

a voyageur's guide to





by Stan Nichols

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FIELD TRIP GUIDE BOOK 10

A Voyageur's Guide to THE LOWER WISCONSIN RIVER

by Stan Nichols

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Map of Lower Wisconsin River inside front cover

Topographic map coverage of the Lower Wisconsin

River inside back cover

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EXPLANATION OF GEOLOGIC UNITS

Glacial deposits and alluvium

Cherty dolomite of Silurian age which caps Blue Mounds



Galena-Platteville dolomite, dolomite which overlies St. Peter sandstone and forms bluffs along the lower river. This unit was the host rock for lead and zinc minerals which mined in earlier days.

- St. Peter sandstone, sandstone which overlies Prairie du Chein dolomite
- Prairie du Chein dolomite, a major bluff forming unit which caps sandstone bluffs in northern part of area

Sandstones of Cambrian age, underly river valley and form lower slopes of bluffs

Precambrian basement, consists of granite and other crystalline rock, exposed in the Baraboo Range in northern part of area

Figure 1. The physical setting of the Lower Wisconsin River showing major tributaries, drainage patterns, and subsurface geological structure (From Hindall, 1974). The Wisconsin River travels its course much like a person. It starts life in the northwoods, running wild and free, as a spirited youth. During middle age it works hard, providing energy and resources to people and industry. Toward the end of its journey, responsibility is shed; it travels with the relaxed freedom of respected maturity, contemplating its wild environment with serenity.

This booklet is dedicated to the lower stretch of the river, running free from Prairie du Sac to the Mississippi River. It is a traveler's guide, designed to make a trip on the Lower Wisconsin more safe and enjoyable. It is also an educational guide to the history and natural history of the river, so that your trip down the Wisconsin gains meaning.

Whether you fish, hunt, hike or canoe the river, you affect its course. Only people can protect the river. Laws, ordinances and dedications have no meaning without appreciation by people. Hopefully, this booklet will spark or deepen appreciation of the unique resource which is the Lower Wisconsin River. This appreciation will protect the river for future generations.

GEOGRAPHY AND GEOLOGY

The Valley of the Wisconsin

The geography of the Lower Wisconsin River is strikingly different from its upper stretches. Geographically, the Lower Wisconsin starts near the site of the Prairie du Sac dam. Heading north by car from Sauk City you drive over a small rise a short ways past the dam site on Highway 78 which is the terminal moraine from the last glaciation. Below this point the river flows westward through a great gorge which has been unaltered by past glacial activity (fig. 1). Looking to the north or south you can see the walls of the gorge rising abruptly 300 to 400 feet. The gorge is over four miles wide at Prairie du Sac, narrowing to two miles at Muscoda and a half mile at Bridgeport.

Drop and Speed

The river descends slowly through the gorge on its way to the Mississippi--dropping approximately 1-1/2 feet per mile. The average speed of the current at Muscoda is only one to two miles per hour. The Lower Wisconsin River has no rapids or falls. It is clearly a river for people who like to travel at a leisurely pace. A quotation from Father Marquette's diary of his journey down the Wisconsin in 1673 still describes the river best:

"It is very wide; it has a sandy bottom, which forms various

shoals that render navigation very difficult. It is full of islands covered with vines. On the banks one sees fertile land, diversified with woods, prairies and hills."

Soft Stone–Wide Valley

The walls of the gorge are sandstones and limestones, laid down by the shallow seas of Cambrian and Ordovician times. The Cambrian sandstones dominate the valley walls on the Sauk City end of the river. This sandstone is relatively soft and has allowed the river to carve a valley much wider than at Bridgeport where the harder Ordovician age dolomites dominate the bluffs.

Terraces

Near the mouth of the Wisconsin River there is a rock terrace on the northern side. North of Bridgeport this terrace is 100 to 160 feet above the stream channel and it is a half mile to one mile wide and six miles long (fig. 2).



Figure 2. The Bridgeport terrace, upstream from Wyalusing State Park. The terrace is interesting geologically speaking because it represents a channel within a channel. The upper portion of the valley is of weak sandstone, hence the valley was carved broadly. The narrower inner valley was cut into harder rock.

When the glacial ice melted above Sauk City, enormous quantities of sand and gravel washed in and filled the river bed below-up to 150 feet in some areas. The river eroded its way down through some of the debris to form a series of terraces. A good example of such a terrace is along Highway "Y" going north from Mazomanie. The only hill you encounter on Highway "Y" is actually a major terrace, very sandy, of the Wisconsin River.

