



Wind and Fire

Superior National Forest

August 2006

The Wind - On July 4, 1999, the northeast region of Minnesota was hit by +90 mile per hour straight-line winds during an extreme windstorm event called a “derecho”. Trees were blown down across 477,000 acres on the Superior National Forest. Approximately 350,000 acres were affected inside the Boundary waters Canoe Area Wilderness. People and resources on the Forest were redirected to storm recovery and, as the result of a phenomenal effort, much of the storm damage to infrastructure on the Forest was repaired by early winter. However, a Fuels Risk Assessment completed in November of 1999 pointed out there remained a large task to address the increased potential for a catastrophic wildfire risk created by the blowdown fuels. No single agency has the resources to address the effects of the blowdown, therefore, strong interagency coordination has been key to a successful response to the aftermath of the storm. From the earliest hours following the storm, all levels of government, private organizations, communities, and individuals have come together in a unified effort to address public health and safety, infrastructure protection, and resource protection concerns. An inter-agency storm recovery strategy was developed to cover four main categories of action: **Prevention/Education/Safety; Fuel Reduction; Fire Suppression Preparation; and Emergency Response Planning.**

Prevention/Education/Safety

Prevention and education activities have followed through on recommendations from two national fire prevention teams who provided assistance immediately following the storm.

- Some communities in the affected area have adopted the Firewise program and are model, nationally, to many other communities of how to respond to the threat of large wildfires. An example is the sprinkler system designed by the Gunflint Volunteer Fire Department; over half of the residences and businesses in the Gunflint Corridor have sprinklers on their buildings, with a strategic plan in place for distribution of pumps during a wildfire.
- The Forest implemented visitor use restrictions in the blowdown that limit the use of campfires and close some sections of long distance hiking trails during high fire risk.
- The Forest and partners produced fire prevention messages, educational signs, tours, brochures displays, videos, and an educational module about change in the Forest. Products especially target wilderness visitors.

Fire Suppression Preparation

Suppression preparation have emphasized safety of the public and firefighters in light of the changed conditions in the blowdown. This required consideration of new fire suppression tactics in response to fire starts in the blowdown.

- Through the MNICS partnership, agencies at the federal, State, and county levels share firefighting equipment to meet the most urgent need.
- Agreements with Canadian agencies allow for quick integrated response on either side of the international border.
- Both the State of Minnesota and the Forest Service have increased firefighting equipment, personnel, and training. The State of Minnesota added aircraft and mapping capabilities to assist firefighters.

Emergency Response Planning

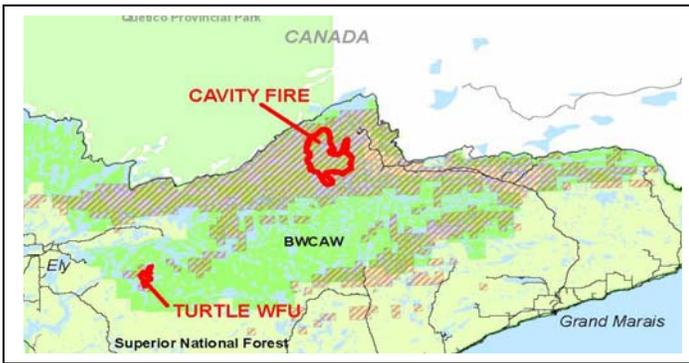
Many months of interagency planning resulted in a revised regional interagency emergency response plan to address new risks.

- The regional interagency emergency response plan identifies specific procedures, roles, and responsibilities in the case of an emergency.
- As a result of counties working with NOAA, (National Oceanic and Atmospheric Administration), new transmitters are broadcasting emergency notifications across the blowdown area.
- A notification network has been developed involving hundreds of contacts that use e-mail, telephones, media broadcasts, and one-on-one contacts to distribute timely messages about fire activity.
- Members of MNICS continue to annually review new information and make adjustments to emergency response plans, as needed.

Fuel Reduction

All possible approaches were utilized by the Forest to move ahead in a timely manner with fuel reduction projects that included a thorough analysis of the effects from the storm and of appropriate actions as required by the National Environmental Policy Act and involved the public throughout the process.

- The Forest requested and received alternative arrangements from the Council on Environmental Quality (CEQ) - allowing the Forest to begin immediate fuel reduction efforts in the most critical areas - only the fourth time that the agency received this authority.
- Environmental Impact Statements (EIS's) that might typically take years were completed in a matter of months.
- Outside the BWCAW, all but the inoperable ground was treated by mechanical means: commercial timber sales, stewardship contracts, or service contracts. Approximately 45 MMBF of blown down timber was salvaged.
- Prescribed burning now focuses on fuel reduction within the BWCAW where two-thirds of the wind damage occurred. A total of approximately 40,000 acres of blowdown have been prescribe burned in the BWCAW to create a pattern of strategically located fire breaks intended to slow a large wildfire and reduce the risk for it exiting the Wilderness and threatening lives and property outside
- To-date, a total of more than 49,430 acres of National Forest land affected by the blowdown have been treated to reduce fuels.



