the actual threat before cutting trees. Insect and disease problems can be difficult to diagnose and treat. A professional forester can help you do that and provide many other services as well.

Limited technical forestry assistance is available from Forest Practice Advisors with the Idaho Department of Lands (IDL). For more comprehensive assistance, consulting foresters offer timber inventory, contract supervision, and many other services for a fee as your representative the consultant’s success depends on keeping you satisfied by getting top prices for your logs while meeting your land management goals. Make sure you confirm the consultant fee before agreeing to the work, call references, and check credentials. The UI Extension forestry web site ([www.its.uidaho.edu/extforest](http://www.its.uidaho.edu/extforest)) gives you immediate access to a directory of consulting foresters in Idaho with tips on how to evaluate their credentials.

A UI Extension video titled *I want to log selectively* provides some tips on key characteristics to watch for in choosing trees to cut in a sanitation effort. The following Extension publications may also be helpful to you in considering salvage or sanitation sales on your property:

- *Managing Your Timber Sale* (WSU, EB 1818)
- *Selling Woodland Timber: Contract Decisions* (UI, EXT 759)
- *Timber Harvesting Alternatives* (WSU, EB 1316)
- *Logging “Selectively”: A Practical Pocket Guide to Partial Timber Harvesting.* (UI PNW 534).

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