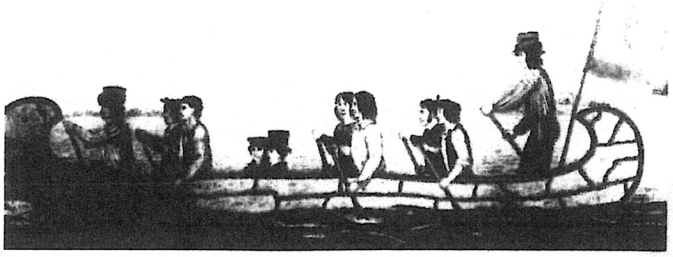
started the shipping of American furs to Europe around 1600, followed by English and American traders. Fur traders traveled by canoe on rivers, taking small manufactured goods such as knives, tools, beads, and mirrors to native tribes, where they traded these items for the furs of beaver, buffalo, and other animals. Then they transported the furs in canoes on rivers back to cities, where they fetched good prices. Most of the furs were then loaded on ships bound for Europe, where they were made into hats and coats for buyers in London and Paris and other cities. From about 1600 to the mid-1800s, furs were in high demand both in colonial American cities and in Europe, and fur trading was an important American industry.[56]



Early American colonists used canoes for efficient transportation.

A French "mountain man" was called a *coureur de bois*, literally a "runner of the woods," while a fur trader was called a *voyageur*, because the trade involved long-distance "voyages" on water, by canoe. The fur traders carried or *portaged* their canoes and furs overland between rivers when necessary to complete a route. (To *portage* means to "carry" in French.)

French fur traders founded Montreal in 1642. In 1673, French explorer Louis Jolliet and Jacques Marquette, a priest, led a long expedition from Montreal south. (For comparison, note that this was when Louis XIV was expanding the palace of Versailles back in France, and Dutch forces were retaking New York from British forces.) The expedition consisted of only seven men—five Frenchmen and two Algonquin tribesmen. They made the entire trip in two birch-bark canoes. From Montreal, they paddled along the shores of the Great Lakes, then upstream on the Fox River, a river that flows into Lake Michigan. Then they portaged (carried) their canoes across the local divide, to the headwaters of a small river that flows into the Mississippi, and paddled downstream hundreds of mile to what is now the state of Mississippi. They had numerous peaceful interactions with the native tribes, even though they were visiting some of the same areas where many men had died while fighting the natives on the earlier DeSoto expedition. They then paddled the canoes hundreds of miles back *up* the Mississippi, and home to Montreal, all without losing a single man.[57]

They traveled by canoe in the same manner as typical French-Canadian fur traders of the time. To modern readers, paddling a canoe upstream for hundreds of miles may sound nearly impossible, but native tribesmen had already been doing it for thousands of years. A lifetime of paddling made it more feasible for these people, but it also turns out that rivers in relatively flat country, such as most of the Mississippi, make nearly continuous bends. One ancient technique was to paddle up the eddy on the inside of a bend in the river, then ferry across the river, then paddle up the eddy on the inside of the next bend. In this manner, much of the paddling time was spent with little or no opposing current, and sometimes there was even a helpful upstream current in the eddy. Another technique, where the bends of the river were particularly close together, was to portage the canoe across the "isthmus" at the narrowest point between bends, then paddle *downstream* to the next narrow isthmus, then repeat the process, thereby making an overall trip *up* the river, even though the paddling itself was a series of *downstream* segments, interspersed with portages.

Montreal became the largest collection point for the northeastern fur trade, since it was located near the confluence of the St. Lawrence and Ottawa rivers, downstream from the Great Lakes and a short distance from the Atlantic. French fur traders also founded New Orleans in 1718. It became the main export city for the midwestern fur trade, since it was located near the mouth of the Mississippi River. They founded St. Louis in 1764, and it became the main collection point for the western fur trade, since it was located near the confluence of the Mississippi and the Missouri rivers. Note that St. Louis is just a few miles from where the canoe trading and pyramid-building city at Cahokia Mounds had flourished centuries earlier.

By the time the American colonies declared their independence from Britain in 1776, French fur traders were already in full operation in what is now the midwestern and western United States. Today, their legacy lives on in place names such as Coeur d'Alene, Idaho, and the Cache la Poudre River, in Colorado.[58]

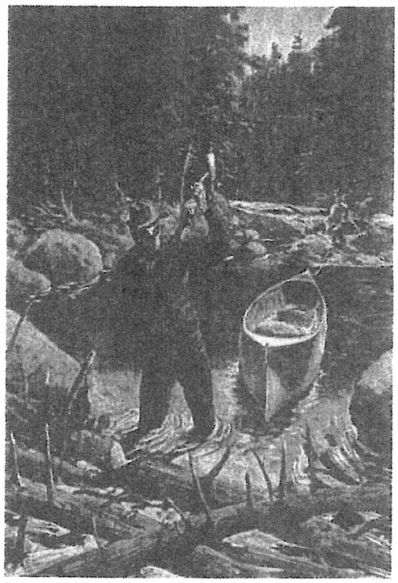
Today, novelists and movie makers often focus on conflict and warfare between native tribes and European settlers. Conflicts were indeed common in the 1800s, but during colonial times, in the 1600s and 1700s, traders usually found that the tribes were eager to trade furs for knives, tools, jewelry, and so on. Trading relationships were therefore valued by both the tribes and the European traders. Both tribesmen and traders considered it desireable for trader men to marry tribal women, and there were numerous such marriages, producing numerous children who were half tribal and half European.

[56] **European-American fur trading:** *The Forts of New France in Northeast America 1600-1763* by René Chartrand and Brian Delf, Osprey Publishing 2008.

[57] **Marquette and Jolliett expedition:** See vivid illustrations in *Marquette & Jolliet: Quest for the Mississippi* by Alexander Zelenyj, Crabtree Publishing 2006.

[58] **French fur trade:** *French Fur Traders & Voyageurs in the American West* edited by LeRoy R. Hafen, Univ. of Nebraska Press 1965 and A.H. Clark 1995.

Note that these two centuries of peaceful trading, during the 1600s and 1700s, were simply a continuation of the trading tradition that had already flourished for thousands of years among various North American tribes and civilizations, in places stretching from Illinois to Panama, as mentioned earlier.



