

What is a disturbance?



Any event that changes the mix of species or the combination of tree sizes in the forest can be considered a "disturbance." Some events, such as timber harvesting and prescribed fire, are *planned* disturbances. Professional foresters use these planned disturbances to improve forest health, provide habitat for certain wildlife species, decrease the likelihood of wildfire, and provide forest products for our everyday use.

Other events, including tornadoes, floods, insect and disease infestations, fires, and snow and ice storms, are *unplanned* disturbances. These unplanned events may damage only a few trees or may devastate hundreds of acres. Most unplanned disturbances are weather-related; however, 98% of forest fires in Wisconsin are caused by people!

Forest disturbances can create opportunities for different tree species to become established. In the early 1900s, catastrophic forest fires in Wisconsin caused large areas to naturally convert from shade-loving trees to sun-loving "pioneer" species like aspen, white birch, and jack pine. These forest types provide preferred habitat for a variety of wildlife and are also important species economically. Some of these pioneer forest types have been declining in Wisconsin due to changing types of disturbances.

IN THE FACE OF CHANGE



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How do you manage a forest after an unplanned disturbance?

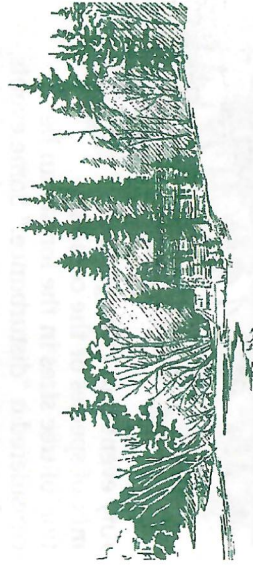
What can you do after an unplanned disturbance?

When faced with the effects of an unplanned disturbance, forest managers have two options. They may leave the damaged stand "as is," with dead and diseased trees allowed to fall and decay. New trees, including pioneer species, often reforest the area.



Or, foresters may choose to conduct a timber sale, or harvest, on all or part of the affected area. This **salvage logging** not only cleans up the damage by removing dead or dying trees, it also provides a source of economic gain. And, foresters can encourage natural regeneration of certain tree species through salvage logging.

Why choose salvage harvest?



After a disturbance, some forest stands, especially those dominated by conifers, can contain a large amount of woody debris. This debris poses a serious fire hazard, especially near more heavily populated areas. Forest fires can put homes, cabins, and lives at risk. Insect and disease infestations occur in the damaged timber and can easily spread to

nearby healthy forests. And, root tip-ups caused by fallen trees expose the forest soil to erosion. Salvage logging greatly reduces these impacts of disturbance.

Often, foresters plant trees in disturbed areas where natural regeneration does not occur. Salvaging the downed timber allows access for tree planting equipment.

Our rising human population demands more forest products like building materials, paper, and furniture. Salvage logging can provide landowners with a source of income while providing raw material for these valuable products.

When should disturbed areas be left "as is?"

Salvage logging may not always be the right choice. For example, harvesting in areas with steep terrain or sensitive soil types could cause additional damage to the environment.

Areas that provide important habitat for endangered or threatened species may also best be left unharvested. Some disturbed areas are so small or remote that salvage logging is not economical. These patches of downed trees provide valuable habitat for many species.

Areas left alone after disturbance illustrate the process of natural succession and may provide excellent research and educational opportunities.

Management plans for many forests identify areas where salvage logging may not be appropriate.

Wood Turtle - Threatened



How can you protect the ecosystem during salvage logging?

All harvesting must be carefully planned and monitored to protect the soil, water, and wildlife habitat and sustain the forest resource for future generations.

Snags (dead trees) and woody debris are often retained to provide habitat for wildlife like small mammals, insects, and cavity-nesting birds.

Foresters encourage a mix of forest types to allow for diversity of plants and animals. Natural regeneration is often sufficient to fill the openings created by disturbances. Sometimes, planting is done to encourage particular forest types or when adequate natural regeneration does not occur.

