



FROM THE QUETICO-SUPERIOR FOUNDATION • FALL 1999

## MARIAH PAYS AN UNWELCOME VISIT

The afternoon of July 4 was sultry and unsettled in the BWCA. In the morning most lakes had been still as glass. It was short sleeve or shirtless high summer in the canoe country. Early afternoon clouds to the west took on an eerie, green glow. Then the storm and the winds hit. The storm at its highest intensity lasted about forty minutes. Straight line winds estimated at 80 to 100 mph struck an area stretching from Snowbank Lake east of Ely to Saginaga Lake at the tip of the Gunflint Trail. The hardest hit section stretched 35 miles east and west and 10 miles north and south. In that area, somewhere between 250,000 and 500,000 trees were leveled. Enormous trees were bent nearly horizontal in the wind and finally surrendered to the pressure. Wind damage embracing such a large area has never been recorded in the BWCA. The after affects will reverberate for many decades ahead.

### Storm Accounts

July 4th canoe country storm stories were vivid. Ron Berg, Executive Chef at Gunflint Lodge, gave his account in the "Lakeshore Weekly News".

"On return (to Gunflint Lodge) late Monday I was surprised at the devastation. On Charlie's Island, all the trees were down. The Gunflint Trail looks like Kansas—all flat." Berg drove down the Gunflint Trail from the lodge on a single lane that had been opened for an ambulance. It took him three-quarters of an hour to cover 10 miles.

"There are piles of trees 30 feet high. Some of those (downed) trees are supple and spring suddenly. Some places look like a clear cut."

Nature photographer Jim Brandenburg said on Minnesota Public Radio July 8th: "I have traveled the world for (National) Geographic and photographed and documented some great natural events and catastrophes, and always found that I could deal with it and shoot it and come back with information. In this case having flown over the Boundary Waters yesterday, it was difficult for me to shoot. Emotionally it was a little bit startling. Looking through the viewfinder of a camera limits your sense of place. I wanted to see it without any obstruction. So I was just simply awestruck at the sheer size and breadth of the destruction. On the other hand it was so big that it was almost frustrating—I couldn't capture it in film. I knew that the camera would not pick up the feel ... you just cannot comprehend the scope."

Mary Nicoll and her brother Bill Kerr were returning from Northern Light Lake across the Canadian border on Sunday afternoon, July 4. Their trip down the Gunflint Trail to Grand Marais was a slow and memorable event. Huge trees had been

tossed everywhere along the trail. It required more than three hours to travel the trail from Lake Saginaga, and the magnitude of the devastation was numbing.

The experience of Christopher Lane of Eden Prairie was reported in the "Star Tribune". He and his wife and daughter had driven up the Trail toward Gunflint Lodge at midday on July 4. They viewed the storm from their car at a public access area near Gunflint Lodge.

"There is no way to adequately describe what happened during the 30 - 40 minutes the storm lasted. What I thought would be a quick blow went on and on. At the public access, our car windows immediately fogged up and were soon dripping wet. The heat inside the car was stifling. We watched in horrified fascination as large trees were bent at unbelievable angles, at times almost 90 degrees. Soon, as we knew they would, they started to snap or were uprooted. Two large aspens went down right in front of the car. Soon tree after tree started to fall around us. A huge aspen fell on the two cars parked in front of me, smashing their windshields. A large spruce and aspen fell on a Ford Explorer parked merely feet to my right. Several trees fell just inches behind us. Somehow, we were unscathed.

The 30-mile drive back (down the Gunflint Trail) was nightmarish. Trees were strewn everywhere along the Trail. In places, the lane that had been cut was so narrow I could barely get the car and trailer through. The trip took nearly 2 hours and we had to pull over periodically to let oncoming traffic by."

YMCA's Camp Menogyn on West Bearskin Lake was



Before July 4 the Don Backstrom cabin on Gunflint Lake was heavily shaded by a canopy of trees.



concerned after the storm for more than 40 campers on the trail at the time of the storm. Eventually all campers returned safely. They were experienced campers and none were scheduled to be in the area around Kekekabec Lake which received the highest intensity of the storm.

