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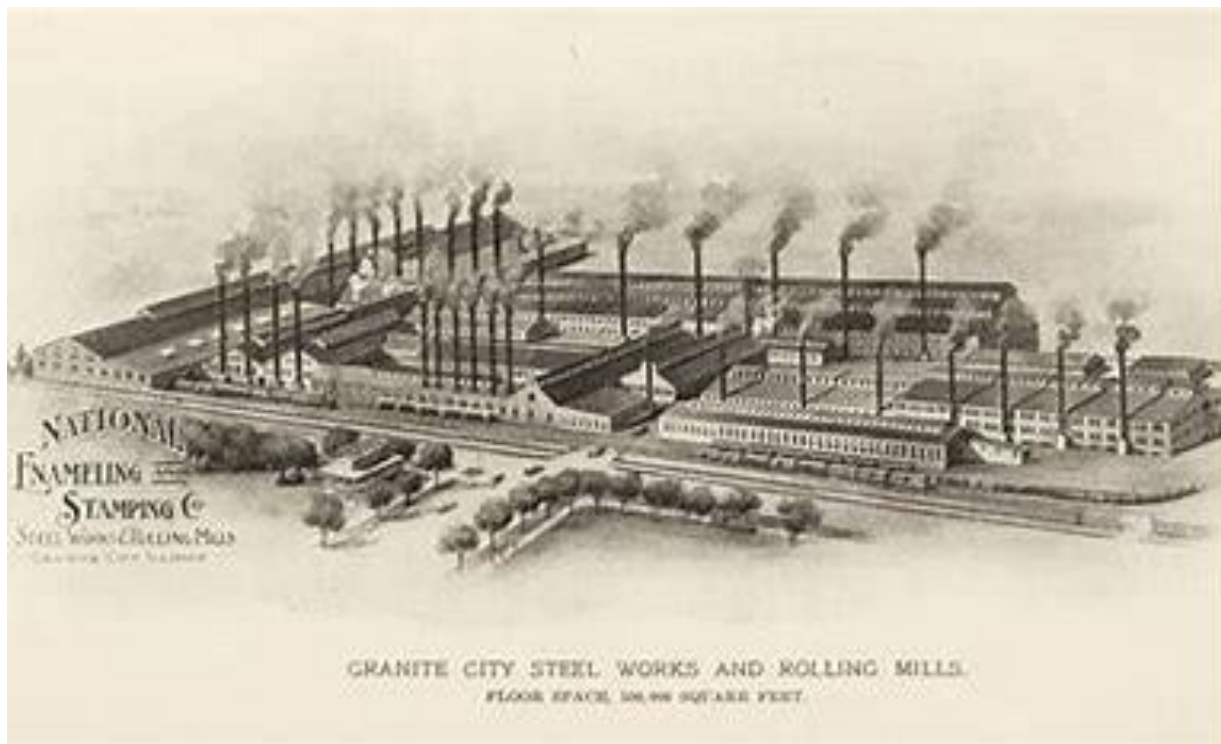
It Came from Horeshoe Lake: the Environmental Toll of Industry

Granite City Illinois is a living reminder of the fragility of ourselves. Once known for its prosperous steel mill and the jobs that came with it, the city of stone fell into despair after U.S. Steel was bought by Japanese firm Nippon steel (CNN,1). With this purchase and the recession that struck the world in 2008, Nippon Steel chose to close the Granite City plant. Hundreds of workers (one of which was my father) were laid off and forced to find other jobs. While all this turmoil unfolded, a dirty secret of U.S. steel rose to the surface: the environmental impact of decades of hot water being pumped into Horseshoe Lake.



Horseshoe Lake, Granite City, Illinois.

Horseshoe Lake is an oxbow lake located in the American Bottom flood plain (ILDNR, 2). It is one of the oldest lakes in America, with geologist James T. Complier stating that the lake is around 3000 years old (ILDNR, 12). Anyone traveling to the lake will notice the variety of birds, ranging from the Great Blue Heron to the Mallard duck. However, this was not always the case. The westernmost part of the lake was industrialized by the United States Steel Corporation in 1903 (at the time owned by the NESSCO corporation).



