Introduction
In addition to the two major and well-known rivers, the Merrimack and the Concord, that flow through Lowell, there are a small number of brooks that meander through marshy areas, neighborhoods, and formerly industrialized sections of the city. Two of these small streams, River Meadow Brook, which extends through the southern part of Lowell and into the Concord River, and Beaver Brook, which winds through Dracut and the Pawtucketville neighborhood of Lowell and into the Merrimack River, once included stretches of factory buildings and provided water power and boiler water for steam power for a number of these mills.

Today, much of the industry is gone. These waterways, however, continue to be largely neglected or ill-treated tributaries to rivers that, by contrast, are being recognized for their natural beauty and the fundamentally important role they play as part of a healthy ecosystem. At long last interest is blooming in restoring these streams to an equally healthy condition. As a first step in this process, this study examines the history of land and water use associated with River Meadow Brook. Its focus is on the nearly 2.5 mile stretch of this stream as it enters Lowell from the south at the Chelmsford line, flows north alongside the Lowell Connector highway, and then arcs eastward in its modest descent into the Concord River.

Summary Historical Report
Prior to English settlement in the area that became Chelmsford in the 17th century, many generations of Native Americans hunted and foraged in meadows, bogs, and forests in the vicinity of River Meadow Brook and fished in the stream. A number of tribes settled in or moved through this area. These tribes, identified by Europeans as members of the Pennacook Confederacy, included the Pennacooks, the Wamesits, the Pawtuckets, the Nashobas, and the Souhegans. As historian Frederic Burtt noted, their language was of Algonquian origin, which comprised many dialects. In the vicinity of the Concord and Merrimack rivers, Indians worked the land and grew a variety of crops, notably corn, squash, and beans. Through controlled burns, they cleared vegetation and trees keeping fields open for hunting game, fostering the growth of edible fruits and berries, and growing their crops. Although the population fluctuated over the course of each year, in spring large numbers of Indians from various tribes gathered for the fishing season at Pawtucket Falls where an abundance of salmon, shad, sturgeon, alewives, and eels were caught and eaten or preserved by smoking.

According to some of the earliest accounts of English colonists, Wamesits were numerous along the Concord River in the area which, two centuries later, would become Lowell. Much of the early contact between Englishmen and Indians centered on the trade for beaver skins and other animal pelts. This commercial exchange intensified throughout much of the 17th century as
European demand for fur grew and pushed English traders ever deeper into the hinterlands. As early as 1635, Simon Willard of Cambridge established a trading post in the Musketaquid Valley, the Indian name for grassy plain. A settlement the English called Concord took root here. Willard and his fellow traders journeyed along the Concord River to its confluence with the Merrimack and beyond Pawtucket Falls, north to the lake region of New Hampshire.

As shown in this plan of Chelmsford from ca. 1655, a part of River Meadow Brook was within the “India Land” known as the Wamesit Reservation, a large irregular triangular parcel that extended west and southwest from the confluence of the Merrimack and Concord Rivers. (Source: Wilson Waters, History of Chelmsford, p.7)

In 1652 about 20 of these settlers petitioned to the General Court to establish Chelmsford, which was granted the following year. Relations, though occasionally strained between colonists and Native Americans, remained relatively peaceful until the 1660s and 1670s when a growing hostility sparked a brutal and bloody conflict. (Even the Reverend John Eliot, an Episcopal clergyman from Roxbury who had, two decades earlier, established a series of “praying villages” to teach Native Americans the Christian faith, was unable to broker a peace.) one result of King Phillip’s War in 1675-76, was the ouster of Wamesits, Pennacooks, and other members of the Pennacook Confederacy from Wamesit and the surrounding area. About a dozen Englishman and their families quickly settled on land along the Concord River and began farming, as well as
raising livestock. Over the next several generations more landholders and tenant farmers took up residence in Chelmsford Neck and the area that was called East Chelmsford, prior to the establishment of Lowell in 1826.

Before the founding of Lowell a number of long-settled Chelmsford families owned sizeable farms along the section of River Meadow Brook that would become part of the Spindle City. One landholder, Moses Hale, acquired property in this area in the late-18th century and would soon play an important role in altering part of the meandering brook by constructing two dams and establishing a carding mill, in addition to a saw and grist mills, followed by a gunpowder works. (This powder works was subsequently taken over by Oliver Whipple--Hale's son-in-law--and expanded at nearby site on the Concord River). Although Hale’s manufacturing interests were unlike those of his neighboring farmers, he similarly owned large tracts of agricultural land and raised hay, grain, and fruit trees. Hale built the grandest mansion in the area (1815), but overextended and wound up having to sell his property, soon after Lowell's mills were established.

Between the 1820s and 1850s, the land along the brook was still held by a few families, including Joshua Swan, a contractor with the Lowell Machine Shop and a prominent Whig in local politics. Swan purchased the Hale property in 1830 and lived as a gentlemen farmer, while continuing in his position at the machine shop into the late 1840s. Among the large landholders along the brook, Swan, with his ties to the nation’s foremost manufacturing center, represented a
newly emergent social class whose members were financially and culturally part of an urbanizing, industrial capitalist order. Perhaps the most striking physical feature in the vicinity of the brook that was a product of this capitalist transformation was the Boston & Lowell Railroad, constructed by Boston-based textile investors and completed in 1832. At this same time, the increasing division of the land among farm families in the area and the falling profitability of agricultural production (mostly hay, grain, and fruit, including cranberries from the brook), weakened local farming interests.