Rolf Thompson, Executive Director at St. Paul YMCA's Camp Widjiwagan, estimated that 25 kids in 5 groups were in the storm's path when it hit. Fortunately the groups returned safely and there were no reports of injuries among the campers.

Search crews used helicopters, airplanes, motorboats, and canoes to search for stranded and injured campers in the woods. The only fatality reported in the storm was Nathan Swayne of Willowbrook, Illinois, who was returning to his cabin in Drummond, Wisconsin when the storm hit there. He was hit by a falling tree branch and died at St. Mary's Hospital in Duluth. twenty-seven people were treated for injuries at Cook County North Shore Hospital in Grand Marais. All were treated and released, except for one patient who was transferred to St. Mary's in Duluth in critical condition.

Camp Menogyn reported serious damage to boardwalks leading to cabins and to their kitchen dock. The camp suffered two trees on the Upper Staff building and a hole in the roof; five trees on the Director's Cabin; a hole in the roof at the History Hut; and railings smashed and stairs damaged at the dining hall.

The Sheriff's Department closed the Gunflint Trail shortly after the storm and for one week set up a check point for all persons traveling on the Gunflint. Only persons with BWCA permits, homes, lodges, or camps were allowed to travel the road. At several points the Trail was reduced to a single lane of traffic. The U.S. Forest Service did not close the BWCA, but it informed persons with permits that the storm had caused portages to be challenging and had destroyed some campsites.

### Impact On The BWCA

After 5 days of survey, the U.S. Forest Service on July 10th reported that the heavily damaged areas in the BWCA totaled 385,000 acres: 250,000 acres of forested land; 135,000 acres of wet areas. "Untouched pockets exist within the heavily damaged area, and scattered damaged zones appear amid vast untouched sections."

On July 14th the U.S. Forest Service reported: "Aerial sketch mapping, completed Monday, concluded that 478,000

acres in the Boundary Waters Canoe Area Wilderness (the total BWCA is approximately 1 million acres) was heavily impacted by the storm that ripped through the area on July 4th. Of that, 386,000 acres were forested land and 92,000 were primarily wet areas. Isolated pockets within the portions were untouched. Similarly, pockets in the relatively undisturbed portions of the wilderness area were heavily damaged. Nearly 48% of the total BWCA area was affected by the storm."

Of 710 campsites in the BWCA, 66% overall are considered usable (have working latrines). Some lakes, such as Kekekabic, have absolutely no usable campsites. Others, like Caribou West and Malberg, have all usable sites."

Within 10 days after the big blow, officials from the U.S. Forest Service authorized the use of chain saws in the BWCA until the end of next year, if necessary, to clear fallen debris. The Forest Service determined that the storm had destroyed more than 80% of the trees in a path 35 miles long and 10 miles wide (north to south). "I am authorizing the use of mech-

**"This was a massive event. What strikes you is all the timber laying in one direction. Whole areas are just stripped. There are just saplings standing. This must be what it looked like in 1910 or 1920 at the end of logging days."**

— Bruce Slover, Forest Ranger

anized and motorized equipment to clear trails, portages and campsites," said Robert Jacob, the U.S. Forest Service's eastern regional forester in Milwaukee. The permission included primarily chain saws but did not include motors on boats for access to the storm-affected areas. The estimate at that time indicated that 80 miles of portages and more than 130 miles of hiking trails were affected by the storm.

Forest Ranger Bruce Slover in Ely observed a few days after the storm: "This was a massive event. What strikes you is all the timber laying in one direction. Whole areas are just stripped. There are just saplings standing. This must be what it looked like in 1910 or 1920 at the end of logging days."

### The Aftermath

Lee Frelich, Director of the Center for Hardwood Ecology at the University of Minnesota, has expressed alarm about the severity of recent storms which may be unprecedented in the record of the north country over the last 150 years. Frelich recounts the storm in 1977 which leveled 700,000 acres of northern Wisconsin. In 1995 a major storm took down about 6.5 million trees in seven counties in north central Minnesota. In 1997 another huge wind storm passed through Minnesota, and as it traveled east, took out half of the remaining old growth forests in a wilderness area in northern New York State.

Whatever the cause, Frelich feels that the storm in the Boundary Waters on July 4th has changed the landscape for about 1/3 of the BWCA and portions beyond that area for the next century.

