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Environmental History Case Study of St. Louis, Michigan

During the 1830's, the first people to ever arrive at the site that would later become the city of St. Louis were a group of surveyors who were laying out the townships of Michigan. As they navigated through the area, measuring instruments were used to identify the township lines. However it wasn't until 1853 when a man named Joseph W. Clapp followed a Native American trail that led to the establishment of St. Louis. In that same year, Clapp built the first home in the new town. Then, by the fall of 1868, St. Louis's population increased significantly. This was a result of two residents who were drilling for salt in hopes of becoming wealthy. According to St. Louis's main website, "instead of finding salt they found mineral water which was claimed to have healing powers."¹ Word of the healing water spread so quickly that St. Louis was soon flooded with famous and wealthy people from all over the United States. From this, the city of St. Louis began to flourish and gained much popularity. For my case study, I have been selected to examine the block of North, Watson, Center, and Bankson Streets in St. Louis. Through my research, I was able to examine the following: population records, economic census, the Vesicol-Michigan Chemical plant and their effects on the residents, as well as the actions taken to clean up the pollution created by the plant. After researching the data, I have discovered that despite the contamination, the city and surrounding communities have worked together to clean up the mess. With much hard work, their efforts have finally begun to show.

¹ City of Saint Louis. "History by Decades." Accessed April 1, 2013.
http://www.stlouismi.com/1/stlouis/history_by_decades.asp.

After researching different census records in Michigan, I was able to find information on St. Louis's population starting in 1960 all the way to 2010. According to the census count of Michigan and sub-counties, in "1960 a total of 3,808 people resided in the city, 4,101 people by 1970, 4,107 people by 1980, and 3,828 people by 1990."² By looking at the records, it is clear that from 1960 to 1980, the population of St. Louis increased. However, by 1990 the population decreased by a total of 279 people. Although this is not a significantly huge decrease, it still poses the question of why people were leaving the city. According to another census called *Population for Places in Michigan: 1990 and 2000*, "it shows that the city then jumped to a total of 4,494 living in the area."³ The city's population grew even more by 2010, with a record breaking total of 7,482 people.

Data from CensusViewer breaks down St. Louis's population even further. In the most recent census, it claims that "5,436 males live in the city while only 2,046 females reside there."⁴ Also, when looking at the city's population by race, it claims that there are a total of "45 American Indian and Alaska natives, 16 Asians, 0 Native Hawaiian and Other Pacific natives, 424 Hispanic or Latino origin, 98 of other races, 75 of two or more races, and 5,069 whites."⁵ It is clear that St. Louis is occupied by mostly whites. The other races in the city are much smaller compared to the white population. Currently, the city is not mixed with a lot of other races. The

² U.S Census. "1960 to 1990 Census Count by for Michigan and Subcounties." Accessed April 1, 2013. http://michigan.gov/documents/MC1960-1990C_33608_7.pdf

³ U.S Census Bureau. "Population for Places in Michigan." Accessed April 1, 2013. http://michigan.gov/documents/PopByPlace_26771_7.pdf

⁴ CensusViewer. "St. Louis, Michigan Population: Census 2010 and 2000 Interactive Map, Demographics, Statistics, Quick Facts." Accessed April 1, 2013. <http://censusviewer.com/city/MI/St.%20Louis>

⁵ CensusViewer. "St. Louis, Michigan Population: Census 2010 and 2000 Interactive Map, Demographics, Statistics, Quick Facts." Accessed April 1, 2013. <http://censusviewer.com/city/MI/St.%20Louis>

census also shows the population by different age groups. From the data gathered, there are a total of “303 children ranging from 0-4 years of age, 710 people ranging from 5-17 years of age, 5,806 people ranging from 18-64, and 663 people who are 65 years of age or older.”⁶ The majority of the city’s population occupies those who are anywhere from teenagers to those in adulthood.