With the possible exception of fellow-Whig and industrialist Oliver Whipple, Joshua Swan was politically and financially the most highly recognized figure among landholders along the brook. In the 1850s, however, it was an enterprising and energetic real estate developer, Daniel Ayer (no relation to the wealthy Ayer family), who would carry out the most dramatic alterations to the surrounding landscape since English colonialists had settled there in the 17th century. After buying up large parcels of property along the brook, Ayer subdivided the land and established an industrial district that soon contained the area’s largest tannery. He named his speculative development “Ayer’s New City” and promoted additional industrial as well as residential properties, calling attention to the convenient rail spur, extending from the Boston & Lowell line and bisecting the district. Ayer subsequently sold a number of his lots to other land speculators. Although Ayer departed for upstate New York in the late 1850s, his vision of new heavily

Plan of Land in Ayer’s New City, 1852, (Source: Northern Middlesex Registry of Deeds.)
industrialized district in Lowell, with nearby working and middle class homes gradually took hold.

While many Lowell residents suffered financially during the Civil War with the shutdown of the city’s cotton factories, the industries and engineering works located along the section of River Meadow Brook near its confluence with the Concord River, including the Wamesit Canal, hummed with activity. Originally developed by Oliver Whipple, the Wamesit Canal supplied water power to woolen mills, dye works, machine shops, wood-working shops, a grist mill, and the largest industrial operation in the area, the Lowell Bleachery. The bleachery included a bleaching and dyeing works, employed about 500 women and men, and by the 1860s finished as much as 300,000 pounds of cloth each day.
In the 1860s and 1870s new woolen mills and dye works were constructed on Centennial Island, between the Wamesit Canal and the Concord River. The Wamesit Canal Company, which acquired the Whipple property at the close of the Civil War, was at the center of this industrial development. Controversial politician and Civil War general Benjamin F. Butler led the Wamesit company during this period of rapid growth. By the late 19th century, the area was home to numerous Irish, Swedish, and French Canadian immigrants, many of whom worked in Butler’s U.S. Cartridge Company factory, the U.S. Bunting mill, the American Bolt Company works, and the other woolen mills or small industrial shops.

Upstream from the Wamesit Canal districts in Ayer’s City, as the “New City” was now called, a very different picture emerged. Only two tanneries and a soap manufacturer were in operation as real estate values plunged and virtually no new residential development was undertaken. While other sections of Lowell, including the Wamesit Canal district, experienced rapid growth during the years immediately following the Civil War, Ayer’s City became the most desolate of locales, its numerous empty lots filled with drifting sand and scrubby vegetation. Of the few dwellings that stood along the dirt roads or near the cinder-filled railroad track that extended along Tanner Street, several were uninhabited and in various stages of decay.

*Works of the American Bolt Company and the Lawrence Street Bridge crossing River Meadow Brook, The Wamesit Canal provided water power to the bolt company and several other factories along the brook. (Source: Lowell Mail Souvenir, 1890.)*

The barren character of Ayer’s City contrasted sharply with property of the Joshua Swan estate. Located just beyond the northern extent of the “New City,” the Swan estate was comprised of 20 acres of farmland, orchards, and gardens. Swan’s grand three-story mansion stood on a slight rise
overlooking the brook, which arced around the property, flowing from south to north, and then eastward toward the Concord River. As late as the 1850s, when Ayer was developing his New City, the Swan estate and the neighboring Hale’s Mill district retained the appearance of a small village. A group of wood-framed dwellings stood near the brook or straddled Gorham Street, the main thoroughfare, which became the Boston Road, just south of the mill hamlet. A grocery, a physician’s office and home, and a building known as the Red School House all stood within a short distance from Hale’s Mill. In the decade and a half following Swan’s death in 1867, however, land speculators and a new generation of local industrial capitalists acquired property along the brook from the Swan estate and into Ayer’s City.

Among the most intensive periods of development along River Meadow Brook in Lowell began in the 1880s and continued up until the early 1920s. It was during this time that the few remaining farms ceased production, a number of factories, petro-chemical storage facilities, coal yards, foundries, a brewery, and junk yards were established, and new dwellings and tenements, primarily occupied by working families, were built. Additional rail lines, sidings, and a marshalling yard extended through Ayer’s City and a number of the major roads for horse-drawn and then automobile transport were paved. Amidst this intensive development and environmental upheaval, remnants of the Swan estate and the old mansion, which had been demolished around 1900, were completely obliterated by the 1920s.

