

IN THE
SHADOW
OF THE
DAM

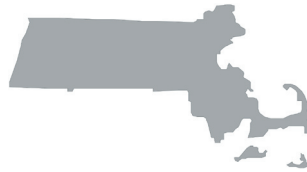
The Aftermath of the
Mill River Flood of 1874

ELIZABETH M. SHARPE

EDITOR'S CHOICE

The Mill River Flood of 1874: From Williamsburg to Northampton

ELIZABETH M. SHARPE



HJM is pleased to present “Editor’s Choice” — a new feature appearing in each issue where we highlight selections from recent works on Massachusetts history that we feel are especially noteworthy and thought-provoking.

Editor’s Introduction: *This nonfiction work is as gripping as any novel. By chance I picked it up one day looking for information to help a student. I was mesmerized by the writing and stayed up all night reading. Author Elizabeth M. Sharpe delivers a compelling account of a disaster that became a turning point in the history of American capitalism and technology. The Williamsburg Reservoir, situated high above a number of factory and farm towns, burst suddenly — unleashing 600 million gallons of water that left 139 dead and 750 homeless from Williamsburg to Northampton. Sharpe brings to life the factory owners who built the poorly designed dam, the men and women who labored in their factories, the doomed families and children living below the dam, and the rescuers who warned as many as they could. Sharpe, a former director of education at the*

Smithsonian's National Museum of American History, is a skilled historian. She meticulously documents the careless planning behind what became the nation's first major dam disaster:

Sharpe, who grew up just a few miles from the disaster site, spent many years researching this story. The last third of the book describes the inquest and courtroom battles that failed to find the mill owners guilty of negligence. The following excerpts offer the reader a taste of her writing from various sections of the story. She begins by bringing back to memory the widespread existence and significance of small "mill villages" and manufacturing centers that dotted rural Massachusetts in the 1800s, all dependent on rivers and streams for waterpower.

* * * * *

I. PROLOGUE

On the last day of the coroner's inquest into the cause of the Mill River flood deaths, Joel Hayden Jr. was the morning's first witness. Two weeks earlier, on May 16, 1874, three of his factories had been destroyed when the Williamsburg reservoir dam broke, sending an avalanche of water over five factory villages that lined the Mill Valley in Western Massachusetts. When the flood reached Haydenville, the mill village his father had built, it picked up a house and slammed it into his brass factory with such force that the three-story brick structure collapsed, ends folding over the middle as though it were a cardboard box. Brass goods, the company safe, and even the granite columns that had framed the entrance to the office building were found hundreds of yards downstream amid heaps of debris so dense and tangled that men used crowbars to pry the items apart. Twenty-seven of the 139 people killed were from Haydenville. . . .

[Assistant coroner Charles] Delano must have thought that [Joel] Hayden Jr. would hold back. The other mill owners, sitting with their attorney at the front table, watching Young Joel, were all partners on the reservoir company that owned the failed dam. Few had willingly offered any information about the dam. Delano picked up a copy of the *Hampshire Gazette*, a Northampton newspaper, and read aloud what purported to be Joel Hayden Jr.'s own statement:

Mr. Hayden says that "his father was always in fear of the reservoir dam." He believed it to be weak and dangerous, and "a

thousand times” says Mr. Hayden “have I heard him express such fears.” It worried him and when there was heavy rain he would not sleep at night, so great was his apprehension that the dam would break away. Several times I have known him to get up in the night and drive up to the reservoir to examine it, so as to personally satisfy himself that it was all right.¹

