

The State of Maine Endures Ice Storm 1998

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The history of the State of Maine does not speak to a great number of major disasters and no real catastrophes. Like the residents of Maine, natural disasters are pretty laid back. During the twentieth century, the residents of Maine, known as “Mainers”, faced three high-value disaster events; the Forest Fires of 1947, the 200-year Floods of 1987 and the Ice Storm of 1998. The '47 Fires destroyed several small towns and nearly wiped out the tourist retreat of Bar Harbor and the '87 Floods put several communities under water for a short time. However, the disaster event that caused the greatest amount of damage, an event that resulted in a President Disaster Declaration for all sixteen counties in the State, was coined “Ice Storm ‘98”.

Monday, January 5th started out as a typical winter day with several inches of snow on the ground. The temperatures were just under the freezing mark as “silently, the huge cloud of warm air drifted north and east from the American Midwest, finally coming to rest over Quebec, and northern New England.” (State Address). At first the precipitation was light and intermittent, but by Wednesday January 7th it became a steady rain. Though it was below freezing at the surface, the air high above was warm and moist. A layer of ice began to build up on everything.

“By Wednesday morning, areas of central interior Maine were reporting generally 1/8 to 1/4 inch of ice accretion with some localized areas with up to 1/2 inch of ice accretion. Steadier and heavier freezing rain and freezing drizzle developed over portions of central and southern Maine during Wednesday afternoon and evening, January 7, 1998 and continued through Friday, January 9th, as a quasi-stationary front remained south of the state. To the north of the front, cold air remained entrenched near the ground as warm moist air moved northward from the mid-

Atlantic states over the wedge of colder air. Severe icing occurred over most of southern and central Maine. By Saturday morning, January 10, the precipitation had ended over Maine with 1 to 3 inches of ice accretion to wires, poles, branches, etc., over most of central and southern Maine.” (NOAA 5 Jan 98). Then trees, towers, utility poles and wires began to crash down by the thousands. Several structures collapsed. Over the majority of Maine, Northern New Hampshire and Vermont, upstate New York, and Quebec, the lights started to go out.

Its one thing when electrical power is lost during summer months or in southern locations; it is quite another matter when power is lost in a very rural northern state during the dead of winter. A large majority of homes in Maine are heated by oil furnaces or electric heaters. In either case, electricity is required to operate the furnace. Over half of Maine homes are equipped with private water wells that require each home owner to maintain electrical-powered pumps to supply water. As the average Mainer lost electrical power, his or her homes cooled, water stopped flowing, water pipes burst, refrigerators stopped preserving food, toilets didn't receive water, stoves wouldn't cook food, and televisions and radios wouldn't receive emergency broadcasts.

However, it wouldn't have mattered that televisions and radios wouldn't function. The Emergency Broadcast System failed because the host signal came from the Maine Public Broadcasting Network (MPBN) and MPBN didn't have backup generators. Dozens of radio and television transmission towers crashed to the ground under the immense weight of the ice. Several public safety transmission towers also collapsed. The electrical power lines began to fall as crashing trees and poles brought them down. The power companies, Central Maine Power and Bangor Hydro, had cut back on tree cutting to save money. After the first few days, the backup batteries in the telephone exchanges died and telephone service was lost. Then by Monday, January 12th the temperatures began to plummet and the winds started to increase. By

Wednesday, January 14th, the temperatures were below zero degrees Fahrenheit with severe wind chills making it feel like -30 degrees Fahrenheit. Without electrical-operated heat furnaces, Maine homes and businesses began to freeze. Mainers began to freeze.

There are few disaster events that would drive Mainers to overnight shelters. As long as Mainers can stay warm, they will find ways to get water and food. There are few disaster events that have ever reached a magnitude that could cause major destruction of structures. The need for overnight Red Cross shelters in Maine has been severely limited in scope and occurrence. Ice Storm '98 resulted in the largest number of Red Cross shelters to be activated and filled in Maine history. "The Red Cross has spent about \$300,000 to operate shelters." (Focus).

Overloaded transformers exploded all over the state causing tremendous light shows and booms to reverberate across many communities. The sounds of hundreds of gunshots could be heard – the sound of trees giving out under the weight of the ice. Many Mainers' commented that it sounded like a war zone. During the disaster event, the nights took on a very dark and sinister feeling – there were no street lights or building lights to light up the darkness.