Migrating Sand Bars

Because of the gentle drop, the slow current of the river is neither cutting down nor building up its bed. It erodes soil horizontally, scooping sediment from the outside of one meandering loop and depositing it on the inside of the next loop. The shore can lose or gain a lot of ground that way. The sandbars migrate downstream, like lazy canoers. Some move very slowly; other sandbars, however, travel downstream as much as 800 feet per year (fig. 3). The river carries over ten tons of sediment a day past Muscoda.



Figure 3. A Wisconsin River sandbar located upstream from Arena.

River Rampage

Sandbars are not the only things which the river can push

around. The Wisconsin, despite the dams which block its waters upstream is not a gentle giant. Floods still can, and do, occur (fig. 4). The record flood occurred in September, 1938, when the water was 12 to 14 feet higher than normal. Major floods also occurred in 1911, 1912, 1941 and 1965.



Figure 4. Marker in Wyalusing State Park showing memorable flood events. This marker is located downstream from the confluence of the Wisconsin and Mississippi Rivers.

Lead Shot and the Shot Tower

Geology influenced the history, industry and commerce of the region. Early in the 19th century lead deposits became accessible in southwest Wisconsin. How or why or when the lead was deposited in the region is still a geological mystery. The lead district begins about 15 miles south of the river.

A shot tower was needed to process lead into ammunition in a place convenient to the river. The area around Spring Green (or more precisely, Helena) was selected for the shot tower. It was indeed fortunate that the cliffs around Spring Green are made of soft sandstone. Digging a vertical shaft through 120 feet of rock was no easy task, especially in 1828. An additional 50 feet of horizontal shaft was needed to connect the base of the cliff with the bottom of the shaft.

The tower and surrounding land are now part of Tower Hill State Park (fig. 5). Here you can visualize the laborious process of shot manufacture and feel time flow past with the river.



Figure 5. The reconstructed Helena shot tower located in Tower Hill State Park.

Caves and Bears

Water dissolving limestone rock can, over the course of time, create caves. Glaciers crushed, bulldozed or buried most Wistonsin caves, thus removing them from the landscape, but glaciers never touched the Lower River Valley. There are many caves in the bluffs paralleling the Wisconsin River--most are small and little known. One of the largest is Eagle Cave near Muscoda. The cave was discovered in 1849, so the story goes, by a farmer named Peter Kinder who chased a bear into the cave. This story "bears" a suspicious resemblance to the tale of the discovery of Mammoth Cave in Kentucky.

VEGETATION

The vegetation which lies along the Wisconsin shows the effect of give-and-take between people and environment. The islands and hilly shore of the river remain little changed by human activity. Still, as in Father Marquette's day, the islands are vine covered and a varied landscape of woods, prairies and hills line the river. Marquette reported, "oak, walnut and basswood trees, and another kind whose branches are armed with long thorns " (i.e. honey locust). A few years after Marquette, Carver reported oak groves, flooded meadows, swamp, and flooded timber along the Lower Wisconsin. One can still find this diversity of habitat-ranging from near desert conditions in the sand dunes along the river bank in such places as Arena and Blue River, to the marshes, meadows and river bottom forest close to the water.

The Rich Flora

The plant life of the Lower Wisconsin River is very diverse. There are about 34 species of plants found in the Wisconsin driftless (i.e. unglaciated) area that are found nowhere else in the state. Other species are more common here than elsewhere because of migration patterns or unique habitats.

The steep cliffs and sand barrens are examples of unique habitats which support uncommon plants. A small, little known plant, <u>Sullivantia renifolia</u> is found only on steep cliffs in the driftless area. Its closest relatives grow on cliffs in southern Indiana, Ohio and Kentucky. Buttonweed, found only in Wisconsin on the sand blows north of Arena, is another example. Some plant species more characteristic of southern states were able to move up the Mississippi River Valley over long periods of time and grow along the Lower Wisconsin. American lotus, buttonbush, honey locust and river birch are examples of such species.

Some species may have had a larger range which was cut off by glacial ice. They disperse slowly and have failed to move back into glaciated country.

The Diverse Landscape

The landscape along the Lower Wisconsin is complex and hard to read. Because of periodic flooding and the sandy soil, a few feet of change in elevation can make the difference between a floodplain forest and a sand barren. The vegetation of the river valley falls into seven basic types.



Figure 6. The bottomland forest.

(1) <u>Bottomland Forest</u>. The floodplain or bottomland forest includes tree species such as silver maple, river birch, swamp white oak, American elm, green ash, cottonwood, and willow (fig. 6). Many photogenic plants such as the cardinal flower (fig. 7), touch-me-not, burning bush or wahoo, false dragonhead, and



Figure 7. Cardinal flower, a typical bottomland forest plant.

green dragon live here, as well as edible species such as groundnut, riverbank grape, wild yam and elderberry. Irritating species such as wood nettle and prickly ash protect the area. Dense patches of poison ivy, with vines clambering well into the tops of the tallest trees, keep intruders at bay. Bottomland forest covers areas which have alluvial soils and which are seasonally flooded.

