



View of Lowell mills from across the Merrimack River, 1839

Lowell and the Industrial Revolution



As seen in Alvan Fisher's 1833 painting, the Pawtucket Dam dramatically altered the Merrimack River's flow over the falls.

Lowell was born as a grand experiment that changed how Americans lived and worked. Capitalists tapped the energy of the falls of the Merrimack River to turn thousands of textile machines. Young Yankee women and immigrant families came here to turn out millions of yards of cloth. From their labors grew America's first industrial city.

As the Industrial Revolution in the United States intensified in the first half of the 19th century, the young nation's social and economic fabric changed dramatically. Though still primarily agricultural, America was transforming itself into a nation of urban manufacturing centers. Enterprising merchants and capitalists organized corporations to develop and control the productive forces of emerging industries, while growing numbers of working people found employment as wage laborers in factories. Cotton textiles, the foundation of America's Industrial Revolution, fostered not only working-class wage labor in the mills, but also supported slave labor on the cotton plantations in the South.

No city offers as dramatic a view of the American Industrial Revolution as Lowell, Massachusetts. Founded by Boston merchants in 1821-22, Lowell was built as a factory city along the Merrimack River to take advantage of the waterpower potential of the Pawtucket Falls; within one mile, the river plunged 32 feet. Francis Cabot Lowell, for whom the city was named, had observed British techniques for weaving textiles, and with the aid of mechanic Paul Moody produced a successful power

loom. In 1814, Lowell and other investors erected a water-powered mill in Waltham, Massachusetts, which carried out all the steps of textile production—carding, spinning, and weaving. Despite Lowell's death in 1817, the venture proved hugely profitable, and plans for a larger enterprise led to the establishment of Lowell. The rapid development of Lowell's power canals, factories, and corporate-owned boardinghouses paralleled the growth of the city's commercial, religious, and civic institutions.

While visitors to Lowell commented on the city's extraordinary growth, many were also interested in the moral and physical well-being of the carefully supervised, mostly female work force. Could Lowell avoid the horrific social effects of industrial capitalism afflicting Britain's manufacturing cities? Lowell's industrialists reassured them, maintaining more-over that the enterprise advanced the needs and aspirations of republican society. By 1850, Lowell had grown beyond all expectations. The city had a population of 33,000, the second largest in Massachusetts, and its ten mill complexes employed more than 10,000 women and men.



We will soon show these driving cotton lords... who so arrogantly aspire to lord it over God's heritage, that our rights cannot be trampled upon with impunity.

—Amelia Sargent
Factory Tract No. 1
October 1845

Illustration by Richard Schlecht

Working in the Mills

The "Mill Girls"

Most of Lowell's textile workers in the early to mid-1800s were young, single Yankee women. Many hailed from farms or small rural villages, where economic opportunity was often limited to domestic service, family farm work, or poorly paid teaching jobs. Lowell's mills promised much more: monthly cash wages and comfortable room and board in corporation boardinghouses. In addition to economic independence, the growing city offered young women an array of commercial and cultural activities few had ever experienced.

The corporations, however, sought to regulate the lives of their workers, exercising paternal control over the social behavior of the women. Boardinghouse keepers enforced curfews and strict codes of conduct, and the

corporations required church attendance. Factory overseers maintained discipline on the work floor. The clanging factory bell summoned operatives to and from 12- to 14-hour days.

Although Lowell's mills paid relatively high wages, work was arduous and conditions were unhealthy. Despite threats of firing or blacklisting, female workers struck twice in the 1830s to protest wage cuts and working conditions and again in the 1840s to demand a ten-hour day. Few strikes succeeded, however, and Lowell's work force remained largely unorganized. Although Irish immigrants and a wide range of other groups settled in Lowell in the decades after the Civil War, women remained a large part of Lowell's textile work force.



Eliza Adams (1815-1881) left her New Hampshire farm home at 26 to work in the Lawrence Manufacturing Co. in Lowell. Within a year of her arrival she was writing poetry calling for worker solidarity during a strike. After she had settled into her job, Adams wrote her mother a reassuring letter: *I... have a good place & find the girls to be a very likely set... My work is drawing in through the harness & reed, the room is very warm, I shall scarcely feel the cold weather at all this winter which you know I dread so much.*

Eliza Adams

Portrait courtesy of Jo Anne Preston



Male workers, as mule spinners, machinists, and laborers, made up a quarter of the work force by 1860. After the Civil War, both men and women were instrumental in labor actions. The 1912 strikers (left), aided by the Industrial Workers of the World, won raises for textile workers.