In their quest for valuable furs, fur traders hacked through logjams and lined canoes through rapids.

River law in colonial America

Colonial governments consistently affirmed public boating and fishing rights. In 1641, the Massachusetts Bay Colony adopted the *Massachusetts Declaration of Fundamental Liberties,* which affirmed public rights to fish and fowl on the "great ponds" (lakes in that area,) along with the freedom to walk through uncultivated private land to do so.[59] Laws of the colony of Pennsylvania, enacted from 1700 to 1768, prohibited weirs that would block the movement of fish on rivers, and confirmed public rights to fish on rivers.[60] Note that these colonial laws reflected similar provisions in *Magna Carta,* which had been signed into law about five centuries earlier, as discussed previously.

In colonial times, people living inland from the coastal cities were dispersed, and they had few commercial food sources. There were no paved highways, and no trucks bringing food to local grocery stores. Canoeing, fishing, and fowling on rivers were important methods of obtaining food, and were a part of everyday life for many people.

Colonial views regarding public rights to use rivers were influenced by the pre-existing customs and legal views of the tribes. (As noted above, relationships between tribes and colonists were generally positive.) The general view was that canoeing, fishing, and fowling on rivers were an important part of life, and that public rights to do these things were undeniable. Conequently, the law during colonial times confirmed public rights to canoe, fish, and fowl on rivers.

Founding principles of American river law

Laws of Nature. The founding fathers of the United States reaffirmed the overall premise of ancient law that the *Laws of Nature* are the source of human rights and liberties. The Declaration of Independence says that people "are endowed by their Creator with certain unalienable rights; that among these are life, liberty, and the pursuit of happiness."[61] This echoed the ancient view, as expressed in documents such as the *Institutes of Justinian,* that public rights and freedoms are granted by God (or the gods,) and therefore cannot be revoked by human governments, so that they are unalienable (now spelled *inalienable.*) It should be noted that many Americans fought and died in the Revolutionary War to uphold these public rights and freedoms, and to protect them from future encroachment.[62]

The Commerce Clause. After winning independence from Britain, the states functioned for several years as a confederation of independent countries. It was not until 1787 that delegates from the various states met to draft the U.S. Constitution. A strong motivation for calling the Constitutional Convention was the need for an overall policy regarding commerce, which had become chaotic as states set up import duties and other impediments to interstate trade, in an effort to collect revenues and protect business for their own citizens. Consequently, there were few objections to the adoption of the "Commerce Clause" of the Constitution, which empowered Congress "to regulate Commerce with foreign Nations, and among the several States, and with the Indian Tribes."[63] The main commerce with the Indian tribes at that time was the *fur trade,* which was already centuries old, as discussed earlier. The fur trade was an important source of much-needed cash for the fledgling United States, since furs fetched good prices from buyers in London and Paris, as noted earlier. The fur trade was borne mainly by canoes on rivers. In effect, the Commerce Clause asserted national authority over navigation on rivers in canoes and similar craft. In subsequent decades, the Commerce Clause was to play a key role in the development of river law (and Constitutional law) in the United States, as discussed later herein.

Rivers navigable in canoes shall be "forever free." In the very first Act of Congress, Congress addressed the status of rivers in U.S. territory west of the original thirteen colonies, saying, "the navigable waters leading into the Mississippi and Saint Lawrence, and the carrying places between the same, shall be common highways, and forever free, as well to the inhabitants of the said territory as to the citizens of the United States, and those of any other states that may be admitted into the confederacy, without any tax,

[59] **Public rights in the Massachusetts Bay Colony:** *Inhabitants of W. Roxbury v. Stoddard,* 89 Mass. 158 (1863).

[60] **Public rights in the Pennsylvania colony:** Cited in *Carson v. Blazer,* 2 Binn. 475, 4 Am. Dec. 463, pages 474-476 (Pa 1810).

[61] **Endowed by their Creator:** Declaration of Independence, first paragraph.

[62] **Public rights and the Revolutionary War:** See discussion by the U.S. Supreme Court in *Martin v. Waddell,* 41 U.S. 367 (1842) page 414 (discussed later herein.) See also *A People's History of the United States,* by Howard Zinn, Harper Collins 1980, page 78.

[63] **Adoption of the Commerce Clause:** U.S. Constitution, Article I, section 8, clause 3, as discussed in *The Oxford Companion to the Supreme Court of the United States* edited by Kermit L. Hall, Oxford University Press 1992.

impost, or duty therefor."[64] In 1796, in a law governing territory that would become future states, Congress again declared that "all the navigable rivers, creeks, and waters" within the territory "shall be deemed to be and remain public highways."[65]

Fur traders traveled upstream to trap beaver and other animals that lived along small creeks in the mountains. Then they took the furs back downstream to distant buyers.

At that time, the common types of watercraft on rivers were canoes and other small, human-powered craft, used in the fur trade and for other transportation, as noted earlier. A canoe is about the heaviest watercraft that can be reasonably *carried* overland from one river to the next, and such carrying (or *portaging*) was a common practice in the fur trade. Therefore these laws about "navigable rivers" and "creeks," and "the carrying places between the same" refer to navigation *in canoes*, not in larger craft. (Steamboats and motorboats had not been invented yet.)

Describing the rivers in question as the tributaries of "the Mississippi and St. Lawrence" may at first seem like an odd limitation, until one considers that this description covered virtually all of the rivers flowing in the territory that was claimed by the United States at that time (as well as a number of rivers in lands that were claimed by France and Spain.)

These Acts of Congress have not been repealed. The U.S. Supreme Court has repeatedly cited them as being a fundamental source of public rights on rivers in the United States today.[66]

The Lewis and Clark expedition. In 1803 Congress made the Louisiana Purchase from France, buying the vast region that is now the Midwest. The next year Congress funded the Lewis and Clark expedition, to officially explore this vast area by canoe, as well as additional lands further west to the Pacific. President Thomas Jefferson (who had previously written the Declaration of Independence) personally planned the expedition, and appointed Lewis and Clark to lead it. (Indeed, there is evidence that Jefferson had secretly planned the expedition even before the Louisiana Purchase, when the lands to be explored were still claimed by the French.) The fur trade was an important source of foreign cash for the young nation, as noted earlier, and part of the motivation for the Lewis and Clark expedition was to ensure that rivers used in the fur trade would remain open to U.S. traders, who competed for trading routes (and "market share") with French Canadian traders.[67]

The Lewis and Clark expedition traveled across North America by canoe, meeting tribes that carved elaborate dugout canoes.

