

RIVER HISTORY



"Looking Back in History"

By Robert "Ernie" Boszhardt, Mississippi Valley Archaeology Center, Mississippi River Tidbits, February 17, 1997

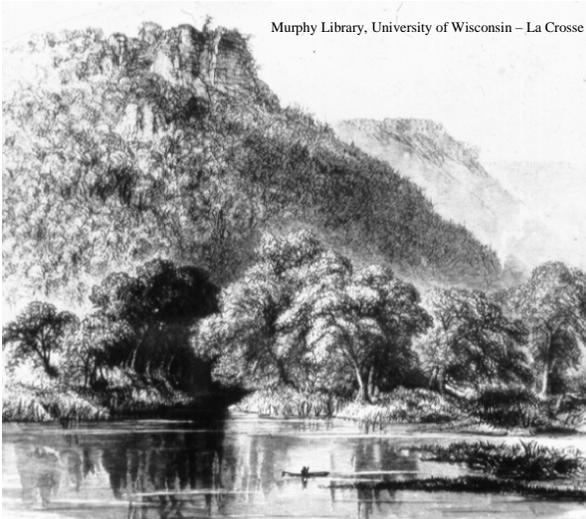
People have lived along the banks of the Upper Mississippi River for nearly 11,500 years. For the first 11,150 years, these people were Native Americans, whose heritage was recorded in thousands of mounds and camps and villages along the river. Europeans arrived only 350 years ago. Archeological study of these remains reveals dramatic changes through time, reflecting shifting climates, technological discoveries and population increases. Nonetheless, this same record demonstrates successful adaptation of a succession of cultures.

These begin with the earliest known inhabitants of the Upper Mississippi River the Paleo ("oldest") Indians. They were big game hunters living in-groups of perhaps 25 people that roamed the landscape in search of food. At that time, glaciers reached as far south as Lake Superior, and the climate was cold and harsh. Yet the glacial margins were relatively lush, supporting Woolly elephants (mastodon and mammoth), horses, camels, caribou, and giant beaver weighing up to 500 pounds each. These "megafauna" animals were hunted and/or scavenged by the Paleo-Indians and their bones and 11,000-year-old stone spear tips have been found in tributary valleys of the Mississippi.

As the glaciers receded northward, torrential floods swept the Mississippi River, and created the sand benches along the river where La Crosse, Prairie du Chien, Winona,

and other river towns are situated. By about 10,000 years ago, most of the megafauna had become extinct and a long severe drought began. This led to eastward expansion of the prairies, and with the grass came the early forms of buffalo. These bison were larger than modern buffalo, and their remains have been found in bogs from Minneapolis to Buffalo County, Wisconsin. The Native Americans shifted their hunting strategies to buffalo hunting and are known as the Archaic ("old") Culture. Archaic spear tips of this time are long and slender, and many of these have been found throughout the northern plains from Wyoming to central Wisconsin, including along the Mississippi River.

A climatic change about 4,000 years ago brought moister conditions, and beginning at this time the archaeological record reveals a number of changes. These include increased use of floodplain resources, early gardening, the first use of clay pots, burials in cemeteries, and shortly thereafter the first construction of burial mounds, evidence for long distance trade of ceremonial artifacts, and increased population. These changes mark the beginning of the Woodland Cultures, and the Mississippi River was a center of Woodland activity. Camps and villages were established at nearly every flat spot along the river including islands where clams were collected and baked. Thousands of



mounds once dotted the river margins and trade items include large flint knives from the Rocky Mountains and Black Hills, copper axes and ornaments from Lake Superior, and specially crafted pottery and pipes from the south. For unknown reasons, the trade network collapsed around fifteen hundred years ago, though Woodland people continued to live and bury their dead along the Mississippi River for another 500 years.

About one thousand years ago a new series of changes occurred, including the introduction of the bow and arrow, corn agriculture and new kinds of pottery and other artifacts. These shifts mark the end of the Woodland Culture and beginning of the Mississippian Culture, though Mississippians were probably descendants of Woodland People, much like our artifacts are different from those of our pioneer ancestors one hundred years ago. Mississippian people continued to harvest the floodplain resources of the Mississippi River, and complimented their diet with corn, beans and squash as well as deer and elk. In the Upper Mississippi River, Mississippian cultures are called Oneota ("O-NEE-O-TA"). Oneota populations tended to congregate in specific locations, and along the Upper Mississippi the Oneota first lived at Red Wing, later moving to La Crosse. From about A.D. 1300 to 1625, La Crosse was the most populated place along the Upper Mississippi River, perhaps supporting several thousand Oneota Indians during the summer. It appears that many of the Oneota migrated west to hunt buffalo in the winter, bringing back shoulder blades to use as hoes for their fields in the summer.