Security tags (lower left) identified mill workers by number only. This badge was issued by the Atlantic Parachute Corporation, a producer of rayon parachutes during World War II.



Immigrant Lowell



A French-Canadian family in "Little Canada," around 1910.

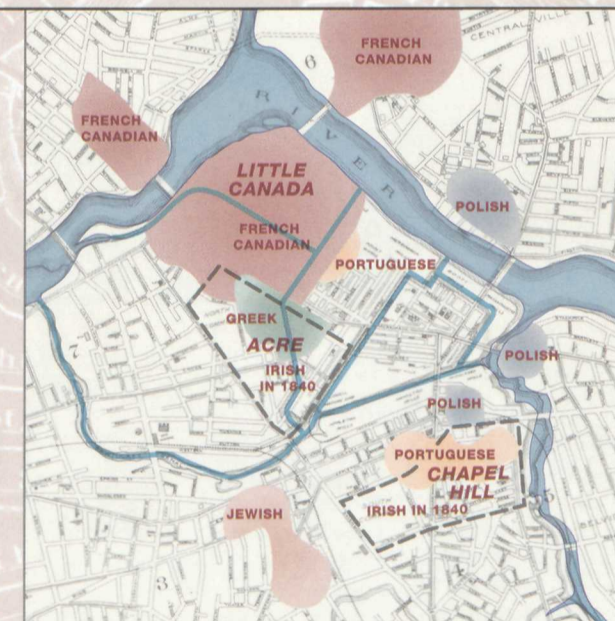
Immigrants were part of Lowell's story from the beginning. Before the Yankee female mill workers arrived, Irish laborers built Lowell's canals, mills, and boardinghouses. A large number of Irish settled in a section of the city that became known as "New Dublin" and later the "Acre." Many lived in poverty in ramshackle wooden cabins or primitive tents.

Beginning in the mid-1840s, Irish immigrants who were escaping poverty and famine in the homeland streamed into Lowell. They found work in the textile mills, where they toiled in unhealthy conditions in low-

paying jobs. The establishment of Catholic churches and schools and the retention of traditional customs helped many Irish adjust to life in a predominantly Protestant, increasingly industrial society. Though conflicts between Yankee Protestants and Irish Catholics occasionally flared into violence, Lowell's Irish were eventually integrated into the city's population.

After the Civil War, Lowell's textile companies began hiring immigrants in greater numbers, starting with French-Canadians. They were followed by Greeks, Poles, Portuguese, Russian Jews, Armenians,

and many other ethnic groups. Newer immigrants, like the Irish before them, faced long hours in low-paying, unskilled occupations. Many of these immigrants lived away from the mills in tightly knit neighborhoods where Old World cultures came to terms with the demands of American urban-industrial life. Working-class immigrants had to cope with poor housing and unsanitary living conditions. By the turn of the century, Lowell was a microcosm of urban American society—an uneasy blend of many ethnic groups living in distinct neighborhoods.



Ethnic Enclaves, 1912
Densely populated ethnic neighborhoods such as the Acre and Chapel Hill were homes to successive immigrant groups. Unhealthy living conditions—poor sanitation and sewerage and crowded tenements—confronted Lowell's immigrants. But schools and churches, native-language newspapers, and social clubs offered comfort and support to newly arrived immigrants.

Prosperity and Decline



Part of Lowell's Mile of Mills in 1893.

Henry David Thoreau called Lowell the "Manchester of America, which sends its cotton cloth around the globe." When he wrote this in 1846, the city was prosperous beyond even the imagining of its founders. Ten mill complexes, powering more than 300,000 spindles and almost 10,000 looms, transformed raw cotton shipped from the South into almost a million yards of cloth a week. Lowell was in the forefront of mill technology, replacing water-

wheels with more efficient turbines and supplementing waterpower with steam. Yet by the late 19th century, the city's industrial prominence was fading. Lowell faced growing competition from other northern textile producers who operated newer, state-of-the-art cotton mills. Working conditions in Lowell's aging factories declined as the corporations failed to reinvest in the mills.

Although the mills remained mostly profitable until the early 1920s, the corporations invested in other enterprises or in the emerging southern textile industry. A number of Lowell's mills closed in the 1920s and '30s, casting thousands of residents out of work. A brief resurgence during World War II led to renewed hiring and production. By the mid-1950s, however, the last of the original mills shut down and only a few, smaller textile producers remained.



By the time of this photograph, around 1915, workers were responsible for more machines than ever and conditions in the mills had deteriorated.