The fire potential in the aftermath of the storm is likely to be dangerous. Paul Tine, a fire specialist for the U.S. Forest Service, said that he believes a major fire is likely in the Boundary Waters within the next few years. He is concerned that the amount of fuel for fires has been dramatically increased and the risk for fire will last in the years ahead. If trees are blown down and lie flat on the ground they will rot fairly quickly. Tine noted, "But with a blow-down, trees tend to be jackstrawed, and they are not in contact with the ground. The flattened area will receive more wind at ground level." Standing trees calm the winds. The combination of higher wind, fuel from the downed trees, and oxygen, will mean that the trees will burn faster and with more intensity. If firefighters enter these areas, they will have to deal with the reality of downed trees and the inaccessibility and barriers they provide for entry and mobility.

The U.S. Forest Service's limited burn policy may need to be reexamined after the July 4 wind storm. That policy has allowed for certain controlled burns. After the blow down, fire risks are going to be much higher. Even prior to the storm, the U.S. Forest Service was concerned about the amount of dead material on the forest floor in the wilderness and the consequent combustion danger.

Controlled burns will probably have to be initiated much more actively after the July 4 wind storm. Selective burns will make it less likely that a huge fire will develop and roar across the canoe country. Separate from the forests, the question now arises as to how the wildlife will change as



a result of the storm. Mary Shedd, a wildlife biologist for the U.S. Forest Service, said that without fire, shrubs and trees such as aspen will become plentiful. That habitat will be attractive for deer, moose, beaver and snowshoe hares. If fires do not develop, shade-tolerant trees including white and black spruce, balsam fir, white cedar, red maple, and white pine will sprout in the undergrowth and will compete against one another. Where fire does develop, jack pines and red pines will have their seeds from cones scattered and they will become an element in the new forest.

An article in the Minneapolis "Star Tribune" on August 22 written by Kristine Holmgren raised the specter of highly dangerous fire risk in the BWCA in the years ahead. Holmgren interviewed David Krikorian who has lived most of his adult life near the BWCA. Krikorian is convinced that the BWCA will have one of a series of dramatic burns which will be highly dangerous for canoers and visitors during the driest times in late days of summer.

John Guenther, Regional Administrator for the Minnesota Department of Natural Resources, was quoted in the "Star Tribune": "I wouldn't want to alarm anyone, but when the BWCA burns, it will be a hot, rolling fire. If we don't go in with some kind of fire break, there will be nothing to stop it." On August 9, the U.S. Forest Service announced that camp fires will be prohibited in the BWCA. Only gas and propane stoves will be allowed in restricted areas because of the July 4 blowdown.

Explaining the restrictions, Jim Sanders, Superior National Forest Supervisor, said, "These restrictions are in response to the heavy fuel buildup resulting from the storm. My staff and I believe this is the prudent thing to do while we continue to assess the short and long term impacts. The amount of deadfall poses a serious wildfire threat." The Forest Service said that the fire restrictions would remain in effect throughout the remainder of the camping season.

The fire restrictions cover areas hardest hit by the storm: all of Cook County in the BWCA, the entire Trout Lake unit and a segment of the BWCA bordered by Fall Lake to the Canadian border through Snowbank, Thomas Lakes, Kekekabec, and out to the east to Saginaga. The area includes Sawbill Lake, Brule Lake, and the Clearwater, Pine Lakes unit. The area does not include the western lakes of Lac La Croix and Crooked Lake down to the reaches of Basswood.



Photo Minneapolis StarTribune

In mid-August the U.S. Forest Service amended the fire ban. The Forest Service indicated that camp fires will be permitted in Forest Service firegrates from 6 p.m. to 12 a.m. in the fire restricted areas of the BWCA. Open camp fires will continue to be prohibited in the same areas at any other time. Gas and propane stoves will continue to be allowed in all areas.