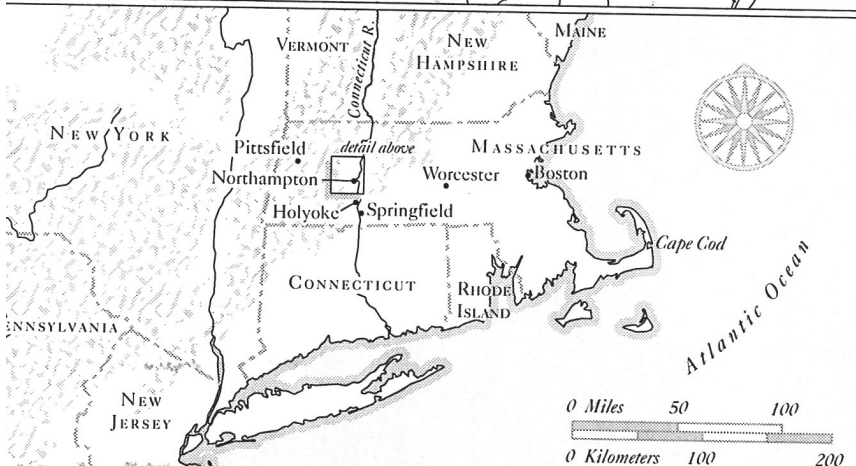
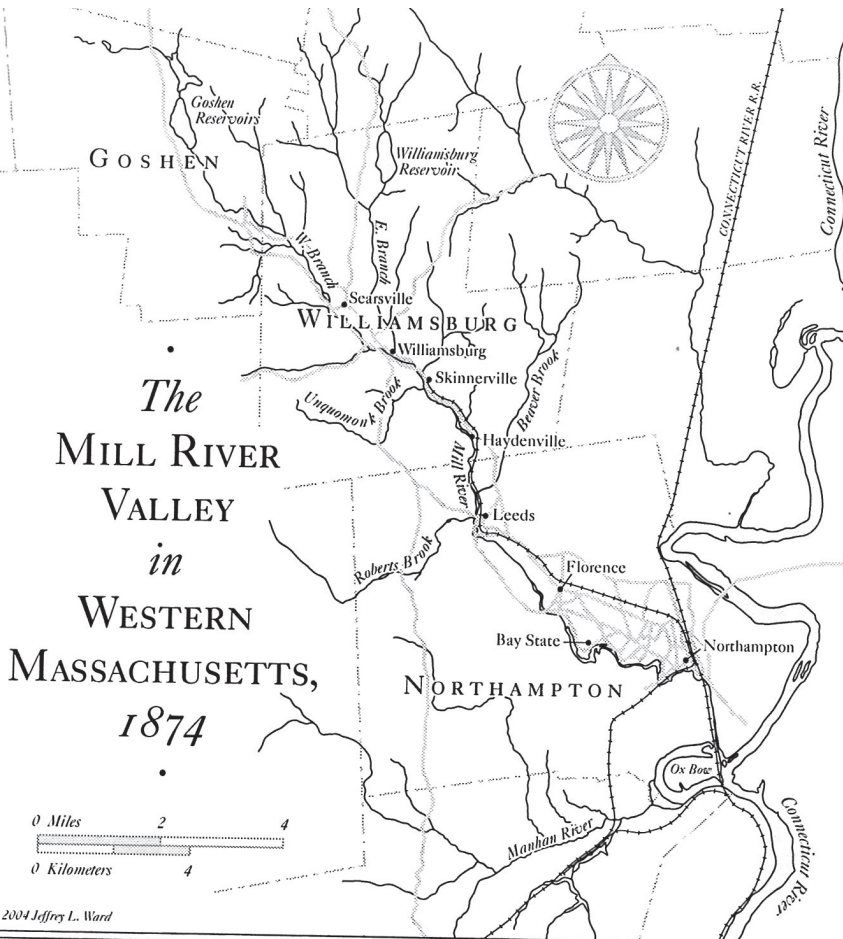
II. THE MILL VALLEY²

The Mill River that Joel Hayden Sr. knew was a slim, rocky stream, just fifteen miles long, that tumbled down the east slope of the foothills of the Berkshires to its outlet in the Connecticut River. In its upper reaches, the Mill River was shallow, a ten-foot-wide mountain stream that one could easily step across on rocks protruding through the quick water. For most of its run, the river broadened to forty feet as it raced southeast through the towns of Williamsburg and Northampton. Only when it meandered across the silty floodplain of the Connecticut River on the outskirts of Northampton did it widen to sixty feet. Along its course, it collected water from smaller streams with names like Beaver Brook, Potash Brook, Unquomok Brook, and Roberts Meadow Brook. Usually the Mill River murmured and gurgled, but when it rushed over several natural waterfalls, it thundered. In the springtime, it roared down in powerful freshets, flash floods fed by snowmelt and spring rains. It shrank and quieted during the dry summer months.

The river basin was shaped like the letter Y. Two large tributaries, the arms of the Y, united in the center of Williamsburg to form the river’s main trunk. The Y’s left arm, known as the West Branch, sometimes called the Mill Brook, was the longer of the two. It reached up seven miles to the northwest through the high hills of western Williamsburg and into the town of Goshen. The right arm, called the East Branch, stretched three miles straight north from the center of Williamsburg to the town’s northern border. The West Branch, the East Branch, and the smaller network of

¹ *Hampshire Gazette*, May 26, 1874, p. 1. Elizabeth M. Sharpe, *In the Shadow of the Dam: The Aftermath of the Mill River Flood of 1874* (NY: Free Press, 2004). This section excerpted from pp. 1 and 2. A complete record of the inquest comes from contemporary newspapers, such as the Boston, New York, and Springfield dailies which printed detailed summaries of the previous day’s testimonies. I have relied mostly on the *Springfield (Massachusetts) Daily Republican* and the *Springfield Daily Union* because their reports were the most complete, averaging 5,500 words per day for each of five days. The original inquest transcript cannot be found.

² Sharpe, pp. 3-10.



brooks and tills spread through the hills like veins on a leaf to catch the rain and snowmelt and deliver it to the Mill River.

