

THE SALT OF THE EARTH: WARSAW, NEW YORK AND ITS NINETEENTH CENTURY SALT INDUSTRY

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ABSTRACT: *The late nineteenth century in Western New York could be characterized as the "Salt Rush" due to its close involvement in the early U.S. salt industry and its resemblances to the Californian Gold Rush. Although on a much smaller scale, Warsaw experienced a similar economic boom, immigration, business expansion, and short-lived success in an extractive industry. This paper explores the historic development, secondary impacts, rapid deterioration, and current status of the salt industry on Warsaw, New York and other proximate locations. Of particular interest is the historic development of the salt industry in this part of the United States, as well as the contributions it has made to the entire industry around the world.*

In many ways the salt boom of Wyoming County and Warsaw, New York in particular could easily be characterized as a "Salt Rush." Although on quite a bit smaller scale than the Gold Rush of California, Warsaw experienced a similar economic boost, immigration, business expansion, and short-lived success from an extractive industry. When one considers the development of the international production of salt, the name Warsaw probably would not come to mind—even if you lived in this small Western New York village (Figure 1). This is an interesting observation considering the impact this tiny community had on the development of the salt industry in the United States. This paper focuses on the historic development of the salt industry in Warsaw and its surrounding communities at the end of the nineteenth century. The paper does not, however, deal with the modern Morton Salt and Akzo Nobel salt mining plants, due to their later development and the prolific information, which has been published on these corporations. Instead, this paper explores the historic development, secondary impacts, rapid deterioration, and current status of the salt mining industry on the village of Warsaw and other proximate locations.

During the period under study, all salt plants in the region used well extraction techniques to remove and process salt from the prolific subterranean deposits. This was accomplished through the injection of water into a well penetrating the salt bed and then later the pumping out the saturated salt brine for evaporation and purification at the plant. To cut down on the number of

bore holes, it was common for water to be injected into the cavity through a center pipe and the saturated solution to be pumped out in the casing and vice versa. There were four different types of processing which could be used to speed the evaporation of water: (1) the pan process, in which the brine was heated in iron pans by soft coal; (2) the grainer process, which used steam pipes running through the brine to speed evaporation; (3) the kettle process, which was similar to the grainer process except in its use of large iron kettles; and (4) the vacuum process, which boiled the brine in a partial vacuum so as to reduce the boiling point and form small convenient crystals. The vacuum process was important since it cut down on the amount of fuel needed to extract the salt from the brine, and created small crystals which were easier to pack and did not have to be crushed for domestic and other uses (Bishop, 1962a). James Duncan of Warsaw developed this revolutionary process while working as superintendent of the Warsaw Salt Company, but it was first used extensively in the Crystal Salt Company Plant. It was also at this plant that successful paper bags were first used to package the salt (Bishop, 1962b). These innovations were afterward widely used in the domestic and international production of salt.

As with many things in rural Wyoming County, the salt trade actually began fortuitously. It was in 1878 that Hiram B. Everest, a manager of the Vacuum Oil Company, in attempting to drill for oil north of Warsaw stumbled across a vein of salt 70 ft. thick at a depth of 1279 ft. As word quickly spread and Mr. Everest