Superior National Forest Supervisor Jim Sanders said, "Greater than normal precipitation in August, particularly since the initial restriction was imposed, has temporarily reduced the risk of wildfire." Even though the rain had provided relief, Sanders emphasized that the extreme increase in fuels on the ground following the July 4 storm has created a dangerous long-term situation. He said that if the fuels become ignited, "they will spread 3-4 times faster than in standing timber. Spot fires may easily jump across all but the largest lakes. The fire intensities will pose a greater risk to firefighters and visitors." Because of the much higher danger, Sanders said that the Forest Service will monitor weather and fuel conditions and reinstate the full fire ban (which will only allow gas and propane stoves for cooking) when conditions warrant.

### What does this mean for the future?

The impact the July 4 wind storm represents a heavy hit on roughly half of the BWCA for at least the next 30 years. Forest Service managers and the public will need to decide whether any commercial use from the downed timber should be allowed in the wilderness. Separately, a decision must be reached on whether significant controlled fire programs should be initiated to protect future canoeists and north country cabin owners. Many canoers in the BWCA have understood for decades that the unburned forest floor, which has been building from downed balsam, aspen, birch and jack pine, has developed a bed of potentially dangerous inflammable materials which would feed a hungry fire storm at times of high wind or serious drought. Pessimists warn that the downed trees have set the stage for a conflagration which could make the Hinckley, Minnesota fire of September 1, 1894 the second largest fire event in Minnesota history. Optimists are confident that the U.S. Forest service, with concurrence of the public, can manage the increased fire risk and successfully protect the BWCA for all visits to enjoy.



# BWCA CLEANUP INCHES AHEAD AS CAMPERS MOVE BACK IN

BY JIM DAWSON

STAR TRIBUNE STAFF WRITER

Crews of forest rangers and volunteers, many armed with chain saws, continued to climb and cut their way through and around downed trees in the Boundary Waters Canoe Area Wilderness on Thursday in an effort to make sure there are not injured campers there following a devastating July 4th windstorm.

"We haven't had any reports of any more injured other than the 19 evacuated in the hours after the storm and the one who walked out and called from a hospital," said Gil Knights, a U.S. Forest Service spokesman working out of the so-called Incident Command Post in Ely.

Aircraft and more than 80 people in ground crews were continuing sweeps of the affected areas, estimated to cover about 250,000 acres, he said.

While Forest Service crews worked their way to the more than 1,000 campsites in the damaged area, new campers headed into the BWCA, where an estimated 25 million trees were blown down.

"We're not discouraging people from coming," Knight said. "It's a heck of a wilderness experience right now. If you want Wilderness, we'll give you wilderness."

In Ely, ranger Bruce Slover said people still were applying for permits.

The Ely entry was open Thursday, Slover said, depending on how you define "open."

"The parking lot is clear, and the initial lake is open," he said. "You can do that much. If you follow a southern route, then it is OK. If you go to the north or the east, it has been hammered." There are large areas, he added, where 70 percent of the timber is down.

Adam Hansen, of Sawbill Outfitters near Tofte, said that while a lot of people were canceling trips, "the vast majority are still coming. We're saying don't attempt a loop [through the BWCA], but it is fine to go in and come back out [the same way]. People have been asking us what it is like up here, and we're just telling them there are trees down everywhere."

U.S. Sen. Rod Grams spent the afternoon touring the BWCA and said, "while there is a log of damage, there are a number of resorts that are still operating and things are up and running. ... Maybe it's not as pretty as it was last week, but it's open."

Grams, R-Minn., said the difference between the BWCA damage and other catastrophes, such as the tornadoes that hit Comfrey and St. Peter last year, is the vastness of the destruction. "It's 12 miles across and 30 miles long," he said. "It's enormous."

Said Slover, who briefed Grams on the storm: "This was a massive event. What strikes you is that all of the timber is laying in one direction. Whole areas are just stripped. There are just saplings standing. This must be what it looked like in 1910 or 1920, at the end of the logging days."

Slover said it will take 80 to 90 years for the forests to recover.

Forest Service officials are concerned that as the millions of downed trees dry out during the next year or two, the possibility of fire will increase substantially.

Jean Schaeppi, spokeswoman for the National Parks Service, said that crews from several agencies are expected to get

**"We're not discouraging people from coming. It's a heck of a wilderness experience right now. If you want wilderness, we'll give you wilderness."**

— Gil Knight, U.S. Forest Service spokesman

help today or Saturday from a specialized Colorado crew that usually is reserved for fighting forest fires.