It may be difficult for modern readers to comprehend the demand for furs in Europe in the early 1800s, and the resulting importance of the fur trade in those times, in what is now the Midwest. Fur trade historian Hiram Chittenden explains, "For forty years [after the Louisiana Purchase] the people of the United States were at a loss to know what to do with their new possession. It was not yet needed for settlement... The single attraction that it offered in a commercial way was its wealth of furs, the gathering of which became, and for a long time remained, the only business of importance in this entire region."[68]

The Lewis and Clark expedition also hoped to find a canoe route to the Pacific Ocean, hopefully with only a short portage over the Continental Divide—perhaps not much longer than the portage between a tributary of the St. Lawrence, and a tributary of the Mississippi, that had been used by the Jolliet and Marquette expedition over a century earlier, and had been in frequent use since then.

After departing from St. Louis, the expedition canoed upstream along the Missouri River, using the various techniques to go upstream as described earlier. Then they continued up smaller tributaries. Then they carried their canoes and gear over the Continental Divide, (which turned

[64] **"Forever free:"** *Northwest Ordinance of 1787*, reenacted Aug. 7, 1789, chapter 8, 1 Stat. 50.

[65] **"Remain public highways:"** Act of May 18, 1796, chapter 29, section 9, 1 Stat. 464, 468.

[66] **U.S. Supreme Court regarding rivers being "forever free" and remaining "public highways:"** *The Montello*, 87 U.S. 430 (1874) page 440. *Economy Light & Power*, 256 U.S. 113 (1921) pages 119 and 120.

[67] **Fur trade as a motive for the Lewis and Clark expedition:** *The Journals of Lewis and Clark*, ed. by Bernard DeVoto, Houghton Mifflin 1953, pgs. xxv and 89.

[68] **Fur trade was the only business of importance:** *The American Fur Trade of the Far West* by Hiram Martin Chittenden, Stanford University 1936 and 1954, also University of Nebraska Press 1986, in two volumes, over 900 pages.

out to be long and arduous,) and canoed down small rivers to join the Columbia River, and onward to the Pacific Ocean. Near the mouth of the Columbia, they built log cabins and spent the winter. When warm weather returned, they canoed and portaged their way back to St. Louis, along roughly the same route. Throughout the expedition they collected many specimens of plants and animals, and they made official contact with numerous tribes along the way (informing the skeptical tribes that they were now under the dominion of the new U.S. government.)

As they canoed down the Missouri on the final leg of their trip back to St. Louis, they met no less than eleven parties of fur traders headed upstream.[69] As noted earlier, French fur traders had already been operating in much of that area for over a century, and tribes had been canoeing and trading on these rivers for many centuries before that.

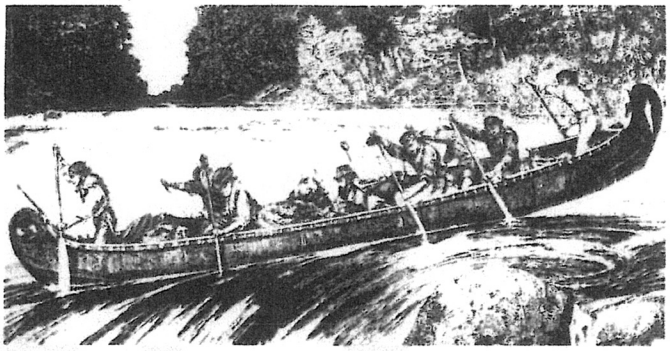
In other words, the Lewis and Clark expedition was not the initial human exploration of an untouched wilderness. Instead, it was an official fact-finding expedition, sent by the young U.S. government, to document the resources, and claim dominion, over lands that had already been occupied by tribes and pyramid-building civilizations for thousands of years. The laws and customs of these tribes and civilizations had long confirmed public rights to trade and travel on rivers by canoe, and to fish and fowl on rivers, as noted earlier. The laws of the new U.S. government essentially reaffirmed those ancient rights, although U.S. law based them on European principles such as the *Laws of Nature* and the *Institutes of Justinian,* rather than on Native American custom or Mayan codices. Either way (European or American) the net result was about the same—public rights on rivers were confirmed.

River uses in the early 1800s

It so happens that one can start from a point in western Pennsylvania, less than 200 miles from the Atlantic Ocean, and travel entirely by river to numerous points throughout the Midwest, and even to Montana. In the early 1800s, rivers provided both an important means for settlers to travel west, and also a means for them to earn a living once they got there. They could sell the products of their farms, and the surrounding forests, to commercial boatmen, who took these products by river to buyers in cities such as Cincinnati, St. Louis, Memphis, and New Orleans. From New Orleans, products were taken in ocean-going ships to buyers on the Atlantic coast and in Europe.[70]

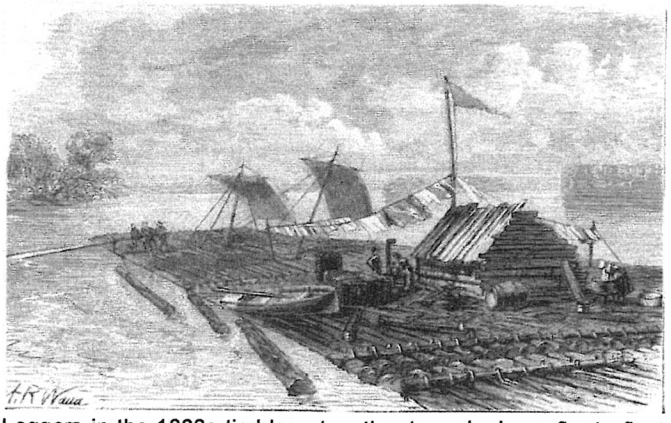
Canoes were the basic watercraft used in this commerce. As mentioned earlier, canoes were paddled upstream as well as downstream, and were carried around obstructions in rivers, as well as from one river to another.