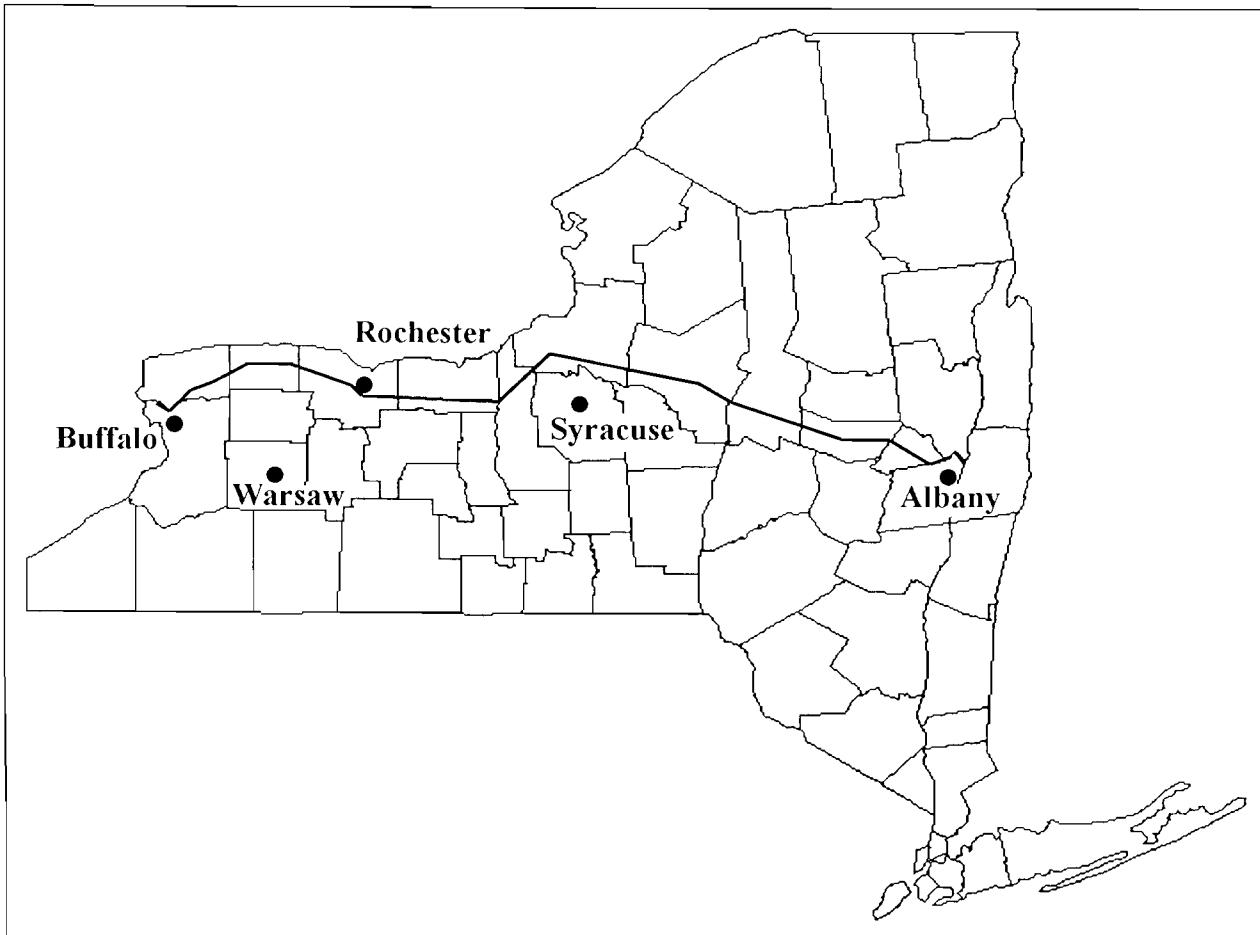


Figure 1: The location of Warsaw, the Erie Canal and other prominent cities in New York State.

seemingly lacked the initial interest in capitalizing on such a find, a Mr. Lewis purchased the land and organized the short-lived and low capacity Globe Salt Company. Meanwhile, in the spring of 1881 the businessmen of Warsaw were anxious to find an economic solution to relieve the severe economic depression in the village, and they believed that salt might just be the answer (Bishop, 1962b). Quickly they organized the "committee on salt production," elected officials, issued stock and began to drill on the east hill of the village near the B. R.&P. Railroad tracks (Figure 2). There they struck salt at a depth of 1553 ft. and proceeded to construct the Warsaw Salt Company using the pan process style of evaporation witnessed at the salt

plants at Syracuse, New York (Figure 3; Smallwood, 1942). Also of notable importance was the immigration of Dr. W.C. Gouinlock, an experienced Canadian salt manufacturer. He quickly went to work and in 1883 he reached salt at almost the same time at his two new salt plants, constructed near the railroad lines on either side of the Warsaw valley. During the following year, three more plants: the Standard, Empire Dairy, and the Hawley were constructed and began production. In 1885 the Miller Salt Company was formed and constructed a plant just north of the Standard salt plant. In total, during the height of the salt industry, there were nine plants in Warsaw and four more in the surrounding communities (Table 1, Figure 2). Of these plants, only the Eldridge