(2) <u>Wetlands</u>. Wetlands occur in the sloughs, backwaters and oxbow lakes off the main river channel (fig. 8). Pondweeds, coontail, waterweed, water milfoil, white waterlily (fig. 9), spatterdock and bladderwort grow in deep water. In shallow water many strikingly beautiful species such as sweet flag, American lotus, bur-reed, arrowhead, pickerelweed and cattail live. Wild rice grows sparingly in some locations. Meadows dominated by sedges, and thickets dominated by dogwood and willow occur in areas which flood periodically.

(3) <u>Prairies</u>. The prairie is a plant community dominated by grasses rather than trees (fig. 10). There is a wide range of prairie types found along the Lower Wisconsin River. Some are wet, but most are very dry. The steepest and often the driest are those found on the south-facing hillsides. These are the goat prairies--little top soil, hot sun and so steep that only goats

seek pasture there. Many of the river bottom prairies are sandy and dry. Big bluestem, northern dropseed, Indian, switchgrass and side-oats-grama are common grasses here. The prairie flowers--the pasque flower, blazing star, coneflowers, columbine (fig. 11), black-eyed susans, wild indigo and compass plant-make prairies a beautiful patchwork. Big bluestem and Indian grass along with cord grass and blue-joint grass grow well in wet prairies. One of the largest remaining native prairies in Wisconsin lies along the river just east of Avoca. This area, because of water, was inaccessible (at planting time) during most years. It was, however, burned and cut for marsh hay. Other smaller prairie remnants remain along railroad tracks or on public lands. Most prairie lands have been converted to agriculture or pine plantations.



Figure 8. A backwater slough.



Figure 9. White waterlily, an aquatic plant typically found in quiet water.

(4) <u>Blows and Bars</u>. Sand blows and sandbars--open sand either exposed by wind action or deposited by the river, support specialized plants (fig. 12). Buttonweed, prickly pear cactus (fig. 13), hair sedge, sand croton and fameflower are examples of plants that can withstand the windy, hot, dry, exposed and shifting conditions of the sand blows. Willows and river birch are often found on the shifting sandbars.



Figure 10. The Avoca Prairie.

(5) <u>Upland Forest</u>. Dry forests occur on steep, upland slopes or sandy river terraces. Red, white, and bur oak, shagbark hickory and black cherry dominate the dry forest. If more



Figure 11. Columbine, a typical prairie and savanna wildflower.

moisture is available, sugar maple, yellow-bud hickory, white ash, basswood and slippery elm are found. Spring, when showy orchids, yellow lady's slipper orchids (fig. 14), dutchman's breeches and bloodroots dot the forest floor, is the most beautiful season in the dry forest.

(6) <u>Savanna</u>. Savanna is an area of scattered trees with prairie plants found underneath. The trees that live here are adapted to fire. After a fire, the scrub oaks (mainly black and bur) resprout quickly from underground roots. Fire opens the cones of the jack pine and it quickly seeds in. With fire protection and agriculture, savannas are becoming rare along the river valley.

(7) <u>Cliffs</u>. Cliffs along the river provide a unique habitat for some plants. Some cliffs are shaded and moist, others are exposed, sunny and dry. Exposed cliffs along the length of the river contain a species of goldenrod found only in the unglaciated area of Wisconsin. Prickly



Figure 12. A single juniper tree remaining in the middle of a sand blow.

pear cactus appears here. Interesting ferns, lichens and mosses are found on moister cliffs. Cliff-hanging is easy for these plants, but can be dangerous to humans. Take care as you explore this exciting habitat.

The Fern With 'Walking Leaves'

One fern that is occasionally found on the steep, moist, limestone cliffs "walks" (fig. 15). Where the tip of its arrowheadshaped leaves touch the rock, a new plant is formed. This vegetative method of reproduction moves new plants away from their parents. Hence, the name--walking fern.

The Desert Pavement

Sand blows are a unique natural phenomenon (fig. 16). The sand on the river terraces contains a small percentage of stones and gravel. Winds have sufficient velocity to pick up sand grains but they cannot lift

the stones. When the blowout has reached a certain depth (often about six feet in the Arena area) a sufficient quantity of stones has been concentrated on the surface to protect the underlying sand from further erosion. Scientists call this layer of pebbles "desert pavement". The blowout can go no deeper after the pavement is formed. Often a plant named hudsonia forms a mat which further stabilizes the blowout. However, a blowout can continue to spread laterally as the sand blast action of the winds quickly kills the plants along its edge.