With its rocky base, strong flow, and steep slope, the Mill River made excellent waterpower, typical of New England. Throughout the region, long strings of factories clustered into villages, and villages congregated into small industrial centers on rivers like the Swift River, the Westfield River, the Ware River, and so on. In Massachusetts in the early 1870s, all but a dozen towns had some commercial manufacturing drawn from river power. By 1880 the six states of New England possessed one third of the developed waterpower of the United States, even though New England represented only 2% of the nation's land area.³

Industrialists like Joel Hayden Sr. knew that the steeper the slope the greater the waterpower, and the Mill River's descent was steeper than most. The West Branch fell seven hundred feet in elevation along its downhill course from Goshen to Williamsburg, while the East Branch dropped three hundred feet as it flowed to Williamsburg. From the confluence where the two branches formed the Mill River, they tumbled another four hundred feet before reaching the Connecticut River. With such a steep slope, the fast-moving water packed sufficient force to turn water wheels and turbines. Mill owners like Hayden channeled water out of the river at as high a level as possible and allowed it to drop to as low a level as possible. The higher the fall, the less water required to produce power. During its drop, it filled buckets in waterwheels to drive the wheel around. Falling water turned the more efficient turbine by weight as well as by pressure.

If speed was the virtue of New England rivers, extreme variability in flow caused by the fickle New England climate was the downside. Rainy springs and dry summers and falls left mill owners with too much water in the spring months — sometimes so much that it flooded the waterpower equipment — and not enough flow midsummer through early fall. (Just 12% of annual rainfall came in June, July, August, and September.) The occasions when factories operated with sufficient water were such newsworthy events that the *Hampshire Gazette* cheered when factories could “run the machinery full time.”

In the spring and summer of 1864, several manufacturers who shared the power of the Mill River talked about the need to maintain a more steady water flow to their factories. Business was booming, but they wanted to

³ Louis C. Hunter, *Waterpower in the Century of the Steam Engine, History of Industrial Power in the United States*, Vol.1 (Charlottesville, VA; University Press of Virginia, 1979), especially pp. 119, 130-31, 179-80.

scale up production to meet consumer demand and keen competition, brought on by a nationwide system of railroads. Over the years, the mill owners had enlarged their factories, but larger mills with more machinery required more power. Fifty years earlier, the river's first grist and sawmills were small and pulled one or two horsepower (550 foot-pounds per second equal one horsepower) from the river. But in 1864, the power demands of the new larger factories — sometimes with two or more waterwheels side by side — was as much as 70 or 100 horsepower, and the power was needed all year long, not seasonally.

Other New England manufacturers had addressed the problem by creating upstream reservoirs that acted like giant holding tanks. To construct a reservoir, mill owners could erect a dam across a river's headwaters so that the water backed up behind the dam, creating an artificial pond or lake. With a long iron pipe through the reservoir dam, they could tap the water whenever they needed it.

The challenges of waterpower were a perennial topic of conversation for New England mill owners, who were responsible for designing, building, and regulating waterpower resources, along with their other duties. With the sciences of geology, meteorology, and hydraulics not developed enough to provide accurate information about stream flow, they acted on instinct and experience. They watched the weather and tinkered with their machinery and wheels, adjusted the levels of their mill dams and the size of their mill pond storage, trying to find the best proportions. They improved their systems by purchasing more efficient wheels or turbines. They supplemented with steam engines, but transporting coal made them expensive to operate. Many discovered that as the nineteenth century wore on, their water supply actually decreased as New England farmers upriver turned forests and watersheds into tillage, pasture, and orchards. With few trees to hold water and soil, rain and snowmelt rushed down hillsides carrying silt that clogged waterwheels and turbines and lined mill ponds, decreasing water storage capacity at the mills. Over time, mill owners spent less effort improving their factory waterpower systems and more on upstream solutions, like reservoirs.

By the 1830s, reservoirs began to fill pockets in the hills of New England, upstate New York, and the upper Mississippi Valley. Reservoirs dotted the upper reaches of the Saco and Penobscot Rivers in Maine, the Hoosic and Housatonic Rivers in far western Massachusetts, the Salmon Falls River in New Hampshire, the Pawcatuck and Blackstone Rivers in Rhode Island, and the Willimantic and Naugatuck Rivers in Connecticut, to name a few. One geologist later estimated that as much as 10% of the

floodwaters of New England and New York were held in artificial storage reservoirs and ponds.⁴

In the Mill Valley, by 1864, Hayden and other mill owners had already built a reservoir at the tip of the West Branch, which captured runoff from the Goshen hills. A new reservoir at the headwaters of the East Branch would double the amount of water they controlled. Over the next year, a group of eleven Mill Valley manufacturers, including Hayden, would form the Williamsburg Reservoir Company and receive a charter from the state to build the Williamsburg dam.