Another basic watercraft at that time was a **log raft.** These were loaded with furs, dried meat, grain, coal, metal ore, and other raw materials, then steered downstream with long sweep oars. These heavy rafts made a one-way trip, and the logs themselves were sold as lumber at their destination. For some traders, the logs themselves were the main product, while the cargo carried on top was almost incidental. A number of historic houses in New Orleans, still standing today, were made of wood that came from Minnesota, transported down the Mississippi in the form of log rafts during the 1800s. Log rafts such as these were key elements in the classic American novels *Tom Sawyer* and *Huckleberry Finn*.



Fur traders in the 1800s canoed on rivers with rapids in their search for valuable furs, which were sold in America and Europe.

Another common boat was a **flatboat**, a boat made of thick wood boards, consisting of a flat bottom and sides. Often a roof was added over part of the boat. These wooden barges were lighter and more maneuverable than log rafts, and they provided somewhat safer transport for cargo, livestock, and passengers. Like log rafts, they were typically used for a one-way trip downstream, then sold at their destination for lumber.



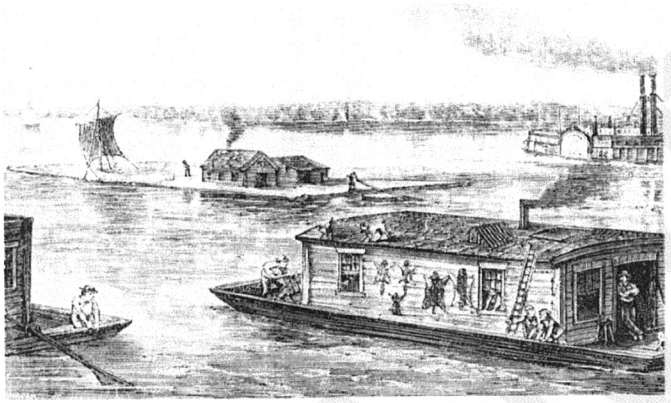
Loggers in the 1800s tied logs together to make log rafts, to float the logs down rivers to market, sometimes with cargo on top.

A **mackinaw** was a long, narrow flatboat with some curvature at the ends, to make it faster and more maneuverable. With a crew of four at the oars, and a fifth man handling the rudder (which was a long sweep oar,) these boats could cover over 100 miles a day when going downstream.[71]

Also common were **keelboats,** which were wooden boats made with a rounded hull and a keel, more like the boats

[69] **Met fur trade parties:** *Journals of Lewis and Clark* (just cited) pgs. 467 to 478.
[70] **Settlers, river use:** *The Rivermen* by Paul O'Neil, Time-Life Books 1975, p. 20.
[71] **Log rafts, flatboats, and mackinaws:** *Western Rivermen, 1793-1861* by Michael Allen, Louisiana State University Press 1990.

typically used on the ocean at the time. Keelboats were faster and more maneuverable than flatboats and mackinaws, and were designed for multiple trips. On the trip downstream they often carried heavy raw materials, similar to flatboats and rafts. On the trip upstream, they carried lighter, more valuable manufactured items, such as guns and tools, which were readily sold to frontier settlers. They moved upstream in four ways, briefly mentioned earlier: First, by men, mules, or oxen pulling them with a rope from the bank, called *cordelling*. Second, by men pushing off the bottom of the river with poles, while walking along the deck of the boat from bow to stern. Third, by rowing, with anywhere from four to twelve pairs of oars. Fourth, by hoisting a sail, to take advantage of common upstream winds in the afternoon. Often two or more of these methods were used at the same time. These methods had been used in Europe and elsewhere since ancient times, as discussed earlier.[72]

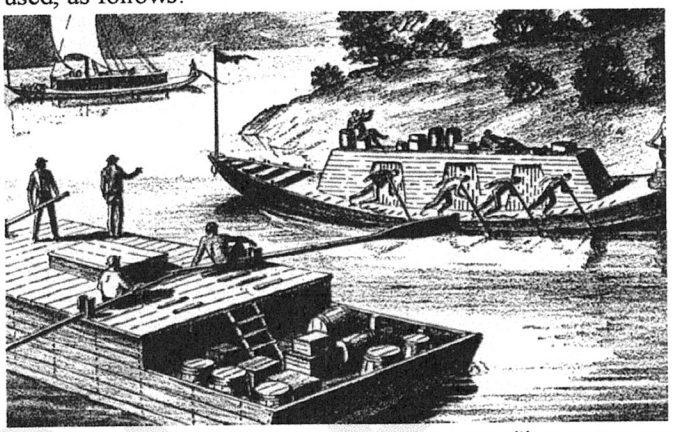


Flatboats, log rafts, steamboats, canoes, and other craft navigated American rivers through the 1800s.

To modern readers, these methods of moving upstream sound too slow and arduous, but as noted earlier, it was simply not feasible to transport large loads on the bumpy, rutted roads of those times. There were very few paved roads until the early 1900s. Note that the heavier loads moved *downstream*, from the interior of the country to the coast. Only the lighter loads moved upstream.

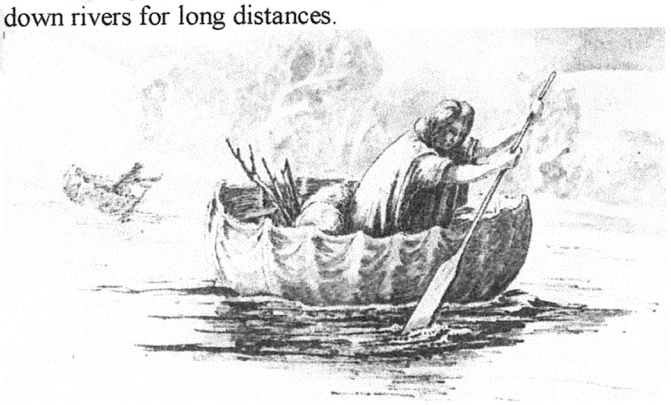
Modern readers may also wonder how perishable merchandise was preserved on these long river voyages. The meat was dried, and the furs were tanned. These and similar products were then compressed into bundles and tightly wrapped with protective leather covers. The presses used to make these bundles can still be seen at various "living history" sites in the Midwest and the West.[73] The resulting bundles could withstand rain, sun, dust storms, and other rigors during their long journey to distant buyers. If the vessel sank in the river, these bundles would float, so with luck they could be recovered from an eddy somewhere downstream.