The process of blowout and dune formation can lead to some unusual plant associations. Occasionally, a mixed stand of jack pine and river birch occurs. Close examination shows that the pines are on small dunes while the birches are on the bottoms of old blowouts, close enough to the water table to obtain needed moisture.



Figure 13. Prickly pear cactus, one of the few hardy plants found in sand blows and on dry cliffs.

ANIMAL LIFE

The variety of animal life in the river valley is astounding, and reflects the diversity of habitats here. Everything from the paddlefish to the prairie vole are found somewhere in the valley. Some animals, like the fox squirrel, skunk, white-tailed deer and muskrat are common and easy to recognize. Others, like the beaver, leave very recognizable signs. The ornate box turtle, the greater redhorse (a fish), the double-crested cormorant (a bird), the bald eagle and



Figure 15. Walking fern, a plant found on moist, limestone cliffs.

the osprey are rare finds along the river and are considered threatened or endangered animals in Wisconsin.

A Meeting of the Fishes

The Lower Wisconsin River, with its connection to the Mississippi River, is a fascinating study in fish distribution. The



Figure 14. Yellow lady's slipper, a wild orchid found in the upland forest.



Figure 16. A sand blow, or blowout, located east of Blue River.



Figure 17. A diversity of fish: (a) mooneye, (b) longnose gar, (c) shiner, and (d) quillback carpsucker.



rich number of fish found, is not surprising, as southern species move northward and western species move eastward through these two river systems (fig. 17). The silver lamprey, mooneye, quillback, black buffalo, logperch, brook silverside and pirateperch are some species that you may have never heard of before. In all more than 82 species of fish inhabit the Lower Wisconsin.

The Fishing Angle

Although the most ardent angler is not likely to catch the brook silverside or the pirateperch, most of the common, warmwater sport and panfish species, including catfish, walleyes, sauger, smallmouth bass, largemouth bass, northern pike, white bass, yellow bass, crappies, bullheads and bluegills are here for the taking.

Walleyes, sauger and smallmouth bass haunt the river proper. Dropoffs at the edge of sandbars, or deep water holes along the banks or under logs are the places to find these fish. Live bait or artificial lures are both useful. The deeper you fish, the better your chances. The most popular time to fish walleyes is in the early spring when the fish make their annual spawning migration. Walleyes spawn in brushy banks that are flooded.

Northern pike, largemouth bass and bluegills often live in the side channels, backwater and slough areas. Try fishing for largemouth bass and bluegills in late May and June when they frequent shallow waters. Fly fishing for both species is "top sport" for any angler. When these sloughs freeze in the winter, it's ice fishing time.

Anglers occasionally catch flathead catfish weighing in excess of 50 pounds. Fishermen often use set lines and bank poles baited with small bullheads, rotten clam meat, or a variety of other locally concocted "stink bait" to tempt the flathead and its smaller cousin, the channel catfish. Carpsuckers, suckers, buffalo, redhorse, carp and freshwater drum (sheepshead) are species which, under certain conditions, are harvested by commercial fishermen. The harvest can also include another rough customer, the snapping turtle. Friday night turtle soup specials are sometimes found at local "eateries".

Buttons and Clam Tracks

Even clams come in a fascinating variety along the Lower Wisconsin. Thirty one different species with names like the pig toe, squaw foot, pimple-back and pink heel-splitter live here. These shellfish are not harvested for human consumption- people have tried, but they are tough and chewy (fig. 18). Before the advent of plastic, clam shells were used to make mother-of-pearl Treasure seekers take buttons. note: clams occasionally produce freshwater pearls.

A wavy line across a sandbar is often a clam track (fig. 19). For slow paced entertainment, follow the track until you find the clam. They don't move very fast.



Figure 19. Clam track on a sandbar.

Clams, and other invertebrates like crayfish, are important food items for muskrats and racoons (fig. 20). Mink, otter, and fish also dine on crayfish.

Rattlesnakes, Reptiles and Amphibians

The most noteworthy or perhaps notorious reptile found in the steep, rocky bluffs along the river is the timber rattlesnake. Caution is urged when hiking these bluffs during the summer. A river dweller, the northern



Figure 20. A chimney marks the entrance to a crayfish tunnel.

water snake, is often locally called the "water moccasin". Although this species does have a viscious bite, it is not poisonous and should not be confused with water moccasins of the Southern United States.

Snakes perform important roles in the ecosystem. The fox snake and bullsnake for instance, feed largely on rodents, thus enforcing population control. For companionship the red-bellied snake makes a perfectly docile pet.

At times during the spring, the nights are alive with frog sounds--the spring peepers and chorus frogs. Unfortunately, the deep-throated call of the bullfrog is becoming silent as this species becomes more rare, but the thrill of the toad trill is still there.