The Fires - In July 2006, two separate wildfires began to burn inside the BWCAW on the Superior National Forest. The two fires resulted from lightning strikes within days of one another. Both began to burn in blowdown fuels. However, fire managers decided to take very different approaches in responding to these two fires. Their decisions were based on several predefined criteria, including management objectives for the specific area of the fires and the characteristics of the fires.

Wildland Fire Use (WFU) is the use of naturally ignited wildland fire to accomplish specific resource management objectives for a specific area and to move towards desired conditions described in the Forest Plan. Fire managers have evaluated conditions in the BWCAW and predetermined the criteria for choosing suppression or use. Before a fire can be considered for WFU, there must be a written Fire Use Plan for the area in which the fire occurs. The plan defines where the fire will be allowed and where holding actions will be done. Many factors, including time of year, projected weather conditions, risk factors, costs, fire suppression resource availability, and location determine whether to manage a naturally started fire as a WFU.

Turtle Lake Fire

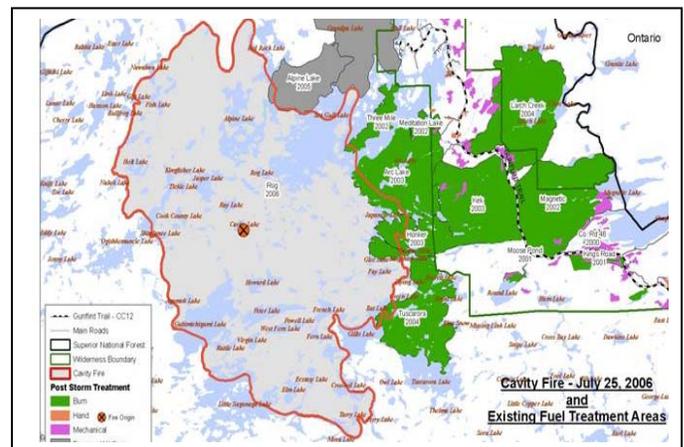
- Located 15 miles east of Ely in fuels created by 1985 blowdown
- Started July 7, detected 6 days later when it produced enough smoke for aircraft to spot.
- 2,085 acres (as of August 14)
- Fire managers decided not to conduct suppression activities and allowed the fire to burn within prescribed boundaries and play its role in meeting management objectives for reducing fuels and creating fire breaks for future fires.

Cavity Lake Fire

- Located at the end of the Gunflint Trail, approximately 44 miles north of Grand Marais in fuels created by 1999 blowdown
- Started July 13, detected July 14
- 31,830 acres (as of August 14)
- Fire managers responded immediately, ordering aerial resources to conduct suppression activities. Weather and site conditions indicated potential to burn with high intensity. Location related to people and private property and high use time of year resulted in the decision to suppress this fire. Approximately 60,000 gallons of water were dropped the first day.

Suppression - When the decision is to suppress a fire, managers have many tools and tactics to choose from and they will consider the same criteria: projected weather conditions, risk factors, costs, fire suppression resource availability, and location. Safety of firefighters and the public is the highest priority. Using natural or man-made fuel breaks is part of the suppression strategy. Before July 2006, several fuel treatment units had been completed, both inside and outside of the BWCAW directly east of the Cavity Lake Fire. Despite the severity of the fire, these fuel treatments were instrumental in checking fire spread in the direction of the Gunflint Trail corridor. The darkly shaded area in the map below shows the fuel treatment areas relative to the Cavity Lake Fire.

Monitoring and Rehabilitation - As fire managers move out, natural resources crews and wilderness specialists are coming onto the scene to record and evaluate conditions in the burned area and to compare outcomes in prescribed fire areas, past burns and wildfires. A Burn Area Emergency Recovery (BAER) team evaluated rehabilitation needs and the Forest Service began replacing facilities and re-opening many wilderness campsites by early August. The Superior National Forest has been collecting data on fish, wildlife and water quality as part of their regular resource management programs and will be able to use that data as a baseline to measure how species populations and water quality are changed by these fire events.



What's next? - The Forest will continue to work with its partners in all four of the strategy areas to reduce fire risks and prepare for the next wildfire event. This will include fire prevention, emergency preparedness, coordination of suppression resources, and fuel treatment. The focus of upcoming efforts will include development and implementation of Community Wildfire Protection Plans, a study of biomass utilization as a tool, and additional prescribed burning in the BWCAW. By the end of July, the forest was already along the way to renewal as pine seedlings sprouted in the nutrient-rich ash and ferns un-rolled fresh fronds above the cinders.