The fur trade in the early 1800s. During the early 1800s the western fur trade grew quite large, as fur trading companies based in St. Louis hired numerous teams of men to head up the Missouri and its tributaries and acquire large quantities of furs from tribes.[74] Various watercraft were used, as follows:



In the foreground, a flat boat heads downstream with a sweep oar as a rudder. In the middle ground, men push off the bottom with long poles to propel a keel boat upstream. In the background, another keel boat catches some helpful wind.

Bull boats. Throughout the Midwest, early fur traders found the native tribes using *bull boats*. These consisted of a frame made of flexible branches, then covered with the hide of a bull buffalo. They were often built along the banks of a river, then used for a one-way trip down the river carrying furs and other products. Fur traders copied this technique, also making bull boats and using them to float their furs down rivers for long distances.



A frame of flexible branches, covered with the hide of a bull buffalo, made a bullboat.

Bull boats were quite similar to *coracles*, the rounded boats which had been used for fishing in Wales for centuries, as mentioned earlier. The great similarity between these two watercraft fueled the widespread belief, now discredited, that Welsh explorers in the 1100s, led by Prince Madoc, settled in the Midwest, and that their descendants

[72] **Keelboats:** *The Keelboat Age on Western Waters* by Leland D. Baldwin, University of Pittsburgh Press 1980.

[73] **Presses used to make bundles:** See the photo of the "pelt press" at sangres.com/colorado/national-parks/bents.htm

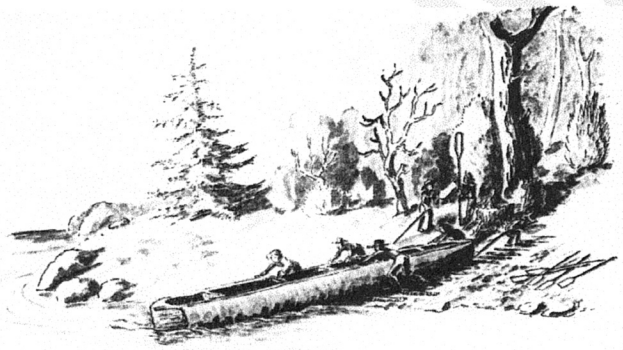
[74] **Fur trade during the 1800s:** *The American Fur Trade of the Far West* by Hiram Martin Chittenden, Stanford Univ. 1936-1954; Univ. Nebraska Press 1986.

were the members of the Mandan tribe (whose skin color was lighter than that of other tribes.)[75]

Some fur traders made "giant bullboats," large **skin canoes,** 25 to 30 feet long. A framework of willow poles was lashed together, then covered with buffalo hides sewn together, and the seams were sealed with buffalo tallow and ashes.[76]

Dugout canoes were also common in the fur trade at this time. They were typically carved from the trunk of a large cottonwood tree. They were usually about two inches thick at the bottom, and one inch thick at the rim, and they had solid partitions of wood inside, as bulwarks. They were usually propelled by two men paddling forward, and a third man steering by means of a long paddle trailing from the stern. In other words, they were essentially the same as the dugout canoes that had been used on many of the same rivers, and on other continents, for thousands of years previously.

Two dugout canoes fastened together, a short distance apart from each other, and decked over with rough planks, made a catamaran-like boat that the voyageurs called a **pirogue** (a French word for a small boat.) Large pirogues were about thirty to forty feet in length, and six to eight feet wide. They were steered by an oarsman who stood in the stern and used a sweep oar. To go upstream, they were propelled by oars, or towed by a line from shore, typically covering ten to fifteen miles a day. They covered more miles when going downstream, with the help of the current. A square sail was also used when feasible.

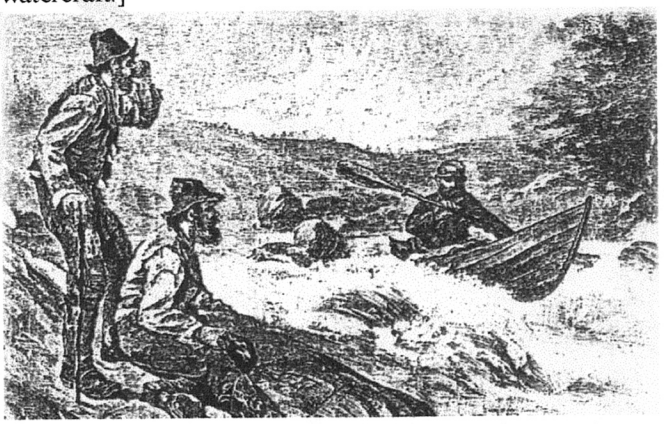


Fur traders in the 1800s carved dugout canoes from the trunk of a large tree, as people have done for thousands of years.

The voyageurs also used a type of **log raft** which they called a **bateau** (a French word for a boat.) Built of cottonwood logs, this heavy and rather unwieldy craft was typically ten to twelve feet wide and fifty to seventy feet long. A bateau was usually equipped with sweep oars, poles, lines, and sometimes a sail.[77]

Traders in this region also used **keelboats,** which were typically *cordelled* upstream by some thirty or forty voyageurs walking along the bank, as explained earlier.

A traveler in the 1830s described this assortment of river activity, writing an account of his trip through what is now Montana. He wrote that near the confluence of the Flathead and Bitterroot rivers, "we found a party of young half-breeds, who had returned from their fall hunt, and brought in their furs for delivery." (Note that the "half-breeds" would have been the sons of fur trader men and their tribal wives, bringing furs for delivery to a fur trader.) He also reported that nearby there was "quite a village of Indians," where "most of the families have light canoes, with which they glide about on the river, and gather roots and berries." Later he saw canoes carrying "whole families and their baggage down the stream with surprising velocity." He noted that the canoes "were managed by the squaws, who, with their paddles, direct their course with great steadiness, astonishing rapidity, and apparent ease and dexterity." Later he saw groups of fur traders on the Bitterroot River. "A long line of Mackinaw boats, loaded with furs and peltries, were proceeding down the river, the whole surface of which was covered [with mackinaws, canoes, and similar watercraft.]"[78]



Kayaks were used during the 1800s by natives and prospectors.