Crews had reached most of the BWCA campsites around Ely by Thursday afternoon, Slover said, and no injured people were found. They are working their way over and under fallen trees to reach the sites," he said, "and we're using chain saws in terms of search and rescue when it is absolutely necessary."

He said that one of the most amazing things he's seen is a videotape shot from the air of a "regular old Eureka tent with a large tree on either side of it and a big branch over it. The trees were right up against both sides of the tent. I can't imagine why nobody was killed out there."

There was some concern early Thursday for several groups of teenage campers with the YMCA's Camp Menogyn in the BWCA. Several of them reported in Thursday, and one remaining group of 10 isn't expected back until Saturday.

"Their itinerary called for them to be out of the area that received heavy damage when the storm hit," said Michelle Ahrens, director of communications for the Minneapolis-St. Paul YMCA. The group consists of veteran campers, she said, and is expected back on schedule.

The Gunflint Lodge, one of the biggest resorts along the Gunflint Trail, lost power and closed after the storm, but it's expected to reopen by Saturday, said Shari Baker, the assistant manager. Power came back on Thursday," she said, "and we had construction crews up here working on things with heavy equipment when the storm hit, so we just diverted them to cleaning up."

The much smaller Loon Lake Lodge, about 40 miles north of Grand Marais on the Gunflint Trail, is expected to be closed until next Thursday. "We don't have power yet, but they promised we'd get it within a week," employer Gina Farrell said. "We have two generators so the guests can have hot showers, and we can keep the refrigeration going [for the food]."

Both lodges called people with reservations and told them not to come after the storm. Some guests already at the lodges stayed, while others left. While the BWCA is open to campers, the availability of the many lodges in the area depends on where they are located and what damage they suffered.

— Staff writer Suzanne Ziegler contributed to this report.

— Article was written July 8.