On a July day in 1864, Joel Hayden Sr. scouted the headwaters of the East Branch in search of the most advantageous site for the new reservoir and dam. At sixty-six years old, he was serving as lieutenant governor of Massachusetts under Governor John Andrew, and he had been manufacturing on the Mill River for forty years. Hayden stepped through farmer Simeon Bartlett's pastures and over his stone walls and fences as he surveyed the land to find the best location for the dam. He found the ideal place where three ridges converged around a low flat plain of about one hundred acres. In the center of this natural basin, two brooks, one running south from the town of Conway and another from the west, joined a seasonal stream which carried water from the east in a heavy rain. Here, the water caught from rain and snow mingled with natural underground springs before flowing south as the East Branch. Hayden knew that if a dam plugged the outlet to the oval-shaped basin, the reservoir would hold the headwaters plus the drainage from a three-square-mile area.

If Hayden had climbed the tallest of the three peaks, High Ridge, which loomed 600 feet above the river, to gain a better perspective on the dam site, he would have seen one of the most spectacular panoramas in western Massachusetts from the open rocky pasture at its peak. To the east lay the entire Connecticut Valley in Massachusetts, a seventy-mile span dotted with the steeples of eleven village churches. The hills and valleys were dressed with hay fields, broad pastures dotted with trees to shade cows and sheep, corn fields, apple and pear orchards, groves of sugar maples, and woodlots.⁵ It was an agrarian patchwork yielding the mix of crops and livestock raised by valley farmers that they sold regionally to village and city dwellers. Mount Holyoke and Mount Tom in the distance overlooked

⁴ Hunter, *Waterpower*, p. 511. For a discussion of upstream storage reservoirs see Hunter, *Waterpower*, pp. 509-13.

⁵ Agricultural products of the Mill Valley from *Statistical Information Relating to Certain Branches of Industry in Massachusetts for the Year Ending May 1, 1865* (Boston: Wright & Potter, State Printers, 1866), p. 317. In 1865, Williamsburg residents sold 1,700 cords of firewood.

the oxbow, the bow-shaped bend in the Connecticut River where the Mill River spilled. Along the Connecticut ran the railroad that linked the Mill Valley's factories to the sources of their raw materials and to markets in Springfield, Boston, New York, and the world.

From High Ridge, Hayden could have traced the ragged southeasterly course of the Mill River, obscured in spots by lower hills. Like nodes on a branch, sixty-four mills beaded along both riverbanks positioned at the base of natural falls, rapids, or below a dip in the terrain to take advantage of a sudden drop in the river's elevation. The river swelled artificially at a dozen spots where mill dams backed up the water into ponds which held the river's nighttime flow to produce the next day's power. The excess slid over the mill dams, downstream to another mill. At each mill, a canal, or head-race, diverted the flow to a waterwheel or turbine before sending it out another canal, or tailrace, to rejoin the river. Every mile or two a village hugged the river, each with rows of small white houses and shops, a few farmhouses, a boardinghouse or two, one or two white church steeples, and wooden and brick mill buildings in a factory yard. One nineteenth-century writer quipped that if you've seen one tidy New England mill village you've seen them all.

And while the Mill Valley villages did have a similar appearance, they had distinct personalities, shaped by the men whose businesses and personal interests dominated them as Hayden dominated Haydenville. Because their power source was used serially, one after the other, the mill owners had to subordinate individualistic tendencies to make the stream flow work for everyone. For example, an upstream mill owner couldn't hoard so much water in a mill pond that it took days to reach the factories below, nor could he raise his dam so high that it overflowed his mill pond and spilled onto adjacent farms (without compensating the farmer) or backed up to the upstream mill inundating that factory's waterpower system. The relationship of mill owners to each other and to the community with respect to water was subject to legal doctrine derived from medieval England and amended by statutes and court rulings.⁶ As a harmonious group who privately negotiated to solve disputes, the Mill River manufacturers didn't challenge each other legally. The Mill River was their conduit, their canal, their power system, and their source of power in the valley.

⁶ Massachusetts law on waterpower from Edward R. Kaynor, *Dam Policy in Massachusetts* (Amherst, Mass: Water Resources Research Center, University of Massachusetts, 1979), pp. 9-10; Theodore Steinberg, *Nature Incorporated: Industrialization and the Waters of New England* (New York; Cambridge University Press, 1991), pp. 25-32; and Morton J. Horwitz, *The Transformation of American Law, 1780-1860* (Cambridge, Mass: Harvard University Press, 1977), pp. 47-53.