The lizards and salamanders are secretive, lurking under old boards, logs, rocks or piles of leaves. One of the strangest is the mudpuppy. It is aquatic and has large feathery, sac-like gills for breathing underwater. Imagine the surprise of catching a mudpuppy when angling for bass, walleye or catfish.

The ornate box turtle (along with the snapping turtle) is one of the eight turtle species (fig. 21). It is much more common in western states. The ornate box turtle is found on sandy, abandoned farmsteads, where a favorite habitat is old junk piles. Will rural beautification destroy the palace where the box turtle is king?

Figure 21. Turtle tracks in the sand.

Mammals

The river valley is home to a number of mammals. Many are easy to see, but some species are very secretive (fig. 22). To discover a family of otters playing along the river banks is a rare delight.

One mammal, the beaver, was largely responsible for the early French exploration along the Lower Wisconsin (fig. 23). Beaver hats were in voque in Europe. Beaver pelts could be harvested by cheap native labor, transported easily along waterways in small boats, and were very valuable, an ideal resource for imperialistic Europe at the time. The French, British and Americans all had a hand in the fur trade along the Wisconsin at one time or another, with Prairie du Chien being the main trading center. With a change in style and a depletion of the beaver population, fur trading was no longer important to the region. Today,



Figure 22. Mammal tracks: muskrat (a) hind foot, (b) front foot, (c) trail; raccoon (d) hind foot, (e) front foot; (f) white-tailed deer, dew claws, (g) may or may not show.

the beaver again prospers along the river. Look for his dams, lodges, runs or cuttings along the channels coming into the river.

Tunnellers

Where there is prairie, there are prairie dogs, or a resonable facsimile. Even though the true prairie dog isn't presesnt, the plains pocket gopher fills his shoes (or in this case, his tunnel). A colony can be seen along the railroad right-of-way about three miles west of Lone Rock. The pocket gopher is seldom seen, but makes its presence known by a characteristically fan-shaped mound. This mound does not have an opening, but represents the last dirt excavated from the tunnel which is used to plug the opening of the burrow.

Feathered Friends

Rich bird life abounds along the Lower Wisconsin. Two hundred sixteen species visit the area sometime during the year. Of these, 41 species are present year-round, nine species visit during the winter, 91 species weather all seasons except the winter and 12 species are tourists, living here only during spring and summer (fig. 24). Where the Raptors Soar

The steep cliffs enclosing the confined river valley create ideal conditions for strong updrafts. If you are a bird-ofprey or a scavenger like the turkey vulture, this means easy living because you don't have to flap your wings much to soar. You can ride high in the sky, in search of food, with little effort.

The water in the main river channel does not freeze during the winter. This is important for fish-eating predators such as the bald eagle. This bird often migrates to the Lower Wisconsin for winter fishing. The Eagle Valley environmentalist (EVE) has acquired land at Ferry Bluff specifically for the purpose of protecting winter roosting habitat for eagles.

How Do You Fit a Round Woodpecker Into a Square Hole?

The largest and most secretive of the woodpeckers is the pileated woodpecker. You may catch a fleeting glance of this "crow sized" bird as it flies through the trees, or you may hear its raucous call. Where it has been, it leaves its calling card-large, rectangular holes in soft tree trunks (fig. 25).

Benjamin Franklin's Choice

Benjamin Franklin thought the wild turkey should be the official bird for the United States. If you share his preference, you will be glad to know that the Lower Wisconsin River has a turkey flock. Although limited in number, there are wild turkeys which have been reintroduced, after extirpation in the state, to the hills in the counties bordering the river.

The Woodland Drummer

The ruffed grouse is one of the more common upland birds. It often startles hikers as it bursts from thickets with a whir of wings. In the spring and fall, male grouse can be heard drumming out a love song on a convenient log. The sound is not unlike that of an old, two cylinder John Deere tractor struggling up a hill.

High-rise Hotel

As flood insurance, herons build their house on a stilt. One stout tree holds many of their huge nests out of harms way (fig. 26).

A Memorial to Future Hope

The passenger pigeon was once abundant in the hardwood forests of the eastern United States. Cutting the forest and excessive commercial hunting led to the demise of this species. The last pigeon was seen in Wisconsin about 1899. On a national basis, the population declined from several billion individuals in the late 1870's to zero in 1914, when the last survivor died in the Cincinnati Zoo. When dedicating a monument in Wyalusing State Park in 1947 to the last passenger pigeon, Dr. Hartley "H.T." Jackson offered these words: "We have today unveiled our monument dedicated to the last Wisconsin passenger pigeon, the only one erected to the memory of an extinct species. Let us not look upon this beautiful work of art as a token to the dead and past, but rather as a symbol to the living and the future that never again will we permit through our ignorance and indolence a native species to vanish from our midst." (fig. 27).