Kayaks were also used during these years on rivers, and in the commercial hunting of sea otters—which was yet another component of the fur trade—along the Pacific coast, from California to Alaska, from the late 1700s to the 1840s. Sea otters have the thickest fur of any animal, and these valuable furs came to be known as "soft gold," fetching high prices in markets ranging from China to London. Native tribesmen had been hunting sea otters in small quantities for

[75] **Welsh coracles and Mandan bull boats:** *Prince Madoc, founder of Clark County, Indiana* by Dana Olson, self-published 1987, and "Madoc" at madoc1170.com (these accounts are generally discredited by historians.)

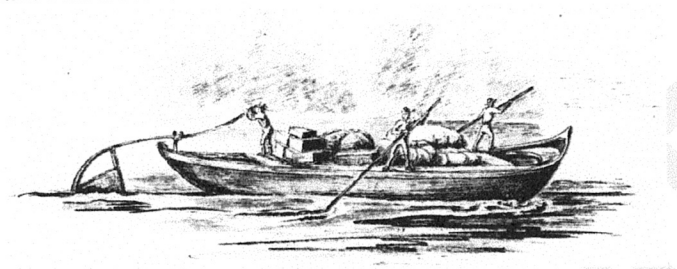
[76] **Large skin canoes:** "The Skin Canoes of the Great Plains and Rockies" by James A. Hanson, *The Museum of the Fur Trade Quarterly,* Vol 16 No 1, 1980.

[77] **Dugout canoes, pirogues, bateaux:** See descriptions and illustrations in *Original Contributions to Western History* ed. by Nolie Mumey and illus. by Inez Tatum, The Westerners 1952, pages 180-187. Also *West of the River* by Dorothy Gardiner, Thomas Crowell Company 1941, pages 34-35.

[78] **Eye-witness account of river traffic:** *Life in the Rocky Mountains, A Diary of Wanderings on the sources of the Rivers Missouri, Columbia, and Colorado, 1830-1835* by Warren Angus Ferris, reprinted 1983 by The Old West Publ. Co.

centuries. Russian entrepreneurs started acquiring these furs from the natives in the late 1700s, then founded Fort Ross, California, in 1812, as a base for hunting sea otters. The sea otter population soon shrank due to over-hunting, and the Russians left Fort Ross in 1842. Their legacy lives on in the name of the Russian River in California, which reaches the coast near Fort Ross, and is a popular canoeing and kayaking river today.[79]

As noted earlier, relations between European fur traders and native tribes were generally peaceful in colonial times, but as more Europeans poured into tribal areas during the 1800s, tensions increased. Greater use of alcohol as a trade item added to the conflicts and fighting. Some fur companies hired their own crews of trappers to gather furs, thereby cutting the tribes out of the deal, which the tribes greatly resented. Finally, the growing competition for land and resources led to actual warfare.[80]



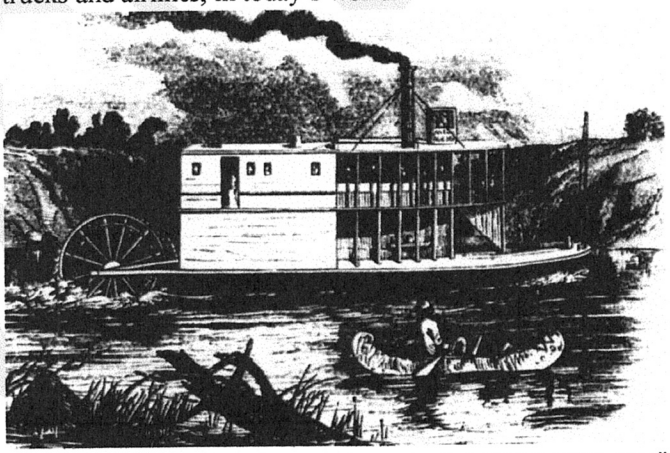
A keelboat with a large rudder, loaded with cargo.

The steamboat era. In 1812, the first American steamboat went by river downstream from Pittsburgh to New Orleans. It then operated on the Mississippi River, between New Orleans and Natchez, Mississippi, for less than two years, until it hit a *snag* in the river and sank. Snags are fallen trees, half buried in the riverbed. Their branches break off and leave sharp stumps sticking up toward the surface of the water. If a steamboat hit a large snag, it was likely to sink, so snags were a fundamental problem for early steamboats, preventing widespread use. It was not until 1829 that the first "snag boat" was built, a sort of "catamaran steamboat" that could straddle a snag then hoist it up on deck with a crane. Through the 1830s, the federal government paid for snag boats to clear snags on the Mississippi and other rivers. Steamboats then became more common on rivers in the 1840s. They traveled up the Missouri River as far as Montana, and went up numerous smaller rivers.[81]

On these smaller rivers, steamboats often got stuck on sandbars. To free themselves, they used a system of timbers and cables, winched by their engines. This process was called *grasshoppering* because it resembled a giant grasshopper.[82]

Steamboats became a major form of long-distance public transportation, for passengers and freight, in the mid-1800s. Although novels and movies typically dramatize the role of covered wagons in the settlement of the Midwest and the West, historians estimate that in reality, more settlers came west on steamboats, and other smaller boats, than in covered wagons.[83]

Even during their heyday, steamboats did not replace canoes, log rafts, flatboats, and keelboats on rivers. The fur trade was still active, using canoes, throughout the steamboat era. Logs were still typically taken down rivers in the form of log rafts, not as freight on steamboats. Flatboats and keelboats still hauled heavy loads, doing so more economically than steamboats. Steamboats were mainly for passengers and lighter freight that needed to get to their destinations more quickly, at a higher cost. The situation was somewhat analogous to the difference between highway trucks and airlines, in today's world.



Some steamboats were large and ornate, but others were small and practical. They frequently ran aground but quickly backed off.