Men Searching for Bodies

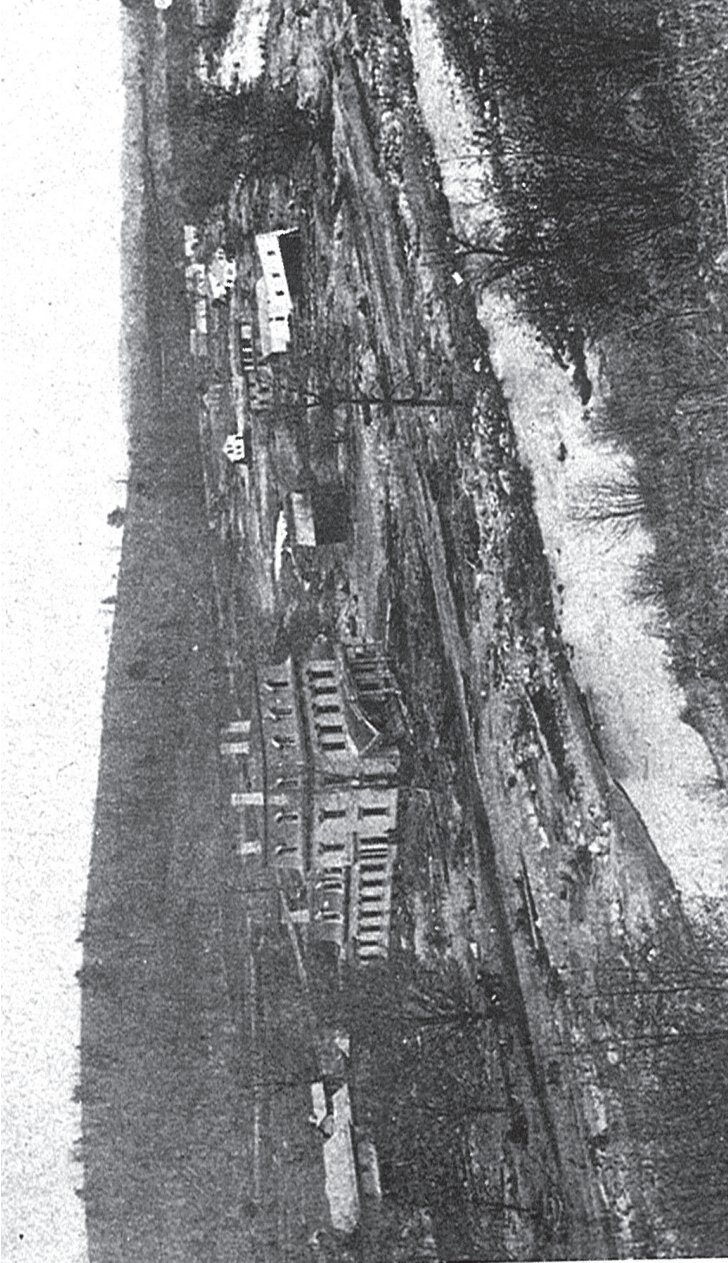
On Leeds and Florence meadows, the flood wave fanned out and slowed, dropping a six-foot-high carpet of debris with dozens of bodies hidden inside. After the flood, a thousand or more volunteers culled acres of debris to locate bodies of victims.

Courtesy Meekins Library Local History Collection, Williamsburg, Massachusetts.

The first bead in the string of mills was in the village of Williamsburg, a hamlet within the town of the same name. Onslow Spelman's small button mill sat at the head of the village and Lewis Bodman's wool mill at the foot. A mile below Skinnerville was home to William Skinner's silk factory; two miles downstream, Haydenville stretched along the river with the brass works, iron foundry, tobacco mill, and cotton factory. The river crossed into Northampton and coursed a mile further to Leeds where the Nonotuck Silk Company, managed by Lucius Dimock, stood a few hundred yards upstream from Alfred Critchlow's button factory. In Florence stood the Greenville Manufacturing Company cotton mill, owned by Hayden and John Payson Williston, and the Nonotuck Silk Company's Florence mill, run by Samuel Hill and Alfred Lilly. Nearby factories made sewing machines, brushes, and baskets. Downstream, in the village of Bay State, William Clement manufactured hoes and rakes and — since the Civil War began — bayonets and rifle barrels. Next came Paper Mill Village where William Clark's paper mill stood. The Mill River skirted Northampton's commercial center and then meandered through the broad alluvial plain before entering the Connecticut River.

Compared to other large Massachusetts manufacturing centers, like Lowell and Lawrence on the wide Merrimack River, Mill River manufacturing was small-scale. Even with all that Northampton and Williamsburg produced, Hampshire County — which also included the manufacturing town of Ware — ranked only tenth in value of goods produced of the fourteen counties in Massachusetts, one of the nation's leaders in manufacturing. In 1870, Hampshire County employed 7,575 workers in 433 establishments while Middlesex County in northeastern Massachusetts, where Lowell was located, employed more than 47,000. None of the Mill Valley factories employed more than a few hundred workers, 1,500 in the entire valley, and the owners knew them by name.⁷ Unlike the wealthy absentee investors who owned Lowell's mills, Mill Valley manufacturers were technically minded men of humble beginnings. Some were local, others came from New England towns to make Williamsburg or Northampton their permanent home, and two immigrated to the valley from England as young men. As a small tight-knit group, they invested in each other's companies and served on each other's boards of directors. In 1860, seven companies offered fifty-four directorships. These were held by twenty-eight men, with four or five men — Samuel Hill,

⁷ *The Statistics of the Wealth and Industry of the United States, Ninth Census of the United States (1870)* (Washington D.C.: Government Printings Office, 1872), p. 528.