Figure 23. Beaver at work.





Figure 24. Heron (a) and shorebird (b) tracks are typically found in the sand and mud of gently sloping beaches.

Variety Equals Diversity

The great variety of birds is largely explained by the variety of habitats available to them. Scarlet tanagers, chickadees, downy woodpeckers, rose-breasted grosbeaks, cardinals, bluejays, orioles, and red-headed woodpeckers are common birds in the dry, upland forest. The wood thrush, least flycatcher, redstart, bluegray gnatcatcher, yellow-throated vireo and ruby-throated hummingbird are more common in moist upland forest.

The woodpeckers, the red-bellied, red-headed, pileated and flicker, find the bottom land forest favorable habitat, perhaps because of the presence of floodkilled trees. The prothonotary warbler, the cardinal and the tufted titmouse are also common residents.

Prairies have their distinctive avi fauna--horned larks, grasshopper sparrow, western meadowlarks, and snow buntings in winter are dry prairie species. Brewer's blackbird, bobolink, dickcissel, savanna sparrow and, at one time, the prairie chicken are more common on wet prairies.

Not to be forgotten is the variety of waterfowl and shore birds that inhabit the marshes, muddy banks and sandbars.

NATIVE AMERICANS

People have occupied the Lower Wisconsin River for the last 9-12,000 years. Among the earliest people were nomadic Paleo-Indians who may have hunted the mammoth and mastadon in the area at a time when the glacier was melting to the north. We know of them only by a few spear points and tools they left behind.

The Archaic cultures appeared about 5,000-1,000 B.C. These people fashioned woodworking tools from stone, such as the ax, and the gouge. They made their living by hunting, fishing and food collecting, using spearthrowers, hooks, gorges, nets, weirs and traps.

The Old Copper culture was contemporary to the later part of the Archaic culture. Copper culture implements were made of cold-hammered native copper instead of stone. Remains of the Old Copper culture have been found in Grant County.

The period from 100 B.C. to 400 A.D. marked the Middle Woodland culture. Burial mounds and pottery are remnants of this group. They, too, primarily hunted, fished and gathered wild plants for a living. Pipe smoking may have also started with this group.



Figure 25. A pileated woodpecker hole is identified by its large size and rectangular shape.



Figure 26. A great blue heron on a roosting limb.

The Late Woodland period started about 800 A.D. and lasted until around 1600. This was a time of cultural diversity. Late Woodland Indians had the bow and arrow, dog, pottery, dwellings made of a framework of poles covered with bark, skins or mats, and a variety of tools, weapons and utensils. They also practiced agriculture by raising corn, squash, beans and tobacco.

The Effigy Mound Builders (700-1,000 A.D.) were a specialized group of Late Woodland Indians. They were located primarily in the southern half of Wisconsin. They built mounds of earth to represent various animals and birds. Mounds are found in many areas along the river valley. They mark the cemeteries and ceremonial places of these Indians. Wyalusing State Park has well identified Indian mounds as does Effigy Mounds National Monument in Iowa, directly across the Mississippi from the mouth of the Wisconsin.

Archaic, Middle Woodland, and Effigy Mound Builders all lived in rock shelters during the winter. These rock shelters were often located in the valleys of smaller streams that feed the Lower Wisconsin. An Archaic period rock shelter can be seen at Natural Bridges State Park in Sauk County.

Indians of historic times were very mobile. Only three Indian tribes are definitely known to have been residents of Wisconsin in 1634. These were the Winnebago, the Menominee and the Santee Sioux. Pressure by white settlers on the east coast and struggles with the warlike Iroquois forced many tribes westward during the latter half of the 1600's. These tribes included the Mascoutan, Potawatomi, Kickapoo, Sauk, Fox, Ottawa, Huron and Chippewa. Because of these tribes' mobility through hunting, trading, food gathering and wars, it is logical to assume that each tribe left their mark on the Lower Wisconsin River.

The Indian was an integral part of the fur trade. Miners, however, needed land and built settlements. The land was Indian land. The U.S. Government arranged a number of treaties with the Indian. The treaties were filled with ambiguities and mismanagement characterized their implementation. There were no all-out Indian wars along the Lower Wisconsin. However, notable skirmishes did occur between white settlers and Indians (fig. 28).

HISTORIC TIMES

The Lower Wisconsin region was once the roaring frontier. A variety of persons contributed to the history, legend and lore of the region. They ranged from a Hungarian count to the fabled "Whiskey Jack" character. Some gained national prominence, others local infamy.

Explorers

The exact discovery of the Wisconsin River by Europeans is hard to date. Raddisson and Grossiellier may have discovered it in 1659 on a fur trading trip from Green Bay to the Mississippi River.