The loss of electrical power encompassed nearly the entire state. "Statewide, the storm knocked out power to about 365,000 customers, an estimated 840,000 people or about 70 percent of the state's population of 1.2 million people. About one third of those that lost power were without electricity for more than a week. For some, the electricity was off for up to 3 weeks." (NOAA 5-10 Jan 98) This paper's author himself was without power for eleven days and telephone service for three days. "People took to placing signs in the snow with arrows pointing to their homes, No power, no phone." (Boothbay).

Fortunately, because the road conditions were so bad and most businesses, schools and services were closed, the majority of people stayed at home. There were no lives lost from car

accidents, a typical killer in New England winter storms. However, the disaster did claim the lives of five people, in manners that were not so common. “Two men died in separate incidents from carbon monoxide poisoning from inadequately ventilated generators. One man was killed when he was struck by a tree while cleaning up debris shortly after the storm. One elderly man died of hypothermia after falling down a flight of stairs in his dark, unheated home. In addition, one man was crushed when the roof over a gas station island collapsed under the weight of snow and ice several weeks after the storm.” (NOAA 5-10 Jan 98). Only the '47 Fires had killed more Mainers during a natural disaster. However, Ice Storm '98 did cause more injuries than any other natural disaster.

The cold temperatures and loss of heating systems forced many Mainers to find alternate ways to heat their homes. Many of the uninformed utilized propane and kerosene heaters inside their homes and did not provide adequate ventilation. Others hooked up and operated electrical generators inside their homes. “Carbon monoxide poisoning reached epidemic proportions statewide with between 300 and 400 people treated at area hospitals, possibly the largest outbreak of carbon monoxide poisoning ever in the nation.” (NOAA 5-10 Jan 98). This prompted the U.S. Center for Disease Control to visit Maine, analyze the impacts and publish a report. “The findings of this report indicated that CO exposures and poisonings were the most dramatic health concerns in the early aftermath of the ice storm. Many of the same mechanisms observed in previous outbreaks of CO poisoning (e.g., improper use of gasoline generators and fuel-powered heaters) may have played a role in Maine.” (CDC). There were many more people who became sick from CO poisoning, but who did not go to emergency rooms.

Besides the simple loss of power to the public, there was extensive and widespread destruction of the electrical power system in Maine. “The storm cost Central Maine Power, the

state's largest power company, \$55 million in repairs. Bangor Hydro-Electric suffered \$5 million in repairs.” (Focus). Government bailouts and rate increases were required to keep the power companies from going under. “Utilities had to replace over 3,200 snapped utility poles, over 1.2 million feet of wire/cable, more than 1,600 cross-arms, and more than 2,100 transformers. A major transmission line that serviced Downeast Maine was flattened by the storm as the weight of the ice snapped all the poles in an eight-mile section of line.” (NOAA 5-10 Jan 98). Utility crews were brought in from all over the United States to assist in the repairs.

The Ice Storm also caused widespread damages to other property. Cars were damaged by falling trees. Seven public safety and commercial radio and communication towers collapsed during the storm (NOAA 5-10 Jan 98). Several buildings collapsed, though no one was killed from the failures. An unknown number of homes burned to the ground because of improper contingency heating systems and the loss of the ability to alert firefighters. In Waldo County, damage to the County’s single radio tower caused a lapse in paging out volunteer fire departments in the northern part of the county for several days.

The storm caused a great deal of debris in the public roadways. Down trees and power lines littered the roads. Plow trucks were unable to plow many roads because of the danger of electrocution and the debris in the roads. Several inches of ice built up on the roads along with several inches of snow. “The storm has cost the Maine Department of Transportation up to \$300,000 a day in overtime.” (Focus). However, the majority of roads in Maine are maintained by municipal governments, so this figure is actually much higher.

Another major entity impacted by the storm was the timber industry. “The storm damaged an estimated \$300 million worth of timber with after harvest losses estimated to be \$28 million.” (NOAA 5-10 Jan 98). The economical and commercial effects of the storm have been felt for

several years following the storm. Damage to the State's trees was very extensive, but it also extended to other commercial interests beside the timber industry. "In some areas, most of the maple trees used for syrup were severely damaged." (NOAA 5-10 Jan 98). The slash created by millions of broken branches has increased the forest fire danger to this day. Fire access trails have blocked fire apparatus. (NOAA 5-10 Jan 98).