One result of these major alterations to the land was a growing pollution problem from domestic and industrial wastes. Many of these effluents flowed or were dumped into River Meadow Brook, which, by the 1890s, Lowell’s board of health, as well as local residents, called an “open sewer” or branded “a foul monstrosity.” A citizen’s committee, composed primarily of Ayer’s City residents and led by a handful of middle-class property owners, but with support from some working-class men from this ward, held meetings and lobbied the city government for improved sewers and drainage. Despite the completion, in 1883, of an intercepting sewer along the brook, the stream’s water quality worsened as raw sewage from the more numerous dwellings and wastes from the growing number of factories continued to be dumped into the stream. Additional sewers and channel straightening did little to relieve the unhealthy condition of the brook. Perhaps the greatest notoriety of the stream’s squalid condition occurred in 1917 with the release of a Massachusetts State Board of Health Report on Hale’s Brook that documented the extremely poor quality of the water around the Bleachery and Wamesit Canal districts, and the trash-filled banks and inorganic wastes in the stream above Gorham Street and extending through Ayer’s City.
Arsonists plagued industrial buildings along the brook in the 20th century, especially after World War II. A fire at the Lowell Waste Paper Company in 1959 destroyed a storage building which was located on the opposite side of the stream of the original Hale’s Mills. (Photo by Lowell photographer Bill Walsh, March 8, 1959.)

While the pollution of River Meadow Brook concerned some neighborhood residents directly affected by this growing problem, the threat to the health of the majority of Lowellians was also heightened as one of the main sources for city water originated with the driven wells along the stream directly across from Ayer’s City. Completed in 1893, these wells and a pumping station were constructed in the wake of a horrific typhoid epidemic that struck two years earlier and was traced to the Merrimack River, which served as the principal source of the municipal water system. At the same time, and over the objection of many residents of Ayer’s City, the municipal government installed a garbage dump and crematory near the driven wells. Although scientific knowledge of groundwater hydraulics and seepage problems was only rudimentary, a handful of residents raised concerns over this garbage dump and its proximity to the Hale’s Brook wells.
In 1896, Lowell’s crematory and dump were located along Plain Street (center left of map) on land leased from the Philip Connors estate. (Source: City Atlas, 1896, available at the Center for Lowell History.)

Nevertheless, faced with the pressures of a rapidly expanding population and inadequate municipal waste handling facilities, the city government opted for the dump and crematory on Plain Street, viewing its location as far enough removed from Lowell’s more densely settled neighborhoods, while still convenient for the horse-drawn garbage wagons.

As in other parts of the city, the population in Ayer’s City and along the brook through the Bleachery and Wamesit neighborhoods peaked in the early 1920s. But with the closing of several of Lowell’s large cotton mills, followed by the Bleachery during the Great Depression, the number of residents declined. In fact, virtually every decade, beginning in 1930 and ending finally in the 1980s, Lowell’s population dropped. A few textile firms, including U.S. Bunting, the Stirling Mills, Vertipile, and Ames Textiles continued to operate into the 1940s and 1950s, but by 1970 only the Stirling Mills, a woolen producer, remained in business. The post-World War II years were marked by even greater decline as numerous abandoned factory buildings, vacated warehouses, and oil storage tanks decayed or were torched by arsonists. Junk yards, used
automobile dealerships, and trash-filled lots with scrubby vegetation straddling the brook became the defining features of Ayer’s City. One of the few industrial holdovers from the 19th century, the Scannell Boiler Works and Foundry, was among the largest employers. In the 1950s, smoke from this foundry and from the nearby junk yards prompted one local journalist to dub Ayer’s City “Lowell’s poor man’s Pittsburgh.”

Today much of land along River Meadow Brook in Lowell remains unsparingly bleak. Remnants of the once heavily industrialized area concentrated in Ayer’s City have been joined with a handful of newer utilitarian warehouse buildings, with windowless brick facades or Butler buildings that lack any architectural quality or character. In slight contrast, however, modest residential blocks clustered on surrounding hillsides or along the lower section of the brook possess more trees and green spaces than at any time since the early 19th century. But the most dramatic change to the area occurred in the early 1960s when the Lowell Connector blasted through Ayer’s City and highway engineers rerouted much of the stream, using the straightened channel as a "diversion ditch" for runoff from the four-lane, divided roadway. Free-market, unregulated development of this area, dating largely from the 19th and early 20th century, and up through very recent times, has altered much of the landscape in some very destructive ways. This was capped off in the early 1970s by an unscrupulous professor from Lowell Textile Institute who opened a dump for hazardous waste disposal. This abandoned dump is now an EPA Superfund site, the only one in Lowell.
Dating from the late-19th century to the present, the more recent history of the River Meadow Brook watershed in Lowell attests to the often conflicting pressures of capitalist economic development and improved quality of life for residents in a long-suffering neighborhood. The future of this area will certainly be shaped by some, if not many, of the patterns of past decision making, as well as by long-standing relationships of political, social, and economic power. Clearly, many of the land use decisions resulted in, at best, short-term gains for some residents and non-residents alike, but, overall, the socio-ecological condition of this area has deteriorated. Curiously enough, it was largely a result of capital flight and the removal of industry that helped reverse the decades of degradation to the flora and fauna of the stream. Perhaps a more informed, knowledgeable citizenry and a responsive city government, aware of past decisions and the complex social economic relations that gave rise to these decisions of land use, will help alter past practices and lead to a healthier and more desirable place in which to live.