

This is an updated article about the mill originally written by Friends of the Mill Founder Ken Hyman and published in Old Mill News published by The Society for the Preservation of Old Mills.



Pine Creek Grist Mill is located in Wildcat Den State Park near Muscatine, Iowa. The mill sits on Pine Creek, a small tributary of the Mississippi River, and is about one mile from the Mississippi. The mill and an old iron truss bridge that crosses the creek within 100 feet of the mill appear on the National Register of Historic Places.

History of the Mill

The history of the mill goes back to the settlement of Iowa. On September 21, 1832, Chief Blackhawk had been defeated and the Sauk and Fox Indians signed a treaty relinquishing part of eastern Iowa. The government opened the area next to the Mississippi River for settlement and called it the Iowa District of Wisconsin Territory.

In the spring of 1834, the first permanent settler, Benjamin Nye, came to Muscatine County. That first year Ben Nye made a living by trading with the Indians, but the area rapidly filled with settlers and the Native Americans moved out. As the settlers flooded into the area they needed lumber and, in 1835, Nye built a sawmill. The settlers began to grow crops and needed a grist mill, so Nye added a small grist mill to his operation. In 1839 the Territorial Legislature of Iowa gave belated approval to Nye for his mills. This was the first law to approve a dam and mill site in Iowa. That early grist mill was quickly outgrown and, in 1848, Nye built his third mill--what we know today as the Pine Creek Grist Mill. There is no trace today of the earlier mills and their exact locations are unknown.

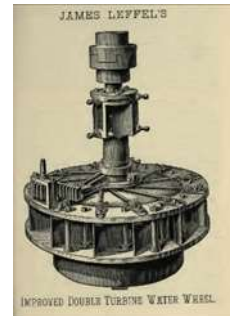
Pine Creek Grist Mill originally operated with three run of mill stones, but through the years the mill was extensively modified with updated milling machinery. A steam engine was added, and an addition was constructed to the mill to house equipment and provide more storage space. The mill went through many owners and operated until 1927, when the mill and adjacent property were incorporated into Wildcat Den State Park.

Machinery and Power



Today Pine Creek Mill is a collection of machinery spanning the era of stone grinding to the “modern” steel roller mills, midlings purifier, and gradual reduction process. One set of mill stones from the original configuration of the mill is still present, but most of the mill is given over to steel roller mills and their attached processing equipment. When the mill was built in 1848, power came by way of an overshot waterwheel located in the basement of the mill. In Iowa’s climate and given the location of the mill directly on the creek, the waterwheel could not be located outside because ice and floods would quickly carry away an outside waterwheel. There is little evidence of the water wheel left in the mill. Sometime around the Civil War, the waterwheel was replaced with a water turbine.

The runner of the turbine is 24 inches in diameter with a height of 15 inches. Old photos of the mill show a variety of dams, indicating that the dam was often washed out. Judging from the old photos, the height of the dam when the mill was operating was approximately 15 feet. The present dam is a combination of the old dam consisting of stone and mortar construction and the new dam built of concrete. The present dam, however, only gives a head of 10 feet, so the turbine cannot reach its previous level of power. Because the present dam is lower, the water intake into the penstock is very near the surface resulting in air getting into the penstock and robbing the turbine of power.



Turbine



Steam engine

The other source of power for the mill was a steam engine in the basement of the mill. Pine Creek is a small creek and sometime in the past during a drought the mill ran out of water. At that time a steam boiler and engine were installed as an auxiliary power unit. The miller did not buy a new steam engine but secured a used engine from a sawmill in Muscatine. In the 1800’s large log rafts were floated down the Mississippi River from the pine forest in Minnesota and Wisconsin. At that time Muscatine had several large sawmills processing the log rafts into finished lumber. The steam engine was possibly the power plant on a Mississippi River paddleboat.

The Milling Process at Pine Creek Grist Mill contains a set of French grindstones that measure 36 inches in diameter and are dressed in the “quarter” dress pattern. After the renovation of the mill to install the roller mills, the one run of mill stones left was used primarily to grind buckwheat and rye.

*The first system



The mill stone “system” is one of three grinding systems in the Pine Creek Mill; each system is independent of the others and used for grinding different grains. The three systems are independent, but the elevators, chutes, bins, and machinery are all intertwined in a complex mix. The grain that passes through the stones is first run through a separator, grain cleaner, smutter and then through the stones. After being ground in the stones, the



Bolter

flour is run through a bolter and then sacked. The system is restored with the stones, some elevators, and the bolter working.

***The second system**



Roller mill

This set of machinery was used to grind corn into feed utilizing a three-roller mill manufactured by Willford and Northway, Minneapolis. Besides the three-roller mill, the “corn system” has a corn sheller/cleaner, bolter, and attendant elevators, chutes and storage bins.

***Third and final system**



This is the heart of the mill containing three double-roller mills used to grind wheat into flour. The double-roller mills were manufactured by Bernard and Leas, Moline, IL, as well as the bolters, flour dressers, etc. that make up this system. It is a complicated system with grain cleaners, smutters, bolters, flour dressers, and many elevators, chutes and storage bins. This system was probably purchased as a set in the late 1800's.



Restoration

The Pine Creek Grist Mill operated until 1927, but most operations had been curtailed in the early 1920's. Since that time the mill has slowly deteriorated with some intermittent repair to keep the mill from falling down. The mill is on the National Register of Historic Places and it is important in both local and regional history. In the fall of 1996, the Friends of Pine Creek Grist Mill were organized with the mission of restoring and preserving the history of the mill. The Friends group energized many people and organizations to work on the project. We work closely with the Iowa Department of Natural Resources which owns the mill. The Friends volunteered many thousands of hours repairing machinery, staffing the mill, writing grant requests, raising money, and doing the myriad of other tasks required to restore the mill. As work progressed on the mill the Friends discovered that the mill structure and foundation were in very bad shape. Part of the foundation on the creek side of the mill was missing and part of the rest of the foundation was crumbling. Structural beams, some as large as 14 x 14 inches and 37 feet long, were rotten. Some minor repair work was being done on the dam when it was found that a six-foot rod could be stuck under the dam and not hit anything—obviously a problem with the dam's stability. Over several years the repair work was done and now the mill has a good foundation and is structurally sound. This has been very labor intensive project but a labor of love.

Interpretation

One of the goals of the Friends of Pine Creek Grist Mill has been to actively interpret the mill and the history of milling. The Friends staff the mill from spring thru fall so the public can tour the mill. For

details, go to our Facebook page "Pine Creek Grist Mill". Thousands of area school children come to the mill and nearby log cabin for a day of learning about history. We also host family groups, bus tours, community groups, etc. If you are interested in the mill contact: Wildcat Den State Park, 1884 Wildcat Den Road, Muscatine, Iowa 52761, 563/263-4337. You can also contact Tom Hanifan, phone (563)554-4228 or e-mail tomhanifan@yahoo.com Mr. Hanifan is president of the Friends of Pine Creek Grist Mill.