All told, Ice Storm '98 shut down businesses, schools and services for nearly two weeks. The financial losses have never been calculated for these closures. Everyone from wage earners to the American Red Cross, to every municipality and the State government were financially impacted by this storm. "In Maine, the storm caused an estimated 300 million dollars in damages (as of late April 1998) with this estimate continuing to climb as cleanup efforts continue." (NOAA 5-10 Jan 98). This amount of damage occurred in a state with a little over 1.2 million residents.

The recovery from Maine's greatest natural disaster was surprising. Although several thousand residents did stay in overnight American Red Cross shelters, the vast majority of the estimated 840,000 residents did not stay overnight in shelters. "And then, something else happened, not so silently this time: a wonderful, transcendent, once-in-a-lifetime thing - in coffee shops and shelters, in kitchens and neighbor's spare rooms, on the radio and in churches Sunday morning - we rediscovered who we are - or most want to be - as a people. Ingenious, self-reliant, neighborly, creative, tough, funny, spontaneous, caring." (State Address). Many rural residents have wood stoves that can heat their homes, either as a primary source of heat or as a backup source of heat. Many residents stayed at the homes of those family members and friends who did have backup heat or electrical power systems. Others stayed in their frozen homes, but

ventured out during the day to get warmed up, to get a meal and collect jugs of water. In this report author's town of 712, only 3 people reportedly stayed in an overnight shelter in the adjoining town, despite the lack of power for two weeks in the dead of winter. Mainer's called into a regional radio station that managed to stay on the air and passed information on individual needs; while other Mainers called in to fulfill that need. A common theme was a request for firewood that would be filled by someone with extra firewood. (Coleman).

The Governor of Maine, Angus King, declared a state of emergency and requested that the sixteen counties of Maine be declared a federal disaster area by President Bill Clinton. FEMA moved in and established Disaster Recovery Centers in every county. Yet, only 31,940 families registered for FEMA Disaster Assistance (FEMA). Nearly 32,000 applied out of a total of an estimated 840,000 people who had been impacted by the storm.

The recovery from Ice Storm '98 was a test that Mainers passed. Private citizens helped public road crews to clear roads. Residents gave warm clothing, hot food and coffee to power company line crews while they worked on the lines in subzero temperatures throughout the day and night. Generators from government agencies were passed from neighbor to neighbor so that each had an opportunity to power up their heat and their refrigerators for a period of time. The elderly were checked up on by neighbors to verify if they were okay and to socialize. Nearly every recovery activity and every local and state government agency was being heavily augmented by volunteers. Many of these volunteers were impacted by the storm themselves.

Much was learned by the people of Maine following this storm. More residents have woodstoves and portable generators in hand than prior to the disaster event. Far more public facilities have backup power capabilities than prior to the storm. When Mainers were preparing

for Y2K, the battle cry of “Remember Ice Storm ‘98” was used repeatedly. Even today, nine years later, emergency management directors in the State will use Ice Storm ‘98 as the prime example in their disaster preparedness programs.

More public safety facilities and designated ARC shelters have generators than ever before. Memories of the Storm are still fresh in many people’s minds. In 2006, the Maine Emergency Management Agency awarded \$554,618, nearly 23% of its 2006 Homeland Security Grants Program for competitive grants to local governments, for purchasing and installing electrical generators to shelters and public safety facilities. (MEMA).

Because of the tremendous quantities of dead trees and limbs in the Maine forests (90% of the State’s land area is classified as forestland), the Maine Forest Service was awarded a large Hazard Mitigation Grant directly following the storm. These funds were used to purchase wildland firefighting gear for local fire departments across the state. Any fire department that applied received around \$10,000 worth of gear. For many departments, this included the only wildland personal protective equipment they had ever had.

The utility companies were pressured by the Maine Public Utilities Commission to perform line maintenance, including limb cutting operations, to safeguard the utility lines. Both power and phone companies were required to be better networked with county and state emergency management agencies.

This one event proved to Mainers that expenditure for disaster preparedness and mitigation were far cheaper than the cost of recovering from a major natural disaster. This was a tough lesson to learn, especially in a State not prone to major disasters. Two of Maine’s three major disasters in Maine’s 20th century history, the ‘47 Fires and the ‘87 Floods were site specific to a

fairly limited area of the State. However, Ice Storm '98 affected all sixteen counties and an estimated 70% of the State's population. Short term recovery occurred over a two week period, but long term recovery continues in limited portions to this day.

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