From a recent study done by the United States Census Bureau, I was able to determine the different job occupations people had in the city of St. Louis. In 2007 a total of

“53 people were involved in real estate, rental, and leasing, 108 people in professional scientific and technical services, 56 people in administrative and support waste management and remediation services, 124 people in health care and social assistance, and 72 people in accommodation and food services.”⁷

Another 243 people worked in other services, expect for public administration. The majority of the people who reside in St. Louis have other jobs besides the ones previously stated. However, a large number of residents do work in health care and social assistance. Overall, St. Louis has 20 different employer establishments dealing with health care. While the second largest employer establishment in the city is retail trade. There are a total of 13 different establishments. The smallest is real estate and rental and leasing with only 1 employer establishment.

Over the past decades, the growing city has caused major problems for the residents living there. The block of North, North Watson, Center, and North Bankson Street currently has ten houses that live near the Pine River watershed. This river is “427 square miles in size along

⁶ CensusViewer. “St. Louis, Michigan Population: Census 2010 and 2000 Interactive Map, Demographics, Statistics, Quick Facts.” Accessed April 1, 2013.
<http://censusviewer.com/city/MI/St.%20Louis>

⁷ American Fact Finder. “ 2007 Economic Census. Accessed April 1, 2013.
http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ECN_2007_US_00A1

its 51-mile length, and covers all the land drained by the river and its' tributaries (all small creeks and drains). It is a small part of the much larger Saginaw River watershed.”⁸ The Pine River begins in Mecosta County at Meeker and Pine Lakes. This is near the intersection of Michigan highways M-66 and M-20. From there, the river flows southeast for about 18 miles, then south for 8 miles along the Gratiot-Montcalm county line. The river then flows northeast for 25 miles through both Saint Louis and Alma. The Pine River ends at its union with the Chippewa River, which is 3 miles west of Midland, Michigan.

The problem with this river is that it negatively affecting the residents who live around it. Especially those who live near the chemical plant that runs along the river in St. Louis. This is because the plant produced chemicals that contaminated the river and surrounding areas.

According the article *The Pine River Watershed*:

“In the mid 1900’s a chemical plant called Vesicol-Michigan Chemical at St. Louis produced DDT and PCB, which contaminated the river and surrounding land downstream from St. Louis. The old Total Refinery (crude oil) in Alma also deposited some waste byproducts in the River. The Environmental Protection Agency has been cleaning up these sites for the last 10 years, but currently, there are no funds available to finish this project. Tests have shown that there is a contamination of the ground water in this area.”⁹

Those who are living on the block of North, North Watson, Center, and North Bankson Street are highly affected by the contamination of DDT and PCB in the ground water, both of which can cause serious health problems if ingested. “Today, DDT is classified as a probable human

⁸ Geocaching. “Pine River Watershed.” Accessed April 1, 2013.
http://www.geocaching.com/seek/cache_details.aspx?guid=ccef2aeb-896a-4514-95b2-a14d3808e5e4

⁹ Geocaching. “Pine River Watershed.” Accessed April 1, 2013.
http://www.geocaching.com/seek/cache_details.aspx?guid=ccef2aeb-896a-4514-95b2-a14d3808e5e4

carcinogen by U.S. and international authorities.”¹⁰ According to the Environmental Protection Agency, this classification is based on animal studies where some animals developed tumors in the liver. Originally, DDT was used to fight off malaria, typhus, and the other insect-borne human diseases among people. It was also used for “insect control in crop and livestock production, institutions, homes, and gardens.”¹¹ On the other hand, PCB has a range of toxicity. It varies in consistency from yellow or black waxy solids to thin light colored liquids. PCBs were used in hundreds of commercial and industrial applications. These included electrical, heat transfer, and hydraulic equipment. Also, “they have been demonstrated to cause cancer, as well as a variety of other adverse health effects on the immune system, reproductive system, nervous system, and endocrine system.”¹² The exposure of these chemicals could have caused the residents of North, Watson, Center, and Bankson Street to have these health problems.

