

**Stop at these sites** to learn more about how forest managers are dealing with the changed forest condition. See the map on the reverse side to find the site number that matches each description below.

**1** **The Gunflint Trail has survived blowdowns before.** 20,000 acres were affected by a windstorm that traveled from Misquah to Greenwood Lake in 1992. The forest around you was affected by both the '92 and '99 windstorms. Here you can see the results of a prescribed burn that took place in the fall of 2000. The purpose of the burn was to reduce the danger of a large wildfire due to the number of downed trees. Looking at the north side of the road you can see how the prescribed fire burned in patches through an area where downed trees had already been harvested. On the south side of the road, downed trees were not harvested. You can see that more of this area burned.

**2** **Forests can re-grow quickly after a fire** because many plants have adaptations which help them take advantage of the new soil and sun conditions. The 1967 "Hungry Jack" wildfire burned about 800 acres. In addition to planted seedlings, jack pine started growing naturally soon after the fire went out. The heat of fire actually made it possible for this new forest to grow by releasing seeds from the sealed jack pine cones.

**3** **The risk of wildfire needs to be reduced in this area.** The Forest Service is concerned about neighbors along the Gunflint Trail. Planned burns can reduce the risk and intensity of future wildfires. Approximately fifty acres are scheduled to be burned here. Lakes and wetlands will be used as natural firebreaks. The area will be replanted after the burn.

**4** **Look closely and you may see the white and red pine trees that were planted** following a spring, 2000 prescribed burn. The seedlings grow slowly at first, but after they establish roots they can grow 12-18 inches a year. The pine trees planted here should be knee-high around 2005, waist-high around 2007, and shoulder high around 2010, provided that growing conditions are favorable.

**5** **The July 4, 1999 storm had a mixed effect** on the white and red pine trees at this site. Fallen trees were removed by loggers soon after the storm. We want to help trees that are still standing to thrive. An underburn in the spring of 2001 burned material close to the ground leaving taller, older trees as seed sources for the future forest.

## What Happened?

The National Weather Service considers a derecho a rare event. Less common than hurricanes or tornados, a derecho is not a circular or spiraling wind but rather a straight-line wind. On July 4, 1999, ninety mile-per-hour derecho winds toppled about 20 million trees in northeastern Minnesota and Canada. In most areas, the high winds lasted only 20 minutes. Acres of older trees fell to the ground, opening the forest floor to the sunlight that is feeding future generations of this dynamic ecosystem.

## What Next?

We all miss seeing the older, taller trees. When they fell, they left room for a new young forest with a beauty all its own. Forests are constantly changing. The change caused by the derecho was more sudden and covered more area than usual, but was still a part of the natural cycle.

While the forest will regrow naturally on its own, Forest Service efforts should help create conditions so that young trees can grow more quickly. We are also working to reduce the risk of intense wildfire for our neighbors. This brochure and map will show you areas where prescribed burns, tree planting, timber harvest, and other activities are taking place.

**If campfire restrictions are in effect during your stay, please follow them!**

# A Changing Forest



At noon on July 4, 1999, a major storm blew through the forests of northeastern Minnesota. Windstorms are dramatic and natural, changing the forest landscape almost instantly.

This brochure and map feature some of the changes you will see as you travel and play along the Gunflint Trail.

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