View of the Devastation at Skinnerville

William Skinner's house is at center. Skinner's Unquomok Silk Mills was located in front of his house between the river and the road.

Courtesy Meekins Library Local History Collection, Williamsburg, Massachusetts.

Alfred Lilly, and Joel Hayden among them — holding five or more posts. The manufacturers held in common their ideal of using profits to improve their industries and to shape educationally and culturally rich communities for themselves and their workers.

If you had lived in Haydenville between the 1830s and the 1870s, you couldn't have worked, worshiped, banked, belonged to a club, or voted in an election without encountering Joel Hayden Sr., his money, or his politics. Hayden was the richest man, largest employer, biggest landlord, and greatest contributor to charity. He owned a brass factory, a cotton factory, a foundry, and a gas works, which illuminated the factories, streets, and a few dozen homes. He was the Haydenville Bank president, a director of the railroad, the leader of the Masonic lodge, the head of the cemetery association, and a member of Hope Engine Company, the local firefighting squad....

III. THE FLOOD: SATURDAY MORNING, MAY 16, 1874⁸

It was between seven-thirty and seven-forty-five. As [milkman Collins] Graves raced downstream [to warn inhabitants], Onslow Spelman stood waiting on the hill. Within a minute after reaching his vantage point, he heard the water's roar announcing the floodwave's arrival at the village. More than twenty feet tall, it struck Sarah Bartlett's house as it carried away Sarah and her four-year-old daughter Viola Colyer, making them the flood's first victims. Sarah's husband, who was painting houses in the village, survived.

It next hit Spelman's factory. It tore down the dam and ripped away Collins Graves's icehouse from beneath it, then gouged out the long canal that brought water from the pond to the mill. Next, the torrent pounded the mill building with such force that it swept the mill out from under the roof, which floated four hundred feet downstream. All that remained was the rocky ledge the factory had sat on and two wooden sheds that had stood on higher ground back from the river. The site was so completely cleared that it looked as if someone had swept their arm over a game board to clear the pieces. Spelman's workers had escaped unharmed. His house in the village was untouched, his wife and daughter safe.

Below Spelman's factory, the gorge opened up and the wave jumped upon the village, spreading one hundred fifty feet beyond the banks on both sides of the river and enveloping the structures that stood there. It surged up

⁸ Sharpe. This section excerpted from pp. 61-63 and 66-67.

to Spencer Hannum's house, clipped off its rear rooms, removed the sitting room's exterior wall, and cleared away the furniture. The Hannums had sought refuge across the street at the home of button manufacturer Hiram Hill, directly in the flood's path at the corner of East Main and Mill Streets. The Hannums and the Hills were lucky. Some of the wooden beams from Spelman's mill and some uprooted trees caught on the two large apple trees in front of the Hill house, interlacing and thatching themselves so tightly that they formed a timber barrier the Width of Hill's house. The breakwater, plus the elevation of the house lot, divided the current around the house, shielding it and the two families huddled inside. The breakwater forced a section of current next door to the home of Lewis Warner, who had been standing in the doorway idly watching the river rise. When he saw the floodwave approach he called to his wife, tucked his child under his arm like a football, and ran to a neighbor's house. By the time he and his wife reached safety, their house was swept away.

Witnesses saw a wall of water, between twenty and forty feet high and three hundred feet wide, the length of a football field. As it passed down the narrow streambed, it formed a huge rolling wave that grew and intensified like a snowball tumbling downhill. As it advanced, the water scraping the riverbed and banks was slowed by friction and overtaken by the waters on top of it, which, in turn, were forced to the bottom and sides, where they slowed only to be overtaken by more water. The leapfrogging of waters over each other gave a rolling effect. As it tumbled, the flood gathered up rocks, earth, and trees, turning them over and incorporating them into its mass the way a cook folds ingredients into a batter. By the time the torrent reached the village it was so completely filled with material that no water was visible. A cloud of brown spray, caused by the violent agitation of waters, surrounded the wave and added ten feet to its height. Years later, a man who saw the flood as a boy tried to put into words what he saw as the flood approached:

A great mass of brush, trees, and trash was rolling rapidly toward me. I have tried many times to describe how this appeared; perhaps the best simile is that of hay rolling over and over as a hayrake moves along the field, only this roll seemed twenty feet high, and the spears of grass in the hayrake enlarged to limbs and trunks of trees mixed with boards and timbers; at this time I saw no water.⁹

⁹ Reminiscence of Eugene E. Davis, who witnessed the disaster as a boy in Florence, quoted in

One quarter of what the wave carried was sediment from the bottom of the reservoir and river, a deep layer of rotting organic matter that emitted such a terrible odor that people as far as a mile away smelled it.