The development of river law in the early 1800s

River law in the U.S. was shaped by U.S. Supreme Court decisions from the early 1800s to the present, which in turn were influenced by certain state supreme court decisions. The following discussion of these decisions is lengthy, because these decisions are the foundation of public rights on rivers today. Readers who want to more quickly proceed to actual answers about current public rights on rivers (including which rivers are navigable in which senses) can skim over the following discussion and proceed to Chapters Three and Four. However, the answers in those chapters necessarily refer back to the following landmark court decisions. In addition, readers who must respond to the claims of lawyers who oppose public rights on rivers will find that it becomes necessary to know what the following

[79] **Kayaks and fur trade:** "History of the Russian Settlement at Fort Ross, California," at parks.sonoma.net/rosshist.html

[80] **Fur trade and warfare in the 1800s:** *The Fur Trade of the American West, 1807-1840* by David J. Wishart, University of Nebraska Press 1979 and 1992.

[81] **Snag boats and steamboat history:** *Tales of the Mississippi* by Samuel, Huber and Ogden, Pelican Publishing, Gretna, 1955 and 2000, pages 25-53.

[82] **Grasshoppering:** Described in *Original Contributions to Western History* by Nolie Mumey and illus. by Inez Tatum, The Westerners 1952, page 209.

[83] **Settlers coming west by steamboat and other smaller boats:** *The Rivermen* by Paul O'Neill, Time-Life Books 1975.

decisions were actually about, and what they actually concluded.

1821, *Arnold v. Mundy,* public fishing rights and the Public Trust Doctrine.[84] This New Jersey Supreme Court decision strongly influenced later decisions by the U.S. Supreme Court. The owner of land near the mouth of the Raritan River had staked off an area of submerged land under shallow water, adjacent to the land he owned on the shore, and had attempted to exclude the public from fishing or harvesting oysters in this area of shallow water. He traced his claim back to an original grant from the king of England (a "crown grant.")

The Court upheld public rights to fish in that area, including harvesting oysters off the bottom, citing three fundamental sources for these public rights: "The law of nature, which is the only true foundation of all social rights," as well as "the civil law, which formerly governed almost the whole civilized world, and which is still the foundation of the polity of almost every nation in Europe," and finally "the common law of England, of which our ancestors boasted, and to which it were well if we ourselves paid a more sacred regard."

Fishing on rivers was popular in America throughout the 1800s.

Summarizing the history of the issue, the Court said that public rights on rivers had been "a great principle of the common law" in England since "ancient times," and although some medieval kings had encroached upon these "common rights," Magna Carta was "nothing but a restoration of common right." The Court said that the landowner's attempt to deny public rights to fish in these waters, and to harvest oysters off the bottom of the water, was tantamount to claiming that "Magna Carta was a farce."

Today, legal scholars cite this decision as "the foundational public trust decision in the United States."[85] It was the beginning, in the United States, of the *Public Trust Doctrine*, a doctrine of law holding that waterways are held in trust by the government for public use. Its actual origins, in England and the ancient Mediterranean civilizations, were many centuries older, as the Court itself explained (and as discussed earlier herein.)

1824, *Gibbons v. Ogden,* federal jurisdiction over river traffic within one state.[86] As mentioned earlier, when delegates met to draft the U.S. Constitution, interstate trade had become chaotic, as various states imposed import duties on goods entering their state, so their was little controversy about the *Commerce Clause* of the Constitution, which granted federal authority over commerce among the states and with native tribes. For decades thereafter, however, the prevailing legal view was that states should govern most industry and commerce, not the federal government.

Steamboats were the first widespread mechanized transportation in America. They played a fundamental role in the gradual transformation of the U. S. economy from a collection of local economies, involving agriculture and local manufacturing, to a national economy, involving large-scale manufacturing and interstate movement of merchandise. They continuously transported people and goods from state to state. Consequently, steamboat operations raised basic constitutional questions about the proper roles of state and federal authority over the developing interstate economy.

Gibbons v. Ogden, decided during the early years of the steamboat era, was the first U.S. Supreme Court decision to apply the Commerce Clause to a dispute involving state versus federal authority. The State Legislature of New York, in an effort to induce a steamboat company owned by Mr. Ogden to operate in New York, had granted his company the exclusive right to operate steamboats within the state. Mr. Gibbons later started competing with Ogden, also operating steamboats within the state. Ogden then sued to prevent Gibbons from operating. Ogden argued that federal jurisdiction should not apply in the matter, since both steamboat operations were operating entirely within one state, without crossing state lines.

The U.S. Supreme Court disagreed, holding that the state government's exclusive grant to Ogden was "repugnant to that clause of the constitution of the United States, which authorizes Congress to regulate commerce," rather than the states. The Court said, "The power of regulating commerce extends to the regulation of navigation. The power to regulate commerce extends to every species of commercial intercourse between the United States and foreign nations, and among the several States. It does not stop at the external boundary of a State."

This decision confirmed federal jurisdiction over traffic on rivers, including traffic that did not cross state lines. It

[84] ***Arnold v. Mundy,*** 6 N.J.L. 1, 10 Am. Dec. 356 (1821). See at: fas-history.rutgers.edu/clemens/NJLaw/arnold1821.html.

[85] **Foundational public trust decision:** Described as such in *Water and Water Rights,* 1990 Ed. Updated 2001, section 29.01.

[86] ***Gibbons v. Ogden,*** 22 U.S. 1 (1824).

was also instrumental in later confirming federal jurisdiction over other commercial and industrial activities, unrelated to rivers, including commercial activities that did not cross state lines.

In subsequent years, rivers that were subject to this federal jurisdiction, under the Commerce Clause of the Constitution, came to be called *navigable for Commerce Clause purposes*.

In other words, *Gibbons v. Ogden* was a landmark decision not just in river law, but in overall Constitutional law. It established the principle that navigation is a national concern, not a matter of state by state discretion. The steamboats and flatboats of that era have now been largely replaced by other river craft such as rafts and kayaks, but the principle that state governments cannot restrict navigation remains the same.

1842, *Martin v. Waddell,* confirmation of the Public Trust Doctrine.[87] The facts in this case were quite similar to those in the New Jersey case of *Arnold v. Mundy*, discussed above: A waterfront landowner sought to prevent the public from harvesting oysters off the bottom of the shallow water adjacent to his private land, near the mouth of the Raritan River. As in the earlier case, the landowner claimed that his private ownership of these lands could be traced back to an original grant from the king of England (a "crown grant.")