Table 1. Salt Plants

Within Township of Warsaw

1. Warsaw Salt Works (1881)
2. Gouinlock East hill (1883)
3. Gouinlock West hill (1883)
4. Standard (1884)
5. Miller Salt Company (1885)
6. Hawley (1884)
7. Empire Dairy (1884)
8. Eldridge (1886)
9. Bradley (~1888)

plant in Warsaw was owned by someone other than a resident of Warsaw (Bishop, 1962b).

While the extensive production of salt took place during a relatively short period of time, about 1881 to 1902, the effects the industry had on the village of Warsaw was enormous for such a small community. This "Salt Rush" changed the small town of Warsaw from a farming and agricultural business community of about 2000 inhabitants to a mini-industrial center with a regionally significant explosion of permanent secondary businesses. One local resident remarked, "When I was a little girl my geography said that Warsaw was the center of the salt industry in this country, and that was something to be proud of (Smallwood, 1942)!"

The occupational overview provided by the 1880 and 1900 United States Census clearly illustrates this point, especially as one compares the "Business," "Farm," and "Industry" categories between the two census reports (Table 2). While the numerical changes within these categories are admittedly modest, their % change begins to reveal the economic consequences they

Outside Township with Partial Ownership of Warsaw

1. Crystal Salt Company (1882)
2. Kerr (1885)
3. Pearl Salt Company (1886)
4. Oatka Dairy Salt Company (1891)

would have had on this small community. For example, the strong appearance of the salt industry in the 1900 census and the 74.0% decrease experienced in the "Farm" category both illustrate the types of demographic changes that Warsaw underwent during this period. By 1900 there were also five other industries that followed the success of the salt boom into Warsaw and became major employers of in the village, namely: (1) elevator company, (2) button factory, (3) knitting mill, (4) flour mill, and (5) telephone company (Census 1880, 1900). Together, these industries effected a 371.9% increase in the number of individuals employed in this category. If one were to compare the census information more closely, one would also discover many more subtle indication of this change as well. One example is the increase in frequency of clerks and professionals in the "Business" category, contributing to its 65.4% employment increase in the 1900 census. Along the same lines, while the 66.7% change in the "Carpentry" category includes both carpenters and coopers, a closer examination of the 1900 census would reveal a

Table 2. Occupational Survey of 1880 and 1900 U.S. Census

	Salt	Business	Farm	Day Labor	Industry	Blacksmith	Carpentry
1880 totals	0	335	393	150	32	11	33
1900 totals	120	554	102	245	151	16	55
Category	-	65.4%	-74.0%	63.3%	371.9%	45.5%	66.7%
% Change							

Salt- salt industry owners, managers, secretaries, and laborers

Business- lawyers, teachers, book keepers, shop owners

Farm- farmers, laborers, teamsters (also salt workers?)

Day Labor- factory, RR, wash women, servants

Industry- employed or own: elevator or button company, knitting or flour mill, machinist, or telephone

Blacksmith- same

Carpentry- Carpenter and Cooper work

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disproportionate rise in the number of coopers, who supplied the salt plants with their packing barrels for shipment. The employment information gained by comparing these two censuses clearly indicates that there were in fact major urban changes occurring in this otherwise sleepy small community. The character of the village was changing from an agricultural center to that of a small industrial and commercial node in the still primarily agricultural Wyoming County.