## CLEANUP, SEARCHES CONTINUE AS CAMPERS BEGIN TO RETURN



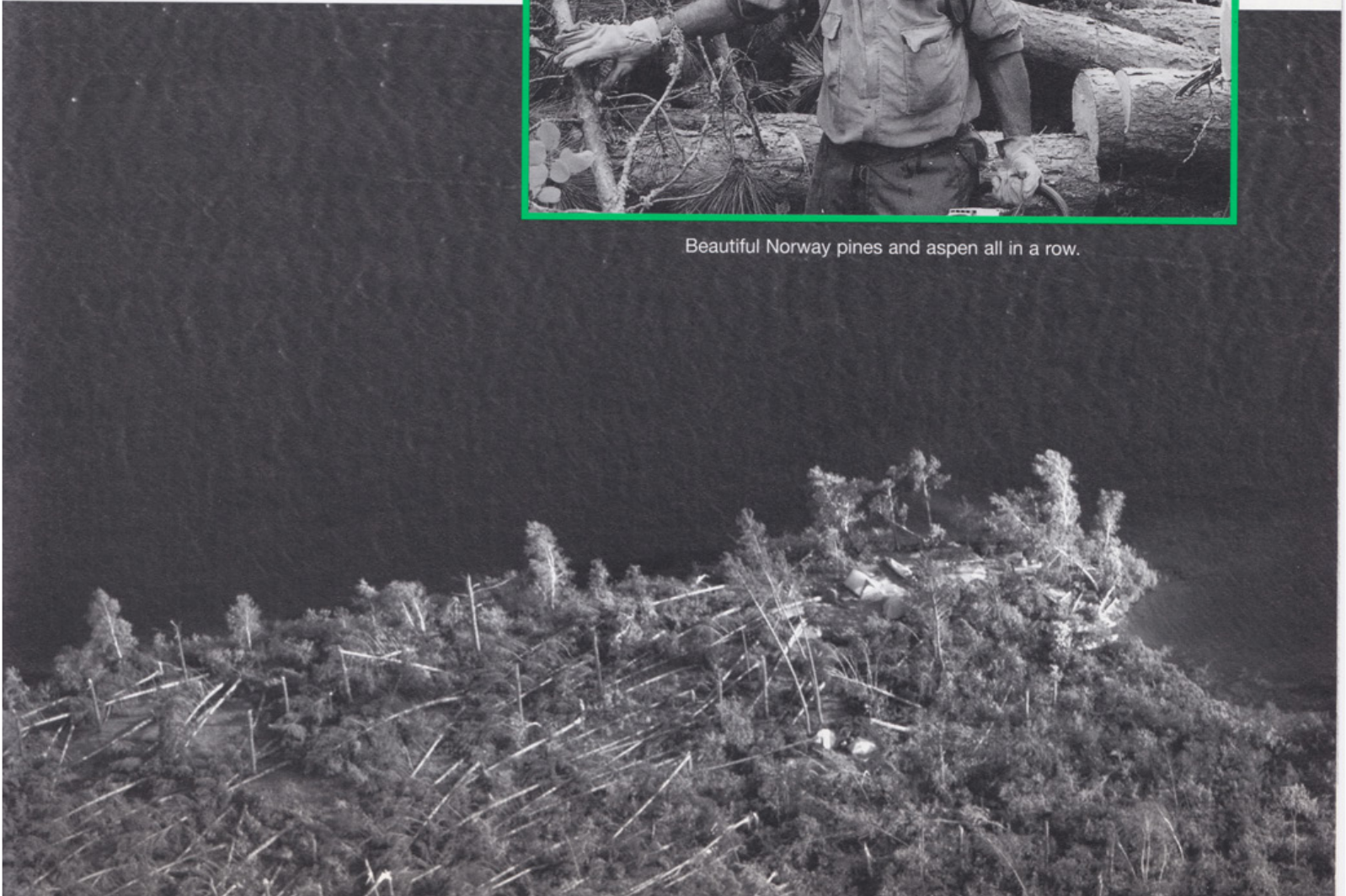


CAMPERS A FORTY-ONE JOURNEY HOME  
DESTRUCTION  
STORY BY [illegible] PHOTO BY [illegible]

Photo Minneapolis StarTribune



Beautiful Norway pines and aspen all in a row.





# BWCA CLEANUP INCHES AHEAD AS CAMPERS MOOSEHORN

A motorboat on the shore of Gunflint Lake was unable to side-step a large birch tree.



Some trees were broken off half way up the mast.

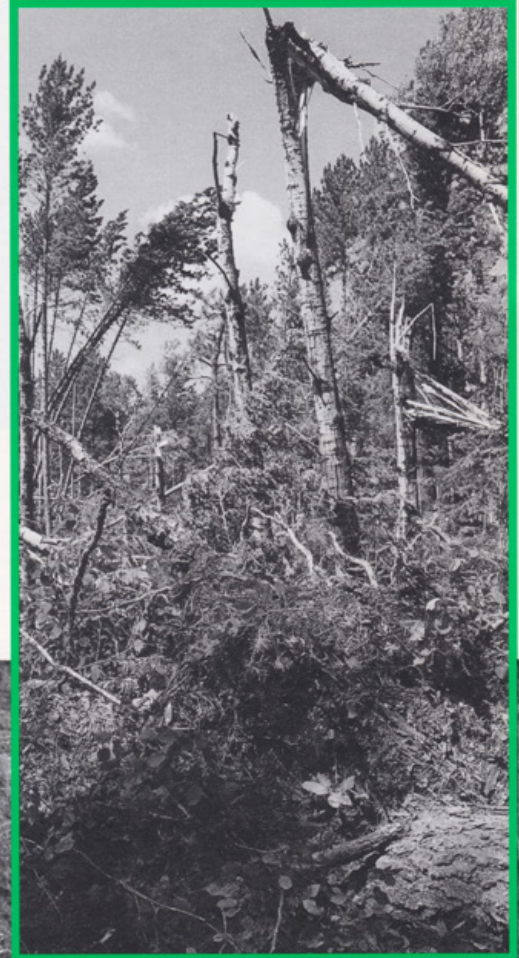


Photo Minneapolis StarTribune



# CAMPERS: A TORTUOUS JOURNEY HOME THROUGH A TANGLE OF DESTRUCTION

**DAVID SHAFFER**

ST. PAUL PIONEER PRESS STAFF WRITER

Early Sunday afternoon, Glenn Kreag, Barb Koth and their dog Abby stopped for lunch after crossing five portages to reach the shore of one of the Kekekabic Ponds in the Boundary Waters Canoe Area Wilderness.

