

Shaping Communities and Environments: The Worumbo Mill and Dam

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The Worumbo mill and dam of Lisbon, Maine has served many roles throughout its history. Established in the mid-nineteenth century along the Androscoggin River for textile production, the mill provided an abundance of employment opportunities, drawing a vast number of European immigrants to the area. The town of Lisbon grew up around the mill industry. The people of Lisbon recognized the ways in which the Androscoggin shaped the community and later realized their effects on the river. While shifting economic factors have drastically altered the role of the Worumbo mill and dam in the Lisbon community, its impacts over time are undeniable. Examining the history of the mill industry's relationship with the Lisbon community reveals how perceptions of the Worumbo mill and dam have evolved over time in conjunction with the changing relationship between people, their livelihoods and the river.

The decision to place Worumbo's first dam along a specific section of the Androscoggin River was hardly trivial. Even before plans for Worumbo were put into place, surveyors were well aware that the flat farmland and power of the river made Lisbon the perfect location for mills. [1] The Worumbo mill was just one of many industries that took advantage of the resources of the Androscoggin. Adding to the incentive of the powerful river was Lisbon's proximity to the surrounding major cities of Lewiston, Bath and Portland. Surveyors also reported that the land had an abundance of stones that were well suited for the construction of a dam. [2] The abundance of building materials and an exceptionally powerful water supply helped the Worumbo mill cut building costs as well as produce cloth more efficiently. The ability to take advantage of the power provided by the river certainly was a contributing factor in the success of the Worumbo mill.

Between 1766 and 1800, several small gristmills and sawmills were built in the Lisbon area. Starting in the early 1700's Lisbon became a desired location among settlers for its abundance of waterpower, timber, and farmland. [3] The abundance of these materials made Lisbon a prime location for manufacturing industries. Prior to the development of large-scale mills there was a large range of small mills producing wood and cloth in the area. These mills began dotting the Androscoggin in 1766. As the creation of a new, large industrial group of mills began in the 1860s, the smaller Lisbon mills started closing down. The Farwell, Farnsworth and Worumbo mills of Lisbon were capable of producing much larger volumes of their products than the previous small-scale industries and as a result, they employed a larger percentage of the Lisbon population. The Worumbo mill achieved international fame for its high quality textiles made of wool. With the aid of the resource-rich Androscoggin and surrounding landscape, the mill industry was bound to alter the economy, culture and environment of Lisbon for years to come.

The development of mills in Lisbon, more specifically the Worumbo mill and dam, was directly affected by the community, but the mill and dam also transformed the community in significant ways. In 1864, the Worumbo mill and dam was founded by Oliver Moses, and the institution of the mill and dam represented a new era of progress in the town. [4] The Worumbo workforce was comprised largely of immigrants from Eastern and Central Europe.

The first wave of immigrants to Lisbon arrived a year after the construction of

Worumbo Mill, in 1865. [5] Initially, German settlers arrived under the guidance and bribery of the mill's first agent, Frank Gutmann, who emigrated from Germany in 1851. [6] The encouragement of German immigrants to move to the states, where their skilled labor would be valuable, created a chain effect. Germans immigrated and found comfort in the amenities offered by Lisbon's postal facilities, transportation via the Androscoggin Railroad, lodging, fire protection and industry, and by 1882, the number of German settlers increased twofold. [7]

Increased employment of Germans created controversy in Lisbon because Indians legally held rights to mill jobs over immigrant workers, despite the fact that most Indians lacked the skills needed to work in the textile industry. [8] Traveling to the states for work not only offered Germans and other immigrants an outlet for their skills in the textile industry, but also the opportunity to indulge in economic freedom while escaping military service back in their homeland. [9] Although most accounts of Germans in Lisbon convey that the Germans working at the Worumbo Mill were content with their working conditions, the history of other mill towns suggests that worker unrest may have occurred in Lisbon. This potential unrest did not affect the fact that the Worumbo mill was the chief employer of the town. [10]

The other people employed by the Worumbo mill and dam, were people who emigrated from Russia, Belorussia, Ukraine, Hungary, Finland, Poland and other Eastern European countries. This large group of immigrants fled to Lisbon Falls, Maine after the first and second world wars in an attempt to escape political turmoil. [11] The fierce independence, characteristic of Eastern European nations abroad, was reflected in Lisbon society, fostering cultural segregation during the late 1800s and early to mid 1900s. [12] However, a majority of the immigrants shared pride in their employment at the Worumbo mill.

Alternative employment opportunities were scarce, consisting mostly of flooring companies in Lisbon. The flooring industry employed approximately 300 community members, a number that paled in comparison to the employment figures at Worumbo mill. [13] In 1920, when a new dye house and boiler house were added to the Worumbo mill, employment continued to increase. [14] In 1964, one hundred years after the mill was built, J. P. Stevens Company, which owned the mill at the time, announced that the Worumbo mill would close. By the 1960s, mills in the U.S. were struggling to compete with foreign textile companies. Low wages allowed foreign mills to demand lower prices, forcing some U.S. mills out of business.