The first recorded journey down the river was made by the French, Father Marquette and Louis Joliet. The date was May 17, 1673, when they left St. Ignace, Michigan, with five additional men in two bark canoes. By June 7, they reached the region of the Upper Fox River, near Portage, and by June 17, they were at the confluence of the Wisconsin and Mississippi Rivers.

As the territory changed hands, so did the nationalities of the explorers. Jonathan Carver was the first Englishspeaking person to describe the river. This was in 1766, six years after new France was surrendered to Britain.

Captain Marryat, a British author, made a keel boat trip down the Wisconsin during the summer of 1838, a trip he would



Figure 27. Rubbing made at the passenger pigeon monument in Wyalusing State Park.



Figure 28. Battle of Wisconsin Heights historical marker located along Highway 12, south of Sauk City.

recommend to no one. By this time, the Fox-Wisconsin waterway was a well-established trade route and the Stars and Stripes flew over the Territory.

The European explorers came to seek riches to send back to the mother country. For some it was a rich harvest of furs. For the missionaries, primarily Jesuits, the harvest was souls.

A thriving fur trade established by the French with Indians of the Sauk, Fox, Chippewa, Ottawa, Potawatomi and other tribes attracted British and Americans to the region. Prairie du Chien became the focal point of this trade. Britain wrested the region from the French in the 1760's. The United States flag has flown over the region since 1783, except for a brief period during the War of 1812.

Get the Lead Out

Southwestern Wisconsin dominated the state's history during the period 1830-1850. History indicates that the French knew of lead in the region in the 1600's and were engaged in a limited lead trade in the 1700's. A series of treaties with the Indians beginning about 1804, maps of the region and strikes including a fabulous strike at Mineral Point, ushered in the lead boom of the 1830's and 1840's.

The Wisconsin River runs north of the lead district, but it was the major transportation route for the region. River towns such as Helena, Gotham and English Prairie (later Muscoda), boomed with prosperity. Six men could produce 5,000 pounds of lead shot a day at the Helena shot tower. The tower operated from 1833-1861. Helena was abandoned by 1861. The financial panic of 1857 caused its downfall. Headstones for the remains of some early pioneers are still to be found in the Old Helena Cemetery across the road from the shot tower (fig. 29).



Figure 29. Headstone in the old Helena cemetery.

Tillers of the Earth

As lead mining declined, many Cornish miners turned to farming, and during the period of the late 1830's and 1840's, the Sauk prairie was settled by German farmers.

Wheat satisfied the settler's needs for a quick cash crop. In 1856, Wisconsin produced the second largest wheat crop in the nation--28,000,000 bushels. The river again served as a transportation artery to market the grain and many of the Wisconsin's tributaries provided water power to turn gristmills (fig. 30). Wheat quickly depleted the natural productivity of the sandy soils along the River. Much of the land then remained barren until modern soil conservation practices, fertilizers and irrigation returned it to productivity.



Figure 30. Sawle's Mill, located at Hyde on Mill Creek.

The Wisconsin's history would not be complete without a story about beer. Hops are necessary for brewing fine beer, but by the early 1860's the hop louse decimated the hop crop in New York and New England. Before this time, Wisconsin had been in the hop market only in a small way. Almost immediately the Wisconsin crop became very valuable. Sauk County led the hop production, which reached a peak of 11 million pounds for Wisconsin in 1868. Farmers were realizing profits of \$800-\$1200 an acre from hops production. Unfortunately, the louse heard about the

hops boom in Wisconsin, and in 1868 the market crashed. By 1870 the boom was over and hops growing returned to an insignificant level.

Whiskey Jack

Paul Bunyan never logged as far south as the Lower Wisconsin. He had his raftsman counterpart in Whiskey Jack. It was the raftsman's job to float cribs of rough sawn lumber from the northern Wisconsin pineries down the Wisconsin and Mississippi, primarily to St. Louis, but sometimes as far south as Memphis, Tennessee and Helena, Arkansas (fig. 31). Finishing mills along the Mississippi prepared the lumber to construct homes and cities on the treeless prairies to the west. Between 1850 and 1885, millions of board feet of lumber went down the Wisconsin. The pineries-to-St. Louis trip might take three weeks with good water. It might take all summer with low

water. During a good season, a raftsman might make three or four trips to St. Louis. Many river towns survived from spring to spring on the money the raftsmen brought in.

Whiskey Jack was a legendary character--over seven feet tall with the strength of Samson. He was never bested in a brawl and could carry his rafts over shallow water. But not even Whiskey Jack could overcome the railroads, dams and more efficient milling methods which led to the downfall of the raftsman.