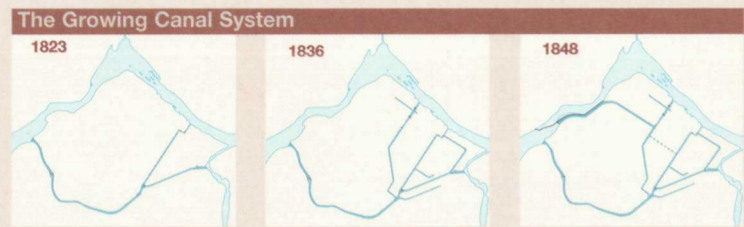


Once alive with workers and clattering machines, a stripped and silent mill floor presents a haunting perspective on the past.

Background image: 1845 map of Lowell by G. W. Boynton
Photos not otherwise credited courtesy National Park Service

Visiting Lowell

Visitors to 19th-century Lowell were overwhelmed by the scale of the canal system and mills and impressed by the female work force. One foreign traveler said: "Niagara and Lowell are the two objects I will longest remember in my American journey, the one the glory of American scenery, the other of American industry." Poet John Greenleaf Whittier wrote: "[The observer] feels himself thrust forward into a new century." Experiencing the park's sites today will help you understand the awe felt by these early visitors to Lowell.



The Growing Canal System

1823: A work force of about 30 Irish laborers from Boston dug the first canal sections and built the first locks in about a year.

1836: In the next decade of rapid growth, most of the canal system was completed, powering seven new mill complexes.

1848: The last section was completed in 1848. Six miles of canals powered ten mill complexes and thousands of looms.

Historic Structures

- Lowell National Historical Park exhibit building
- Other selected historic building
- Canal building, dam, or lock

Tour Routes

- Canalway walking path
- Downtown walking route
- Trolley route and stop

The Lowell Public Art Collection is composed of artworks that address the themes of the American Industrial Revolution in an urban setting. They celebrate Lowell's ethnic and industrial traditions.

- Lowell Public Art Collection site

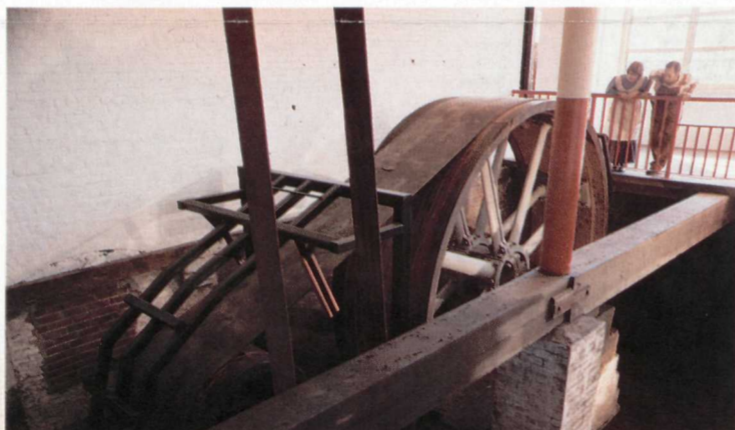
Water levels shown on map below

UPPER RIVER	GUARD LOCKS	SWAMP LOCKS	LOWER LOCKS
	2-foot drop	13-foot drop	17-foot drop
UPPER CANAL		LOWER CANAL	

32-foot vertical drop from upper river to lower river



Massachusetts mills (left) and Boott Mills, beyond the bridge over the Merrimack.



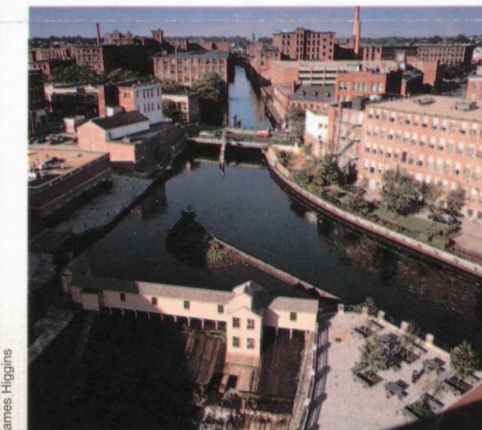
Suffolk Mill Turbine Exhibit



Canal boat in the lock at Francis Gate



Weave Room in Boott Cotton Mills Museum



Lower Locks

Visitors to Lowell National Historical Park can choose from a number of tours that combine canal boat and trolley rides with walking. This allows you to plan your stay according to how much time you have and the park areas you want to visit. All tours leave from the visitor center. Groups should make advance reservations. Contact the park for information on tour hours, seasons, reservations, and fees.

Exhibits in the **Park Visitor Center at Market Mills** highlight the workers, entrepreneurs, power canal system, and machines that together made Lowell a successful industrial city. Lowell's history is depicted in a multi-image slide show, *Lowell: The Industrial Revolution*.