It had started to rain, and the sky had turned greenish-yellow to the west. So the two campers from Duluth propped their 17-foot canoe in a tree, crouched under it and ate peanut butter sandwiches and sardines.

"We were admiring the fury of it," Kreag said of the storm that had whipped the water into a white froth.

All of a sudden, the wind grabbed the canoe and tossed it backward. Instinctively, Kreag held it down, fearing it would be lost in the rapidly accelerating winds.

Then they heard a cracking sound from the Red Pine that moments earlier had been a canoe prop.

"The tree is coming down," said Koth.

The tree hit the canoe, with Kreag under it, and threw both man and canoe to the ground. Neither was hurt.

But the worst was yet to come.

"We have to get out of here!", Kreag shouted, and both began to run, but in different directions. Kreag, a 55-year-old extension educator for the University of Minnesota, spotted the root ball of a large, freshly uprooted tree.

At the same time, Koth scrambled into an open spot, but found no safety there. "I felt like I wasn't going to stay on the ground... like possibly I was going to be lifted," she said of the winds.

Crouching under the root ball, Kreag shouted to Koth to join him. She dashed to the tree - barefoot, having shed her shoes during lunch - and crawled beneath the roots. Abby, the 6-year old black lab and greyhound mix, joined them.

For the next 20 minutes or so, they and their dog watched as trees bent nearly to the ground, then snapped. It was a quiet sort of destruction, not what they would have imagined.

"It was not like it was huge crashing," Kreag said of the trees.

"There was noise from the storm, but the trees bent over and over and over until they gave up. You could just see them going down."

When it was over, the landscape had changed. Before the straight-line winds had hit, Kreag and Koth had stood in a majestic forest of pines.

The aftermath reminded Koth, who once lived in Washington state, of the rows of downed trees after the Mount St. Helen's volcanic eruption in 1980.

"It was so orderly - and at the same time it was utter chaos," said Koth, a planner for the National Scenic Byways Resource Center. "I can see why they call them straight-line winds. It is picture-perfect straight-line trees all down in one direction."

In this suddenly near-treeless landscape, a few battered trunks were left standing, snapped off at mid-height, stripped of their limbs. "They were these lonely poles sticking up," Koth added. "It was an eerie sight."

As they emerged from the protective roots, wet, shivering and shaken, Koth and Kreag discovered that the empty field where Koth had initially run for safety was now littered with downed trees. A few yards away, their canoe and other gear were undamaged.

## Now, the hard part

Yet, their difficulties had just begun.

At that moment, the pair were more than 10 miles and nine portages from their launch point on Sea Gull Lake at the end of the Gunflint Trail. Their campsite, on Ogishkemuncie Lake, was five portages away.

It would take them two days to get out, struggling with a canoe along portages blocked by downed trees.

"Almost every other step, there were trees across the portage," said Kreag. "We often had to slide the canoe up across a downed tree or pass it through a hole or drag it underneath."

They couldn't find one portage, so they

used ropes to hand-line the canoe through some rapids. At another spot, Koth and Kreag saw a moose calf lying by itself in the grass. Had its mother been killed? Koth and Kreag never found out.

The journey back to civilization was slow, grimy work. Only the dog, Abby, seemed to have a good time, Koth said.

Along the way, Koth and Kreag passed other campsites and nobody checked for people in trouble, but nobody had been injured.

Returning to their campsite Sunday, they found their tent tipped over but otherwise undamaged. They slept there overnight, then resumed their journey, reaching the Gunflint Trail on Monday, after 12 hours of paddling and portaging. Back at work Tuesday, the 42-year-old Koth reflected on the fate of her beloved wilderness. She knows that ecosystems survive, that big storms are part of the natural process of a forest.

"It was an instant lesson about the things we love - and how quickly they can change," she said.

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# CAMPERS: AFTER WINDS SUBSIDED, MOST TREES WERE GONE BUT GEAR IN GOOD SHAPE





Photo Minneapolis StarTribune

Opening trails, campsites, and the Gunflint Trail, has been a huge job.

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