Citing *Arnold v. Mundy*, the U.S. Supreme Court confirmed public rights to fish and harvest oysters off the bottom. The Court quoted, with approval, a passage from the English legal treatise *De Jure Maris*, written in 1667 (cited earlier herein) which said, "the common people of England have, regularly, a liberty of fishing in the sea, or creeks or arms thereof, as a public common of piscary." (A *piscary* is a "fishing place.")

The Court said, "the shores, and rivers and bays and arms of the sea, and the land under them," were "held by the king as a public trust," and therefore they continue to be "held as a public trust for the benefit of the whole community, to be freely used by all for navigation and fishery, as well for shell-fish as floating fish."

The Court also explained, "It is a matter of history, that the Stuarts, to encourage emigration, introduced into these colonies the broadest principles of British liberty. The fundamental constitutions of New York show this. The people have always appealed to Magna Carta as the foundation of American as well as British liberty."

The Court then discussed customs in the thirteen colonies that originally formed the United States, saying, "In all of them, from the time of the settlement to the present day, the previous habits and usages of the colonists have been respected, and they have been accustomed to enjoy in common, the benefits and advantages of the navigable waters, for the same purposes, and to the same extent, that they have been used and enjoyed, for centuries, in England. Indeed, it could not well have been otherwise; for the men who first formed the English settlements, could not have been expected to encounter the many hardships that unavoidably attended their emigration to the new world, and to people the banks of its bays and rivers, if the land under the water at their very doors was liable to immediate appropriation by another, as private property; and the settler upon the fast land thereby excluded from its enjoyment, and unable to take a shell-fish from its bottom, or fasten there a stake, or even bathe in its waters, without becoming a trespasser upon the rights of another." (A "stake" was used to hold a boat in position in shallow water while fishing or harvesting oysters.)

After citing the Law of Nature as the original basis for these public rights, the Court said, "The sovereign power itself, therefore, cannot, consistently with the principles of the law of nature, and the constitution of a well-ordered society, make a direct and absolute grant of the waters of the state, divesting all the citizens of a common right. It would be a grievance which never could be long borne by a free people."

Therefore, the Court concluded, it was of fundamental importance to uphold and maintain the public's "liberty" to boat and fish in shallow waters, such as the waters at issue in this case, adjacent to private land.

This principle that these permanent public rights are held by the state, "as a public trust for the benefit of the whole community, to be freely used by all for navigation and fishery," is the principle underlying the Public Trust Doctrine of law.

Regarding the Court's reference to "the Stuarts," the Stuart kings ruled England and Scotland through much of the 1600s and 1700s, during the era when the American colonies were established and populated with emigrants from Britain and elsewhere. These kings encouraged people to emigrate to the colonies, in order to expand the British empire and facilitate the extraction and transport of additional natural resources to Britain. Going to America as a colonist was a fundamental, permanent decision—few colonists ever returned home. It was also a life-threatening decision, due to the perils of the voyage itself and subsequent life on the frontier. Therefore it is appropriate to review what people in Europe heard about canoeing, fishing, and other uses of rivers in America during the 200 years of the colonial era, and how this influenced the difficult decision to emigrate. Many of them had seen pictures (or actual performances) of kayaking, fishing, and duck-hunting skills by tribal Americans, such as the tribal man brought to England in 1576 (noted earlier.) Many had also seen pictures, (such as the one reproduced herein, first published in 1590,) showing natives fishing in what is now North Carolina, surrounded by plentiful fish. Many had read reports from explorers such as Jolliet and Marquette, describing their canoe expedition from Montreal to Mississippi in 1673, and their peaceful contacts with native tribes. Many of them had seen furs, gathered by tribesmen in America, then sold to fur traders and brought to Europe.

[87] ***Martin v. Waddell,*** 41 U.S. 367 (1842).

A picture first published in 1590, showing natives fishing in what is now North Carolina, with plentiful fish. Such pictures were distributed in Europe to encourage people to colonize America.

In sum, people in Europe knew that in America fish and fowl, and fur-bearing animals, were plentiful, and that a common way to catch and transport this bounty was by canoe or kayak. They generally knew that there was a lot of thickly forested land in the interior of America, and that many settlers got around by canoe, and built homes and towns from logs that had been transported down creeks and rivers. Most colonists were aware of these things, to some degree, before they made the decision to go to America. For many colonists, opportunities to freely canoe, fish, hunt, and homestead new land, (in areas where transportation by canoe was common,) were a key part of the reason that they made the fundamental, life-changing decision to board a ship bound for America.

At the time of this Supreme Court decision, in 1842, the justices likely would have had fathers, grandfathers, or other relatives who immigrated to America, and who may have fought in the American Revolution. The hardships of emigration, and the fundamental importance of public rights to fish, fowl, and travel on rivers, would have been very real to them. This explains the passage in the decision about the Stuart kings encouraging emigration by ensuring "liberty," and the Court's conclusion that colonists "could not have been expected to encounter the many hardships that unavoidably attended their emigration to the new world... if the land under the water at their very doors" were later treated as private property.

Ownership of the land under the water: Note that the Court addressed both the matter of public *access* to the water and the land under the water, and also the matter of *ownership* of the land under the water. In England the legal view had been that the *king* owned such land, subject to public use, but in America, the Court said, "When the revolution took place, the people of each state became themselves sovereign; and in that character hold the absolute right to all their navigable waters, and the soils under them, for their own common use, subject only to the rights since surrendered by the Constitution to the general government."

In other words, the Court held that the land under navigable waters is owned by each state, and is held in trust by the state government for public boating and fishing. In subsequent years, rivers on which this principle applied came to be known as *navigable for title purposes*. (*Title* in this sense means *ownership*.) On such rivers, the bed of the river is typically owned by the state, not by the adjacent private landowner.

Today, the land along rivers that is under water, (all or part of the year) is often called the *submerged and submersible land*. The land that is above the level of the water (at least when the river is at "ordinary" levels) is called the *upland*.

Crown grants: Regarding the landowner's claim that his right to exclude the public could be traced back to an original "crown grant" from the king of England, the Court said, "The great principles of British liberty must be considered as accompanying this royal charter, and it must be construed accordingly." (The "royal charter" is the "crown grant.") The Court said that since rivers are "held by the king for the public benefit," a crown grant cannot turn them over to private control.