The growth of the salt business became so great that Warsaw soon surpassed Syracuse in its regional dominance and grew to become one of the country's largest salt producing regions (Werner, 1917). This growth in the salt industry and other types of manufacturing resulted in the creation of many more skilled and unskilled jobs, which attracted a sizeable number of people to this small village. As already mentioned, W.C. Gouinlock and other investors moved into this area to exploit the salt boom, but it was not only affluent investors that were attracted by the salt trade. During this period of time we find a concentrated 70% increase in the village of Warsaw's population. The town population confirms the concentrated nature of this population explosion since the village can solely account for almost all the growth during this period. This stands in stark contrast to the other neighboring villages, which experienced very moderate growth or even decline during the same time period. The only understandable exception to this trend was the nearby village of Perry. This village experienced a similar magnitude of population growth corresponding to its own small decentralized salt industry funded mostly by Warsaw capital (Table 3, 4). These tables have some variation in their dates due to the lack of annual population figures for these small communities

and the desire to closely follow the beginning and end of the salt industry, 1881 and 1902 respectively. For the most part, the new immigrants found mostly unskilled work as day laborers or as actual employees in one of the seven or more industries in Warsaw. There was also salt work available for women and girls since salt bags had to be sewn closed by hand before the advent of paper packaging (Smallwood, 1942). To accommodate this explosive manufacturing growth hundreds of houses were built, and the village limits were extended to include the considerable development that took place on the west hill near the Erie R.R. (Figure 2). This development was oriented almost exclusively to serve the employees of the three salt plants that operated in this area (Bishop, 1962a).

Much like the sudden rise of the salt industry in Warsaw, its fall was equally rapid. The principal cause for the industry's decline was overproduction. It was stated by Lewis Bishop that in 1898 the excessive production had become such a problem that 2000 cartloads of salt sat outside the plants without any market for its use. In an attempt to remedy the situation, the businessmen formed the National Salt Company or Salt Trust and began to buy up the various plants that were still in business locally as well as in other states giving it control of 95% of the country's salt production (Bishop, 1962a).

Transportation costs were another disadvantage at the Warsaw salt plants. These plants were dependent on more expensive railroads for shipment and they could not compete with other plants that had access to much cheaper water transportation. It was postulated that had Warsaw been located on the Erie Canal to the north, perhaps its salt works would have been profitable for

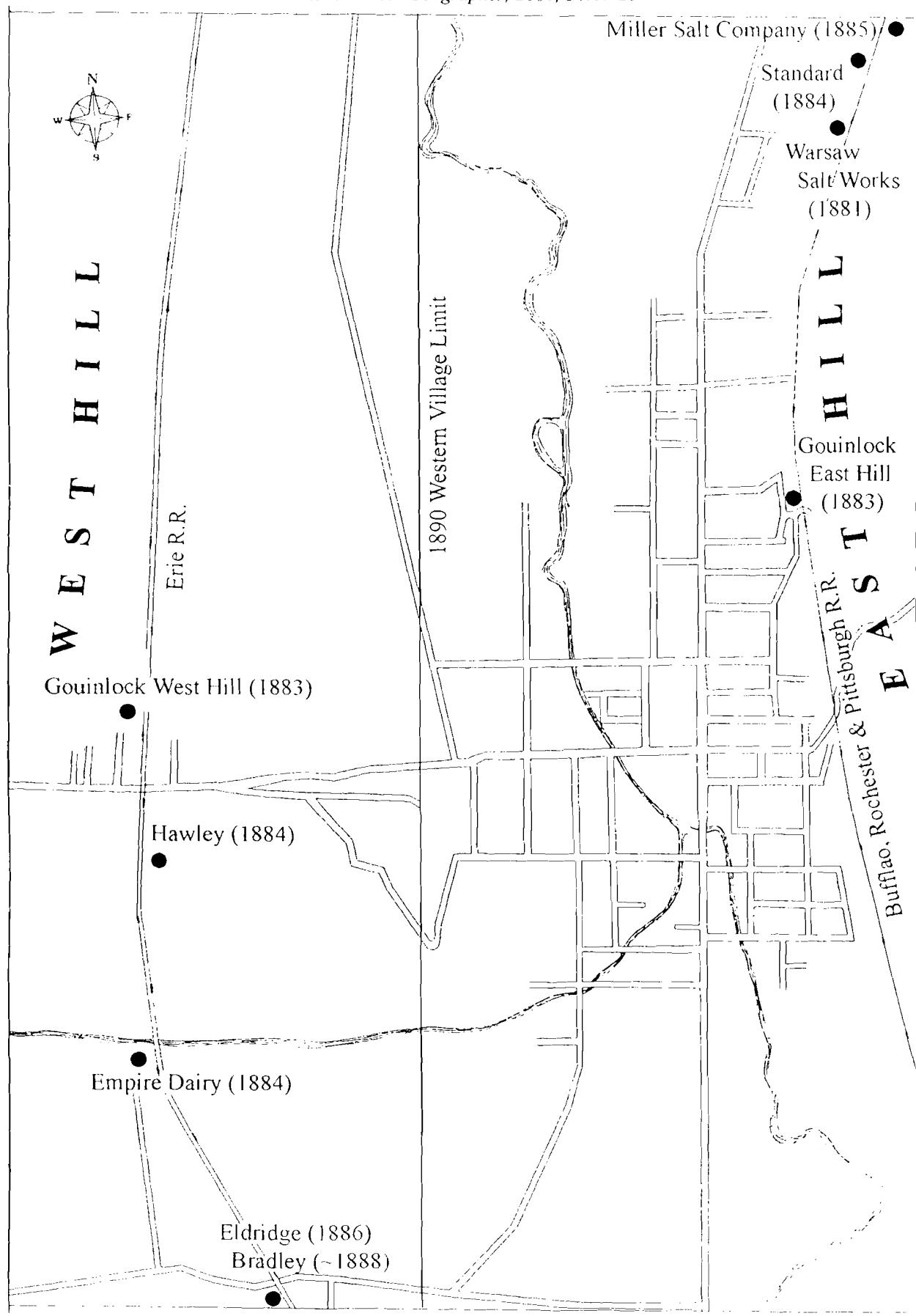
Table 3. Population of Villages in Wyoming County