Postcard of NESSCO steel circa 1903

The plant was a bastion of industry for the fledgling town of Granite City, with workers from across the region moving to the city. The plant produced steel for cookware at the nearby

NESSCO cookware factory. To cool the steel, the plant pumped cold water from the Mississippi river and pumped it into Horeshoe Lake.

This practice was common at the time, as the effects of temperature on bodies of water were little understood for decades. The little known was disregarded, as industry and progress were in full swing during the 1900's gilded age. However, this changed during the 1970s, as the Nixon administration's founding of the Environmental Protection Agency (EPA) and research into the effects of environmental degradation heightened. As industry slowed, U.S. steel fell into challenging times, and with the EPA regulations being passed began to cheat the system. From turning off air scrubbers at night to polluting the already headed water that was being pumped into Horeshoe Lake, the government's attempts to save the environment backfired due to the steel industry's determination to continue persevering, and the men whose livelihoods depended on the steel mill.



The result of heated water in closed off lakes on channel catfish

The pumping of hot water led to a drastic decline in biodiversity within the lake. It was common to catch fish with deformed limbs and massive algae blooms causing the lake to smell putrid. The lack of biodiversity became apparent, as in 1992 the number of Mallard ducks seen in the park dropped to record dwindling numbers. (EPA, 41) The shallow lake could not process the water's heat as the deepest parts reached just 3 feet. The muddy bottom of the lake proved a perfect breeding ground for toxic algae blooms, leading to fish kills and shrinking biodiversity. The lake was quickly becoming toxic, as state park officials deemed the lake "Unsafe for recreation" in 2004 (EPA, 9). After this, a spotlight was placed on the lake, with state officials investigating the state of the lake in 2005. The findings were shocking lake temperatures were an average of 10 degrees higher than normal (EPA, 9). Furthermore, elevated levels of sulfur, mercury, and silicon were found in the lake, with very few fish found in the lake (ILDNR, 3). The Illinois EPA pursued action against U.S. Steel in 2008, the findings of which were astonishing. Old, outdated technology littered the plant, air scrubbers were found to be not functioning in the coke ovens, and pipes were found to be leaking due to acid rain (U.S. Steel V. I11. Pollution Control, 81) The plant was in complete disrepair, and U.S. steel was not in a financial position to fix the issues at hand. The wicked problem that was years in the making had reared its ugly head, and those men who fought for their jobs were the ones who shouldered the burden of U.S. Steel's incompetence.



Granite City Steel in 2009

In 2023, the financial issues at of U.S. Steel came full circle, as the company and the granite city plant were purchased by Nippon Steel. The layoffs were steady throughout the 2000s, but with the acquisition, the few remaining employees were laid off. The plant was temporarily shut down on December 12th, with Nippon beginning to repair the issues brought up in the 2008 court case. Stricter regulations were placed on the plant, as Nippon steel was a foreign organization on U.S. Steel (CNN, 12).

Since the 2000s, Horeshoe lake has seen gradual improvements, due to pressures from the EPA, outside protests from environmental groups, and Nippon's precarious position. The lake saw fish reintroduced, and the hot water interring the lake was sectioned off. The mallard duck returned in 2012, with the blue heron coming back soon after. Vegetation around the lake increased, and amphibians began to litter the banks (EPA, 26).



Cypress trees in Horseshoe Lake circa 2015

Horseshoe Lake is a testament to the resilience of nature. The comeback of the lake after decades of degradation by the U.S. Steel corporation led to an intense and rapid decline in biodiversity is a hopeful reminder that it is never too late to protect the environment. The work put in by the EPA and other environmental organizations saved the lake from certain destruction. The lesson to be learned by Horseshoe Lake is that we must all be vigilant to protect the world around us. Even something as seemingly unimportant as rising water temperatures can cause major damage when left unchecked. We must value it, not just for ourselves, but for the world at large.

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