SAFETY FOR RIVER TRAVEL

The placid nature of the river is deceiving. There are hazards which can cause discomfort or can be downright dangerous to the river traveller.

Water Safety and Sweepers

There is seldom a summer that



Figure 31. Raftsmen floating cribs of lumber through Wisconsin Dells on their way to the Lower Wisconsin (H.H. Bennett photo, reproduced with permisssion from the H.H. Bennett Studio).

goes by without a drowning somewhere along the river. This is unfortunate because at most times and most places the river is wadeable. Deep holes do occur, especially at the edges of sandbars, around obstructions and in swift currents along the banks.

It is always advisable to wear approved life jackets when boating on the river. A little common sense, difficult in an emergency situation, can go a long way. If you get caught in a deep hole, let the current carry you downstream. Holes generally get shallower downstream. The current will quickly carry a person out of the danger zone. People have drowned exhausting themselves swimming against the current, only to reach deeper water.

Sweepers are trees or other obstructions lying across current in the river (fig. 32). They are especially prevalent next to shore where bank erosion causes trees to fall into the river. These are especially hazardous because swift currents can often pin a canoe onto the log, then flip the canoe over. The canoeist can be swept under the log, where there is usually a hole, become entangled in limbs or brush and drown. If you are caught in these circumstances, grab the log. Your life may depend on it. If you are caught in a situation where the current will carry you into a tree, snaq or debris, swim perpendicular to the current to avoid it.



Figure 32. Sweepers, a hazard for canoeists to avoid.

GUIDE POSTS

If you need additional information about facilities, you may write:

--The Chamber of Commerce for the appropriate village along the River.

--The State of Wisconsin, Division of Tourism, 123 West Washington Ave., Madison, WI 53703.

--University of Wisconsin--Extension Offices for:

> Sauk County P.O. Box 46 Baraboo, WI 53913

Crawford County P.O. Box 269 Prairie du Chien, WI 53821

Iowa County Agricultural Center Dodgeville, WI 53533

Grant County Box 31 Lancaster, WI 53813

Richland County Richland Center, WI 53581

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EXPLANATION OF SYMBOLS USED ON AREA MAPS FIGURES 33-36



Wisconsin River



State owned (DNR) land (as of June 1984) Lower Wisconsin River Wildlife Area (LWRWA)

x x x x x

Powerline crossing

MAJOR PUBLIC ACCESS POINTS SHOWN ON AREA MAPS *

a b	Veterans Memorial Park (Prairie du Sac) Town of Mazomanie Park (Highway Y)		x x	x	x	x	x	x
C	Mazomanie Wildlife Area	x	x					
d	Arena		x				•	
9	Highway 14 Bridge		x					
f	Tower Hill State Park	x		x	x	X	x	x
9	Sauk County Park (Peck's Landing)		x		x	x		
n	Otter Creek		x			x		
i	McKenna Park (Long Lake)		x					
	Buena Vista Boat Landing (Gotham)		x					
k	Avoca Lake Park		x	x	x	x	x	x
	(questionable access to river)							
Doordin.	Orion		x					
n	Riverside Park (Muscoda)		x	x	x	×	x	X
n	Muscoda (west side of Hwy. 80)		x					
С	Blue River Recreation Area		x		x	x		
р	Boscobel Recreation Area		x	×	x	x	x	X
q	Woodman Lake	x						
r	Woodman Recreation Area (Green River)		x		x	x	х	
S	Wauzeka Public Landing		x				x	
t	Millville Recreation Area		x		x	x	x	
u	Bedford Slough (Bridgeport)		x					
V	Wyalusing State Park		x	x	x	x	x	x

*In addition to the access points listed above, several other private and older access points (not maintained or lost to erosion) do exist along the river.

TION 354 4E RSE RAE R6E T9N T8N to NATURAL BRIDGE S.P WC /c O 14 12 С B 60) Spring) Green ์ Prairie du Sac SAUK CO. 60 DANE CO 60 Sauk City Ferry Bluff Twin ⊿^{Bluffs} TION TON YISCONSAN WESTERN RR TOW 60) 5 HILL S C f Old Helena Cemetery NSCONSIN HIVER WILDLIFE AREA Coon Rock^D Cave LWRWA Y Battle of Wisconsin Heights TON 8/8 rena 0 ANE Roxbu 78 R.R. ð/ ́н 12 14 (to old mill, on Mill Creek near Hy ~ Mazomanje

Figure 33. Area map of Prairie du Sac to Spring Green.

ABE AZE

TON TON



Figure 34. Area map of Spring Green to Muscoda.

25

24

RSE RSE

TON

26



Figure 35. Area map of Muscoda to Woodman.



Figure 36. Area map of Woodman to Prairie du Chien.

27