Year	Arcade	Attica	Castile	Gainesville	Perry	Pike	Silversprings	Wyoming	Warsaw
1880	762	1935	965	B	1115	644	B	387	1910
1902	920	1901	1048	318	3346	473	777	B	3226

(Bishop, 1953)

Table 4. Population of Towns in Wyoming County

Year	Arcade	Attica	Castile	Gainesville	Perry	Pike	Warsaw
1875	2036	3057	2274	1710	2416	1726	3437
1905	1939	2721	2386	2538	4909	1231	4469



many more years (Werner, 1917). Along with the expense of shipping the purified salt, the transportation costs of supplying these plants with coal from Pennsylvania also compounded the efficiency problems associated with well salt production in this region (Bishop, 1962a, Figure 2). Despite the prestigious history and purity behind Warsaw salt, the principle held that, "...a barrel of salt is a barrel of salt nine cases out of ten, and the party selling the cheapest will get the order, no matter where it is made (Werner 1917)." This ultimately meant that Warsaw, which was dependent on expensive railroads, was not able to compete with other companies regardless of their quality, since the lower transportation costs of their competitors allowed them to sell their salt cheaper and few could truly distinguish a difference in quality.

In the end, the National Salt Company also went bankrupt and the International Salt Company was organized in 1902 to take over the assets of the defunct company. Most of the original investors behind the various salt companies foresaw the imminent shutdown of the Warsaw plants, and they successfully reinvested in other businesses and factories within the village (Bishop, 1962a). This marked the end of any major salt industry in the village, although the effects from the "Salt Rush" can still be seen today. While barely any of the original plant structures survive today, the character of the village still reflects the industry, which spurred the community's economic revitalization in the late nineteenth century.

The village not only is the legislative county seat but also continues to act as an economic county seat as well. Although the last of the plants closed their doors at the beginning of the twentieth century, the service sector of the economy has grown and continues to fuel the economy of the village. Considering the slow growth that this area has since experienced, if it was not for the "Salt Rush," it is quite possible that the village would never have attained its size and economic dominance over the surrounding communities.