The **Boott Cotton Mills Museum**, located in a mill built in 1836, has a 1910s weave room with operating looms. There are also interactive exhibits and oral history videos about the Industrial Revolution and Lowell's working people.

The **Working People Exhibit**, part of the Patrick J. Mogan Cultural Center in a reconstructed Boott Mills boardinghouse, opens with rooms furnished as they were when mill girls lived there. Other exhibits examine the diverse cultures of Lowell's immigrant mill workers.

In the **Suffolk Mill Turbine Exhibit**, visitors follow the transmission of power from a turbine driven by a 13-foot drop of water in the Northern Canal, through great belts and pulleys, to a working loom representing the hundreds of machines operated by the Suffolk Manufacturing Company.

Boarding House Park, a terraced green space near the Boott Cotton Mills Museum and the Mogan Cultural Center, is a popular gathering place. Its stage is the setting for concerts, plays, and festivals.

The **Francis Gate/Guard Locks complex**, the main entryway to the canal system, demonstrates 19th-century canal technology applied to water-level control, transportation, and flood prevention. The great 21-ton drop gate designed by Lowell engineer James B. Francis saved the city from flooding in 1852 and again in 1936. Parking is limited; this site is best seen by tour.

The **Pawtucket Gatehouse**, built between 1846 and 1848, is the largest gatehouse in the canal system. Its ten turbine-and-belt-driven sluice gates controlled the flow of water into the Northern Canal, and still perform that function for a modern hydroelectric plant. By tour only.

Lower Locks was part of the 1796 Pawtucket Transportation Canal, which allowed boats to skirt Pawtucket Falls. At that time, boats descended the entire 32 feet from the Merrimack to the Concord River in four lock complexes. When the Pawtucket Canal was rebuilt in 1823 as part of the power canal system, the drop at Lower Locks remained at 17 feet. The complex includes a dam, gatehouse, and two lock chambers.

At **Swamp Locks**, a dam, gatehouse, and two locks lowered the water in the Pawtucket Canal by 13 feet. Just above the locks the Merrimack Canal branched off to Merrimack Mills, the only mills to use the full 32-foot drop of the falls.

The **Jack Kerouac Commemorative** honors the Lowell native who became the best known of the "beat" writers. His novels, the most famous of which is *On the Road*, are characterized by spontaneity and a restless spiritual quest. A number of Kerouac's books draw on his early years in Lowell's working-class French-Canadian neighborhoods. Excerpts from his writings are inscribed on eight polished granite columns.

For More Information Write Superintendent, Lowell National Historical Park, 67 Kirk Street, Lowell, MA 01852; call 978-970-5000 (TDD: 978-970-5002); www.nps.gov/lowe on the Internet. To reach the park, take the Lowell Connector from either I-495 (Exit 35C) or Route 3 (Exit 80A) to Thorndike Street (Exit 5B). Follow brown and white "Lowell National and State Park" signs. Free parking is available in the parking lot next to the Park Visitor Center at Market Mills.

For Your Safety and Comfort A number of the park exhibits are located in historic buildings and sites; watch for uneven walking surfaces and pay attention to your surroundings at all times. Tours are conducted regardless of weather conditions, so dress appropriately for the season.

Accessibility Wheelchair-accessible buildings within the park include the visitor center, Mogan Cultural Center, Boott Cotton Mills Museum, the first floor of the Suffolk Mill Turbine Exhibit, and the park headquarters building. Tactile pedestrian maps, braille and large-print literature, and printed narrations of audiovisual programs are available upon request.

Revival of a City Lowell's restored industrial and labor history sites are here today because of a group of citizens determined to help a city fallen on hard times. Beginning in the 1960s they began to envision a new kind of historical park, a living museum based on the city's distinctive industrial, ethnic, and architectural heritage. In the early 1970s educator Patrick J. Mogan and others brought together community organizations, urban planners, historians, political leaders, and business and banking groups in a concerted effort to revitalize the city and breath new life into its educational system. Lowell native Paul Tsongas, then a congressman, led the successful effort in 1978 to pass legislation creating Lowell National Historical Park. Lowell's ongoing economic and cultural development is guided by a coalition of concerned groups, including the park, the City of Lowell, the University of Massachusetts Lowell, and Lowell Heritage State Park. Together they are preserving the past and nurturing a vigorous heritage that will continue to define the city.

Other National Parks To learn about other parks in the National Park System, visit the National Park Service web site at www.nps.gov.

©2002 NPS. 1000-104-101-01010
Printed on recycled paper 2000