The Oneota abandoned La Crosse just before the French arrived in the mid 1600's, moving west to Iowa and southern Minnesota where they were met and recorded as the loway Indian tribe. We do not know why they left their home at La Crosse, but the world was rapidly changing at that time with Europeans settling long the Atlantic coast and into the Great Lakes. Major wars broke out in those areas causing eastern tribes such as the Sauk, Fox, and Potawatomie to move to Wisconsin, perhaps pressuring the La Crosse Oneota. At the same time, European diseases swept across the continent, reducing native populations by as much as 80%. Finally beside beaver pelts, early French interest in this region was for buffalo hides, and when contacted, the loway were renowned buffalo hunters. Perhaps they moved west to take advantage of a new economy in which they would receive highly valued brass kettles, iron knives, glass beads and muskets. Whatever the reason, by A.D.1720 their artifacts no longer included earthen pots and stone tools.

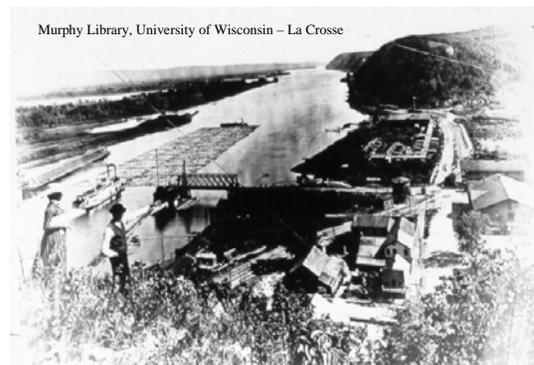
"The Settlers of the Late 1800s Still Impact the Mississippi River Today"

By Gretchen Benjamin, Wisconsin DNR, Mississippi River Tidbits, April 7, 1997

Colonel Warren, the first District Engineer for the St. Paul District of the Corps of Engineers, gave a report to Congress in 1867 talking about the changes on the Mississippi River. He first described the river's natural environment by stating, "In the bed of the stream sometimes long water plants are stretched over the bottom by the action of the stream. In quiet places, like Lake Pepin, fields of erect aquatic plants flourish, and in places protected from moving sand, the unios (freshwater mussels) grow so abundantly as to accumulate beds of their shells at least two or three feet thick."

He then went on to elaborate on current (1867) river conditions by saying, "The ploughing of the prairies, felling of forests, erection of mills, and other causes have already begun to disturb the former state of things. The water is no longer as clear and dark as it used to be, and more sand accumulates in the stream, and a noticeable quantity of saw-dust and chips from the lumber mills of the Mississippi, St. Croix, Chippeway, and Wisconsin is also deposited along the banks."

Colonel Warren described the impacts that settlers had on the land and subsequently to the Mississippi River in these two statements. The earliest settlers came to this area to log the vast white pine forest and to a lesser extent to mine lead, but within a relatively short period of time most of the white pine forests were cleared and the lead was gone. During the 1850s and 1860s, immigrant farmers came to take advantage of the open land and convert the once forested area into farm fields. The combination of logging and farming had a



devastating effect on the land because the land was opened up to severe soil erosion. They did not know the importance or even the necessity of minimizing soil erosion and consequently large quantities of soil ended up in the streams. In the hills of the Coulee country this had severe and lasting consequences not only on the tributaries that drain the hill country but also on the Mississippi River, because sediment is eventually transported downstream.

In 100 years, from 1840 to 1940, the top foot of soil moved off the ridges and the hills down into the valleys. In the lower valley bottoms the depth of the accumulated sediment reached 12 to 15 feet. At Coon Creek, which drains into the Mississippi River at Stoddard, WI and is a typical stream of this region, soil erosion was so rampant by the 1930s that roads, bridges, and farms were being buried. At some crossings, the bridge used today is the 2nd or 3rd generation bridge, as the first bridge is reportedly long since buried. The changes to this particular creek have been well documented, as Coon Creek was the site of the nation's first Conservation Demonstration Area in the early 1930s. Today, farmers have substantially reduced erosion of the uplands by using soil conservation practices, many of which were developed in this hilly region. However, the huge amount of sediment deposited in the river valleys is already in the system and has continued to move downstream.