When the Worumbo mill closed, 600 people lost their jobs, a statistic that stunned the Lisbon community. [15] Although several months later the mill was purchased and reopened by a man named Robert Fromkin, he only reopened a small part of the mill, and the need for employment was minimal. [16] At the time of the mill's closure, it was evident that the mill had shaped the lives of community members as much as they had shaped the mill.

While textile mills provided jobs for residents, they also had profound effects on the environment, local and downstream. Dams block fish from reaching spawning areas and reduce dissolved oxygen levels necessary for fish eggs to survive. [17] In Theodore Steinberg's discussion of the pollution of the Merrimack River, organic pollution, such as madder, logwood, and peachwood dyes, constituted most of the waste that found its way into the water. [18] Only a small percentage of the dye stayed with the fabric while the rest contributed to the discoloration of the river. Inorganic chemicals, such as sulfuric acid, muriatic acid, lime, and arsenate of soda, were used to fix the dyes to the fabric and were poorly tolerated by the environment. Woolen textiles in particular resulted in significantly more pollution than other types of textiles, stemming from a complicated process of washing and boiling the wool in detergents like soda ash and phosphate of soda. [19]

The mid-nineteenth century saw a rise in northeastern woolen mills, as well as paper mills. [20] Along the Androscoggin, paper mills were generally located upstream while textiles, such as the Worumbo mill, were downstream. [21] Waste from the paper mills and town sewers, including that of Lisbon, choked the water. [22] Ernest Addition, who grew up along the river, recalled in a Sun Journal article that it was "too

thick to paddle, too thin to plow." After decades of polluting the Androscoggin, the river which was once a source of pride and employment had become an environmental blemish.

Sun Journal writer Charlie Pomerleau wrote in an article documenting the Androscoggin's history that "industrial and municipal use and abuse of it scared the state and the nation into passing laws to undo some of the harm." [23] The first significantly effective legislative act concerning water pollution was the Federal Water Pollution Control Act, or Clean Water Act, of 1972. This act authorized the Environmental Protection Agency to set wastewater standards for industry. [24] The legislation made a great difference in reducing point source pollution, like that of mills. Paul Mitnik, a water quality specialist from the Maine Department of Environmental Protection, stated non-point sources, such as high mercury and dioxin levels from Midwest utilities and southern New England incinerators, would be of future concern. [25]

Information about the pollution of the river, specific to Lisbon, is not easy to find. Greg Mitchell of Mid Coast Council for Economic Development mentioned that Lisbon was one of the harder-hit towns when textile mills in Maine struggled with world competitors. [26] The local community depended greatly upon the success of the dams and mills, suggesting that people would not want to bring attention to the faults of the industry. However, Pomerleau claims that the river is becoming a resource to be proud of once again, "one that the people and industry use together." [27] Pride in the mill is also evident in the community's reaction to the devastating fire of 1987.

On July 23, 1987, the Worumbo Mill was reduced to ruins by flame. [28] Onlookers watching from the Route 9/125 bridge over the Androscoggin saw walls collapse and heard booms and hisses. [29] The local community along with 18 different fire departments fought hard to keep the fire from spreading to the surrounding buildings. [30] Mutual aid was critical to the survival of the town. Townspeople, firefighters and even a helicopter dumped water on roofs to keep them from catching. Firefighters, as well as surrounding towns and the community of Lisbon, were praised for saving the business district.

Although they were relieved to have the fire controlled by about 6 pm, community members were already feeling the loss of what felt like a "death in the family." [31] For the 125 or so employees at the mill, as well as their families, the mill was central to their way of life. [32] Even for many of those who did not have direct financial dependence on the mill, it was still considered the "heartbeat of the town". Back in the mill's heyday, 600 people were employed to work double eight-hour shifts five days a week. [33] Although this was no longer the case, the historical and cultural impact of the mill over time was deeply imbedded in the people of the town and how they identified themselves in society. A year after the fire, the Lisbon Falls Library presented an exhibition to commemorate the great blaze with photographs and showings of a then-recently discovered film of the mill workings from the 1950s. Faye Brown, director of the library board of trustees, who got the chance to see her deceased father in the film, described what the mill meant to her: "I loved that mill. It was my heritage. People look down on a mill town. But I never want [it] to be anything else." [34]

By looking back on the seasons preceding the fire, multiple environmental factors can be seen as taking part in the event. The winter of 1986-1987 was one of the worst, topped off by a series of rancorous snowstorms. [35] The following February was surprisingly warm and the driest February on record, encouraging the townspeople to hope for an early spring. However, as many of the elders of the town suspected, the early warming added to the ground-snow meant trouble for riverside communities. The flood of April 1987 was almost as powerful as that of 1932, although the local damage was not as great. [36] Still, damage to the mill was enough to get torch-bearing workers into the Worumbo mill and the dry weather was no adversary of fire.

