Post Storm Forest Health Considerations

From time to time nature can be very unkind to our forests. Wind, hail, ice, insects, diseases, fire, and other natural agents can cause devastating losses. Uprooted and broken trees can cause loss of life, damage property, and disrupt electrical and phone service. Homeowners often ask what can be done to save damaged shade and ornamental trees and forest landowners are interested in how to assess the damage to their timber and minimize losses. In addition to the direct damage caused by the storm, insects and fungi often cause additional losses. Recently-cut trees and logs, trees damaged by storms or other causes, and dying trees are very susceptible to insect attack. Following weather event such as hurricanes, tornados, wind events, etc., storm-damaged timber should be salvaged as quickly as possible to prevent serious degrade from insects. The most damaging insects that initially attack downed pine trees and logs are ambrosia beetles and wood borers.

AMBROSIA BEETLES

Ambrosia beetles will attack trees and logs of pine and hardwood and can cause serious degrade of lumber and plywood products. The galleries (about the diameter of the lead of a wood pencil) not only make a physical hole in the sapwood and heartwood, but the "ambrosia" fungus will cause a black stain on the wood around the gallery. In the South, the ambrosia beetle known as *Platypus flavicornis* can infest dead and dying pine trees, stumps, logs, and unseasoned pine lumber, especially during the warm months of the year. Wood that has a moisture content below 48% is seldom attacked by these beetles. They may also attack, but not kill, living trees in areas where the cambium and bark have been damaged. The adult ambrosia beetles typically colonize the lower 6-8 feet of the trunk of the tree. As they construct their galleries, they expel (sometimes in large quantities) creamy-white, fluffy "sawdust." This sawdust that collects around the base of the tree is very characteristic of their attacks.

ROUNDHEADED WOOD BORERS (SAWYERS)

Wood borers (called sawyers) will also infest dead and dying pine trees and logs. They require the presence of bark on recently cut or dead trees to initiate an infestation. Eggs are laid on the bark and the larvae or grubs begin feeding between the bark and the wood. After a month or so, the larvae cause damage by boring into the wood to complete their life cycle. Tunnels in the wood may be over one-quarter inch in diameter.

REDUCING DAMAGE

Damage caused by ambrosia beetles and wood borers can be reduced by prompt utilization or by keeping decked logs under a water sprinkling system. Rapid drying of green lumber is also encouraged. Use of insecticides is generally not recommended. Infested wood that is used for oriented strand board (OSB) is not impacted by these insects.

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PINE BARK BEETLES AND STORM-DAMAGED TIMBER

Not only are ambrosia beetles and wood borers a concern, but forest landowners often expect a build-up of pine bark beetle populations, in particular the dreaded southern pine beetle, after timber is damaged by storms. In East Texas and across the South, storm damage to timber has not caused southern pine beetle outbreaks.

A brief comment about pine bark beetles needs to be made. There are five different pine bark beetles that attack and kill pine trees in East Texas (as their name implies, they do NOT attack hardwood trees). The southern pine beetle (SPB) is the most serious because it alone is capable of killing healthy trees and can kill large areas of pine timber (Texas has not had an SPB infestation since 1993). The other four pine bark beetles (three species of engraver or Ips beetles and the black turpentine beetle) attack weakened, injured, and stressed pines and individual infestations seldom encompass more than 10-20 trees. They usually attack scattered single trees or two or three trees in a group. Salvaging beetle-infested trees, especially after a storm, is the recommended way to minimize losses caused by pine bark beetles.

BLUE STAIN FUNGUS

When pine bark beetles attack pine trees, they introduce a fungus commonly called blue stain. This fungus grows into the sapwood and stains it a blue-gray color. It does not alter the strength quality of the wood. Wood products such as "2-by-4" studs and oriented strand board (OSB) would not be impacted by this fungus. It could have some impact on certain paper products. Dead timber left in the woods or on log decks for longer than two or three months are likely to be colonized by various decay fungi. These fungi can rapidly degrade the wood and render it unusable. Prompt utilization or storage under a water spray should keep decay fungi at bay.

EXOTIC INVASIVE PLANTS

Another consideration related to storm-damaged timber is exotic invasive species. At least two alien plants that have become established in parts of East Texas may present additional concern following Hurricane Rita. Chinese tallow (Triadica sebifera) is well established in most East Texas counties. Japanese climbing fern (Lygodium jajponicum) is not as wide spread as Chinese tallow, but is spreading. Both plants are known to invade disturbed sites that are open to abundant sun light. The areas where timber stands were heavily damaged in southeast Texas will be especially vulnerable to invasion by Chinese tallow. Fire and herbicides will slow the spread and invasion of both of these species, but repeated treatments are required for complete control.

REDUCING TIMBER LOSSES FOLLOWING STORMS

Forest landowners with storm-damaged timber should consider salvage logging as a way to utilize the timber rather than letting it go to waste. Timber salvage operations are more time consuming than regular logging, therefore the prices paid for the damaged timber will be lower than standing, green timber prices. Salvage should be conducted as soon after the damage as possible before various wood boring insects and decay and stain fungi further degrade the timber. Also, dead timber often dries out rapidly and has less dollar value if weight scaled. Large volumes of harvested pine logs that will not be immediately processed at a mill can be kept under a water sprinkler system or in a log pond to prevent invasion of insects and fungi.

Need help identifying tree and forest pest? Well there's an app for that, TreeMD. Visit www.texasforestinfo.com/treemd to identify what's bugging your trees. Also for more information about pests affecting trees and forests visit https://tfsweb.tamu.edu/foresthealth where information regarding specific insects and diseases can be downloaded.