At five minutes to eight, the main torrent plowed onto William Adams's sawmill and gristmill, two buildings that sat on opposite sides of the river like saddlebags — the gristmill on the west bank and the sawmill on the east.¹⁰ After Robert Loud ran down to the mill from his farm overlooking the dam to warn him, Adams and his two workers ran home. Adams crossed Mill Street and found his wife and two sons, ages sixteen and twelve, to be safe. When he attempted to cross the river to get back to the sawmill, the water knocked him down and carried his body a mile downstream where it was covered so deeply with sand that only two fingers protruded. Meanwhile, Adams's assistant, Theodore Hitchcock, had learned of the flood at the Williams House Hotel and raced to the mill to get the mill's books after warning his wife. Someone saw him gathered into the swell as he tried to reach the mill.

Adams's other employee, Henry Tilton, lived about one hundred yards below the sawmill. He hurried home to find his wife and four of their five children safely upstairs, but his three-year-old son Willie and his mother-in-law were not with them. Tilton soon located his wife's mother, Sarah Snow, near the house.¹¹ As he tried to carry her to safety, the water hit them; she slipped from his grasp and fell into the current. Tilton grabbed hold of a cherry tree limb, climbed the tree, and clung there for twenty minutes until the churning water a few feet below subsided. From his unsteady perch he could see the torrent scour the yard and take away the barn where Willie had been playing. Tilton's house was protected by the widening of the valley, which allowed the water to spread out around his house so that family members who remained upstairs survived.

The wave crashed into the properties across the river from Tilton's house on Mill Street, destroying them all: a house rented to a watchman

Phyllis Baker Deming, *A History of Williamsburg in Massachusetts*, (Northampton, MA: Hampshire Bookshop, 1946), p. 282.

¹⁰ A casualty of the panic of 1873 and facing bankruptcy, Adams had sold the sawmill and the gristmill six months before the flood. He also disposed of his house, horses, cow, three rental houses, a slaughterhouse, eighty-seven acres of land in Williamsburg and a personal estate of \$1,640. In neighboring Chesterfield, his home town, he sold a fifty-acre parcel. At the time of his death, he owed \$16,000 to a total of twenty-eight different people. Hampshire County Registry of Probate, William H. Adams, docket 166-49, Northampton, Mass.; Williamsburg Tax Lists, 1873, 1874; U.S. Census, 1870: Population Schedule.

¹¹ Sarah Snow's daughter was the only one of her four children living in Williamsburg. Her three sons had scattered to Brooklyn, New York City, and Ohio. The son in New York would be instrumental in securing relief aid. U.S. Census, 1870: Population; Hampshire County Probate, Docket 250-15; *Hampshire Gazette*, May 19, 1874, p.2.

at James's woolen mill, Nathan Graves's carriage shop, and the tenements of two Irish families. In one, Eliza Downing, her one-year-old son, and her mother-in-law were killed. In another, Patrick Scully's family met the same fate. Earlier that morning, Scully had walked up the South Street hill to work at Thomas Nash's farm. Startled by the roar, Scully looked out over the village in time to see his house go down. He must have known that his wife Mary and their two small children — three-year-old Mary and eight-month-old John — and her mother, Mary Brennan, had perished.

By this time the wave had collected great masses of things that people had grown, made, shaped, or bought, as well as pieces of the natural landscape. It contained trees, shrubbery, and boulders; timbers from houses and barns; fences and sheds; rakes, carriages, and harnesses. It conveyed the tools of technology: waterwheels, millstones, lathes, and anvils. It held the products of industry — button molds, wool blankets, and sacks of flour — and the fruits of agriculture — baled hay, grain, and seeds. It brought the contents of houses: furniture, stoves, dishes, toys, books, clothing, and bedding. It bore cows, horses, pigs, and chickens. And, most horrifying, the deluge contained the bodies of human beings, a few alive but most dead. . . .

[Milkman Collins] Graves had left his warning with Tom Brazel at the James woolen mill, who alerted the workers and superintendent Birmingham. Brazel believed Graves, whom he knew to be a working man like himself; he respected him and his family and knew Graves had no reason to exaggerate. The wool sorters, spinners, and weavers emptied the mill fast. Henry Birmingham's only thought was to get home. Looking up the road, he could see that his house had been destroyed and probably assumed his family was dead, but still he challenged the water by walking upstream, powerless against the current. One observer later described how the water rose around him and how he threw his arms above his head as if to surrender to the same fate as his family. It was a terrifying prospect to know that once the wave gathered you up you couldn't escape — you would either be drowned or beaten to death by its load. When the head machinist at the mill, Sanford Gage, got the word, he climbed up from the basement in time to see about twenty mill workers run across the bridge to the hill, about one hundred fifty feet away. Just one second after they had passed over it, the bridge lifted off its piers. He escaped. Another employee, Mr. Raymond, saw his house sail by and assumed his family was in it, but they had fled to a knoll behind their house.