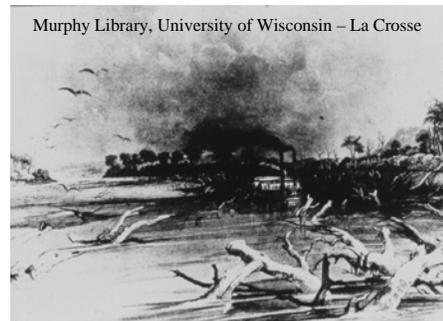
Many of the changes brought about by the settlers of this area are still a part of the upper Mississippi River landscape today. Farming is a dominant use of the land, regenerated trees are cut to produce pulp lumber, and the Mississippi River and its tributaries are still carrying a sediment load which is a legacy from the farming practices of the late 1800s and early years of this century.

“The Transformation of a River”

By Ruth Nissen, Wisconsin DNR, Mississippi River Tidbits, May 12, 1997

It's hard to believe looking at the wide expanse of the Mississippi River, especially with the river still somewhat swollen by floodwaters, that before 1866 people could wade across the Mississippi River. However, according to John Anfinson, District Historian for the St. Paul District of the Army Corps of Engineers, that is indeed the case. Anfinson says, "The Upper Mississippi River at that time still possessed most of its original character. Trees filled and enshrouded it. Hundreds of islands divided it, dispersing its waters into innumerable side channels and wetlands. Sandbars, hundreds in the main channel alone, rose to within inches of the surface and broke the natural river into a series of navigable pools." However, this natural state did not last long in the face of the need for cheap, reliable transportation on the river.

The transformation of the river began long before the building of the locks and dams in the 1930's. The process actually began in 1866 with the four-foot

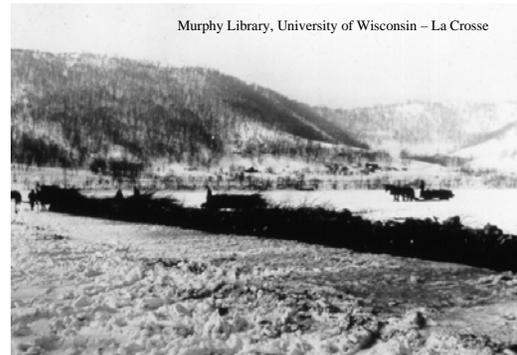




navigation channel project, which authorized dredging, snagging, clearing overhanging trees and removing sunken vessels to create a reliable channel on the Upper Mississippi River. In one year, 1872, the Corps pulled nearly 1,300 snags and cut 2,600 overhanging trees. The trees lining the rivers banks, particularly the ones that fell in the river and became snags, threatened navigation, but as one fishery biologist has said can you imagine the fish habitat

those huge old snags and trees provided? We have nothing comparable today!

Over time, the steamboats and other riverboats needed more than four feet to maneuver so a 4-½ foot channel project was authorized by Congress in 1878. The Corps was directed to make the Upper Mississippi River into a predictable and reliable highway between St. Paul and St. Louis. Anfinson, describing this process, says “To do this, they eliminated the river's wide shallows and sandbars, its braided channels and its uncounted backwaters. They had to isolate one channel and direct all available water to it. They accomplished this by building wing dams, closing dams, and protecting the shore. Wing dams, long, narrow piers of rock and brush, jutted into the river from the main shoreline or from an island. Placed in a series along one or both sides of the channel, the wing dams reduced its width. Funneled between the dams, the faster moving river carried more sediment, some of which it deposited in the calmer waters behind or between the wing dams. Within a few years, the space between the dams filled with sand and plants, and the river's banks crept inward. Closing dams ran from the shore to an island or from one island to another, denying flow to backwaters areas during low water.” All of these structures changed the free flowing river into a channelized version before the turn of the century.



Despite the navigation improvements, steamboat traffic on the upper Mississippi River fell and eventually timber rafting remained the only significant river traffic. Hoping to revive river traffic, navigation boosters pushed for and won a new project in 1907: the 6-foot channel project. According to Anfinson “Under this project, the Corps intensified channel constriction. They added more wing dams and closing dams. They also had to raise the height of old dams, so the water would be funneled into the main channel sooner in the year. By 1930, the Corps had built more than 1,000 wing dams in the 140-mile stretch between the Twin Cities and La Crosse alone and had closed many of the upper river's side



channels." In addition, the Corps had to dredge sand from the main channel to have six feet of water.

In response to a transportation crisis, Midwestern business and navigation boosters initiated another movement, the 9-foot channel project. Consequently, the Corps built a series of locks and dams between 1934 and 1940. (The dams were not designed for flood control.) The dams work by creating a series of navigational pools with each dam acting as a step as the river makes its way down to the Gulf of Mexico.

By the time the locks and dams were built in the 1930's, the river had already been drastically changed from a free flowing river. Each change to the river, whether the channelization prior to 1900 or the building of the locks and dams in the 1930's has not been without ecological consequences.