Today there is little village awareness of its illustrious salt past. This may partially be due to the fact that there remains so few physical artifacts of this past besides the train tracks. There is however a very quiet and discrete salt plant in operation today just outside the northern border of Warsaw's town line. The Texas Brine Company currently operates on what they call the Wyoming Brine Field—not too far from the Crystal Salt Company's original lot. This company makes use of numerous automated salt wells which operate 24 hours a day pumping their brine to collection tanks which then, in turn, pump the brine over 50 miles to the Chlor-alkali plant in Niagara Falls. This brine is then used by the chemical plants in Niagara Falls and then the water is pumped back to the brine fields for recycling in the same process. While the whole process continues without much public knowledge, there is more than 15 million tons of salt extracted each year—ten times more than was extracted in a single year at the height of the "Salt

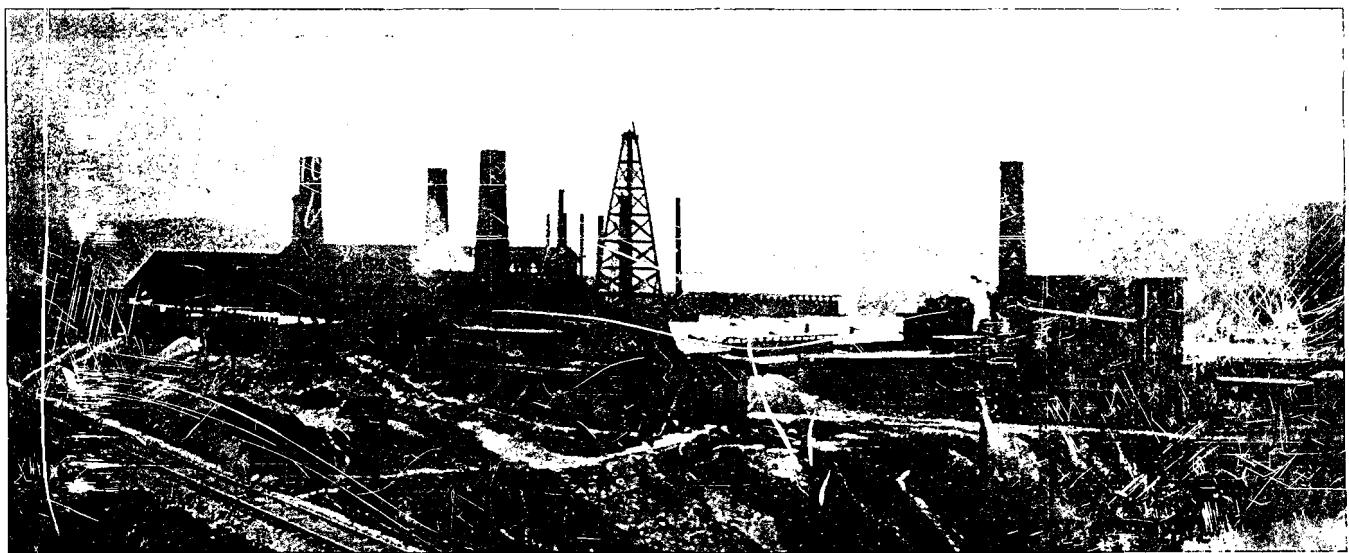


Figure 3: The Warsaw Salt Works. Photograph by I.P. Bishop, courtesy of the Warsaw Historical Society.

Rush." Due to the automated nature of the plant, there are only a handful of employees and few of those probably live in Warsaw or the immediate area (McCartney, 2001).

The effects that such a brief and transitory industry can have on a community is truly amazing. The salt industry in its own modest way effected this change on Warsaw, making it the village it is today. No doubt there were many other industries and events which also greatly contributed to the village's development, but the salt industry, due to its fortuitous timing, played a seemingly unique role—providing the village with the impetus for change. "From a quiet country village depending upon the trade of the surrounding farming community for business, Warsaw had grown into a live bustling manufacturing town [that was] the largest salt producing center in the United States (Bishop, 1962a)."

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