Floodwaters circled the James mill and rose to the second story. It surged through the basement, toppling the iron carding engines, weighing

several tons each, that combed the wool in preparation for spinning. The water overturned vats of dye as it wiped away the dye house and swept up a storehouse that held a \$15,000 supply of raw wool meant to supply the mill all summer. The wooden mill building survived, but the torrent destroyed the mill's power by filling in the millpond and cutting a new river channel on the opposite side of the mill from where it had been.

Eight of the houses belonging to the James mill were destroyed, and fourteen employees and family members perished. . . . It took three minutes for the torrent to rip and grind its way through the center village of Williamsburg, rolling quickly and steadily at nine miles per hour. In one single, crushing motion it killed fifty-seven people, including twenty-two children under the age of sixteen. Many were saved because they were standing in doorways or looking out windows, but most had not a moment's warning before they were caught up in it. The *Springfield Union*, searching for comparisons of the swiftness of the disaster, could only recall the suddenness of the destruction of Pompeii and Herculaneum. . . .

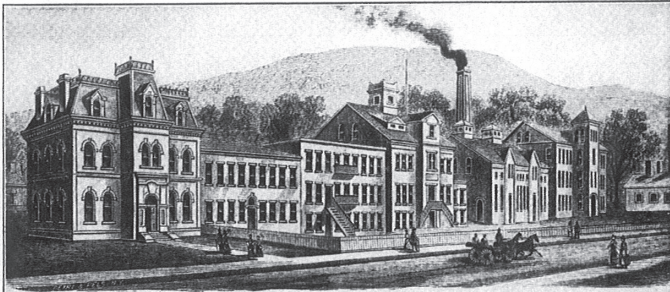
Skinnerville was next. The village . . . was home to 200 people, most of whom worked at William Skinner's Unquomok Silk Mills as reelers, spinners, and dyers . . . The flood struck Leeds a few minutes after eight o'clock...then moved on to Florence and Northampton . . . In the space of four and a half hours . . . the contents of the Williamsburg reservoir, 600 million gallons of water, had rolled over and plundered an eleven-mile path down the Mill Valley. Those who survived were stunned at the wasteland they beheld.¹²



Excerpted with permission of the Free Press (A Division of Simon and Schuster) from Elizabeth M. Sharpe, *In the Shadow of the Dam: The Aftermath of the Mill River Flood of 1874* (NY: Free Press, 2004). Excerpted sections include pp. 1-10, pp. 61-63, pp. 66-67, p. 79, and p. 89.

1. Photograph of Williamsburg Reservoir dam on title page (p. 20), used by permission of the Williamsburg Historical Society, Williamsburg, MA.
2. Map of Massachusetts and affected area on p. 24; copyright Jeffrey L. Ward, 2004.

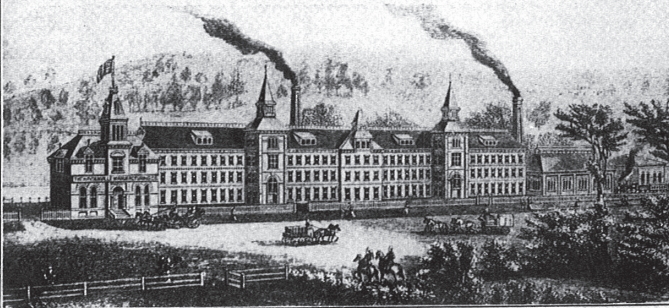
¹² Sharpe; last paragraph a combined excerpt from p. 67 (Skinnerville), p. 79 (Leeds), and p. 89.



WORKS AT HAYDENVILLE, MASS., ESTABLISHED 1845.



DESTROYED BY FLOOD, 1874.



REBUILT, 1875.

D I M E N S I O N S

Finishing Shop.....	380 x 40 ft.	Corn Shop.....	106 x 32 ft.
Brass Foundry.....	102 x 80 ft.	Pattern House.....	40 x 30 ft.
Iron Foundry.....	50 x 38 ft.	Office.....	50 x 35 ft.

THE HAYDENVILLE COMPANY, HAYDENVILLE, MASSACHUSETTS.

Advertisement The river ran behind the row of buildings. The middle image shows all that was left after the flood: a forty-foot section of the brick upper shop, seen at the right of the top image. The bottom image is an artist's sketch of the new brass works; rebuilt without the turrets. The brass works were located directly across the street from Joel Hayden Sr.'s house.

Courtesy of Forbes Library, Northampton, Massachusetts.