Although the summer continued to break records, for Lisbon locals, "summer was

over." [37] The Lisbon Monthly claimed that spirits were not lifted again until December. The president of the Lisbon Development Corporation announced that Dingley Press of Freeport was planning to build a \$7.4 million plant in Lisbon the following year, in addition to other developmental plans. [38] This "early Christmas gift" contributed to the healing of the town. After 21 years however, a person inquiring about the great blaze will be met with a many personal accounts of the fire's effects from community members as well as those in the surrounding area.

In the years following the fire, the conversion of the Worumbo dam into a highly productive hydroelectric power facility contributed to the changing perceptions of the role of the Androscoggin River in the community. Today, the Worumbo dam is supervised and maintained by Miller Hydro Group, providing hydroelectric power to residents and businesses throughout Maine. In 1989, Miller Hydro began its \$29.4 million redevelopment of the Worumbo dam. Prior to renovations, the dam produced seven million kilowatt hours of electricity a year. After, it supplied 75 million kilowatt hours, equivalent to approximately 125,000 barrels of oil. [39]

Using hydropower as a source of electricity has been a common practice in the United States since the 1920s and hydro capacity increased rapidly between 1950 and 1980. [40] Once seen as an unwise investment, attitudes toward hydropower began to shift during the environmental movement and oil crises of the 1970s. The historic unreliability of oil producers, coupled with growing scientific knowledge of global warming created a place for renewable energy sources, including hydropower. [41] Rapidly rising oil prices led people to rethink their dependence on foreign fuel supplies. Hydropower seemed to offer a local, renewable power source that did not contribute to atmospheric pollution. [42] As energy demand continues to increase, the need for increased renewable energy continues to grow as well.

Manipulating the potential energy of dammed water produces hydroelectric power. Water above the dam flows to a lower level, passing through power equipment. Water pressure is converted into mechanical energy through a turbine and eventually into electric energy through a generator. [43] Sites along the rivers of Maine, such as the one where the Worumbo dam is located, were originally chosen for the strength of the water that flowed through the stretch of the river. As James Sysko pointed out in his study of Maine's small hydropower potential, "Maine is unique by virtue of its rich endowment in river resources. Even in its early years of settlement, Maine's rivers had a great impact on the state's development and they have continued to make a significant contribution in the 20th century." [44]

Generating hydroelectric power does have its own share of environmental costs. Dams block the passage of fish heading upstream and make downstream traveling dangerous for young fish. The water near dams also tends to stratify and the cold water at the bottom loses its oxygen, becoming uninhabitable for aquatic life. [45] The Worumbo dam may have been a harbinger of economic opportunity for the people of Lisbon, but it did come with environmental costs. Today, Miller Hydro Group is certified as a Low Impact Hydropower Institute. They have voluntarily chosen to comply with specific standards, working to "protect or mitigate its impacts" in the areas of "river flows, water quality, fish passage and protection, watershed protection, threatened and endangered species protection, cultural resource protection and recreation." [46] Miller Hydro Group is working to make hydropower a viable and sustainable energy option.

The Androscoggin has long served as a vast and powerful natural resource, and continues to do so today, only in a new way. When they were built, the Worumbo mill and dam were harbingers of growth and prosperity for the Lisbon community. The town was able to expand because the mill existed. Yet shifting economic factors and an increased concern over the environmental impacts of industrial production drastically altered the role of the mill and dam in Lisbon. While Miller Industries still weaves some woollens at the remains of Worumbo, it only supplies a small percentage of the jobs it once provided for the Lisbon community. Other mills in town have been converted into apartments and retail stores. [47] The conflict over substituting jobs for a clean river is painfully evident in this blue-collar community. A local newspaper described the closing of the Worumbo mill in 1964 as a,

"blow to the community." [48] Viewed on a large scale, the conversion of the Worumbo dam into a supplier of hydroelectric power represents a shift in thinking about the environment and people's role in protecting it. Yet to examine the history of Lisbon and to discuss with community members the roles of the dam and mill over time is to reveal a more complex story of the intricate and inseparable relationships of prosperity and pollution, people and environment.

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[6] Denis O'Brien. "Profiles of Lisbon History: Germans Played Key Role in Developing Local Mills," Tri-County Enterprise, April 22, 1992. 1.

[7] Plummer, 22.

[8] O'Brien, 3.

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[15] "Worumbo Mill Closing Stuns, 2.

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[17] Theodore Steinberg, Nature Incorporated: Industrialization and the Waters of New England (Amherst: University of Massachusetts Press, 1994), 174.

[18] Steinberg, 207.

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[20] Steinberg, 208-9.

[21] Charlie Pomerleau, "A River Reborn: Part 3," Lewiston Sun Journal, May 5, 1998, A1.

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- [29] Chase, 3.
- [30] Chase, 3.
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