Although this has been an ongoing problem for years, there has been an effort made by people in the surrounding communities to help clean up the pollution created by the chemical plant. Alma College students, faculty, and staff have all worked extensively with the Pine River and the surrounding communities for decades. According to Alma College’s website, “In 1998 the Environmental Protection Agency determined that the Pine River was not undergoing the

¹⁰ United States Environmental Protection Agency. “Pesticides: Topical & Chemical Fact Sheets.” Accessed April 1, 2013. <http://www.epa.gov/pesticides/factsheets/chemicals/ddt-brief-history-status.htm>

¹¹ United States Environmental Protection Agency. “Pesticides: Topical & Chemical Fact Sheets.” Accessed April 1, 2013. <http://www.epa.gov/pesticides/factsheets/chemicals/ddt-brief-history-status.htm>

¹² United States Environmental Protection Agency. “Polychlorinated Biphenyls.” Accessed April 1, 2013. <http://www.epa.gov/osw/hazard/tsd/pcbs/pubs/about.htm>

expected ‘natural attenuation’ of the chemical DDT.”¹³ DDT was still present in residues and fish at elevated levels. Because of this, an emergency cleanup was declared and the citizens in St. Louis demanded a voice, which had been ignored prior to the incident. Because of this, both the college and the community collaborated together and formed an EPA sanctioned Community Advisory Group. The Alma College website states that “the CAG and its executive council is made up of members from the citizens of Gratiot County and surrounding areas impacted by the Pine River, which includes the City of St. Louis and Alma College.”¹⁴ This group serves as a channel between the community and the EPA. Today, the CAG continues to monitor the activity in the Pine River. Also, both Alma College and the CAG work thoroughly with the EPA and the Michigan Department of Environmental Quality to monitor the cleanup as well as other activities concerning the Pine River. They have worked together to promote a campaign that continues to clean up the pollution from the Vesicol-Michigan Chemical plant. As stated on Alma College’s website, “this collaboration has been extremely successful and has allowed the group to become the largest CAG in the United States and serve as a model for the EPA of community participation in local environmental problems.”¹⁵

The effort and care taken to clean up the Pine River has finally begun to show. In an article posted last year by the *Morning Sun*, a research study has shown that past efforts to clean up both the former Velsicol Chemical site and the Pine River have been effective. “The study,

¹³Alma College. “Alma College and the Community.” Accessed April 1, 2013.
http://www.alma.edu/academics/departments/social_sciences/public_affairs/involvement/pineriver

¹⁴Alma College. “Alma College and the Community.” Accessed April 1, 2013.
http://www.alma.edu/academics/departments/social_sciences/public_affairs/involvement/pineriver

¹⁵Alma College. “Alma College and the Community.” Accessed April 1, 2013.
http://www.alma.edu/academics/departments/social_sciences/public_affairs/involvement/pineriver

which began in 2002, was presented at Wednesday's Pine River Superfund Task Force meeting, and showed significant improvement in contamination levels in the water, sediment, and biota."¹⁶ However, not all of the toxins are out of the water yet. Some of the samples taken still contained high levels of the insecticide dichlorodiphenyltrichloroethane or DDT. These samples were collected from the area surrounding the plant site as well as other areas that ranged 33 miles to the river's union with the Chippewa River. The worst areas of contamination included "the floodplains soil near the river by the St. Louis Middle School, and the portion of the river near the dam."¹⁷ There were also higher amount of contaminants found in soft sediments along the banks, which were near the homes of the block.

The residences of North, Watson, Center, and Bankson Streets, as well as other people in St. Louis have been dealing with the pollution created by the chemical plant for years. Despite the levels of DDT and PBC in the water, the city continues to grow. Census records have shown a steady population increase over the past few decades and the city employs many hard working people. With the help from surrounding members in the community as well as Alma College, the Environmental Protection Agency, the Community Advisory Group, and Michigan Department of Environmental Quality, the Pine River has shown signs of cleaner water than ever before. As people work together to fix this problem, I believe the river will be free of chemicals in the near future.

¹⁶ David Oltean, "Pine River Study Shows Improvement in Contamination Levels," *Morning Sun*, September 20, 2012.

¹⁷ David Oltean, "Pine River Study Shows Improvement in Contamination Levels," *Morning Sun*, September 20, 2012.

