

The Newsletter of the Southwest Arkansas Navigation Study



Vicksburg District
Corps of Engineers

Arkansas Red
River Commission



DEVELOPMENT OF THE UPPER RED RIVER

The upper Red River area did not begin to be developed until after the United States purchased the Territory of Louisiana from France in 1803. The purchase included most of the study area. The exception was the portion of the study area in Texas, which remained under Spanish jurisdiction until the formation of the Republic of Texas in 1836. However, the boundary between the United States and Spain in this area was uncertain, and part of the area that became Texas was included in early Miller County, Arkansas.

Three factors contributed significantly to the settlement of the upper Red River area:

(1) Settlers began arriving in Arkansas shortly after the Louisiana Purchase, and it had sufficient population to achieve territorial status in 1819. Some of the settlers went to the southwest corner along the Southwest Trail, an old Indian trail that ran through the Little Rock area on the Arkansas River to the Fulton area on the Red River. Many of these persons were slaveholding cotton planters from older

southern states who were seeking new opportunities in the fertile valleys of the Red River and its tributaries. Settlements were established from 1815-1820 at Fulton; at Long Prairie downriver of Fulton; at Washington, northeast of Fulton on the Southwest Trail; and at Mound Prairie, five miles northwest of Washington.

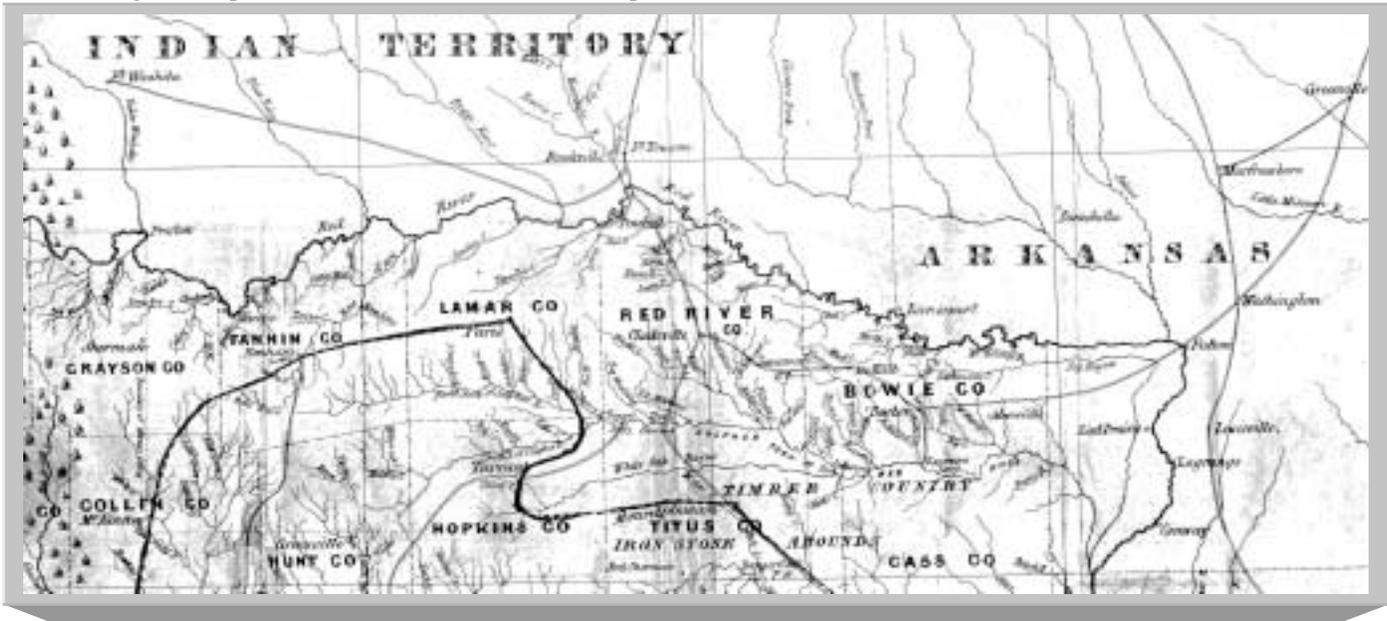
Others passed farther on into the territory north of the Red River that was to become Oklahoma and south of the river that was to become Texas. One of the main routes into Texas was Trammell's Trace, which was blazed by Nicholas Trammell about 1815 and ran between Fulton and Nacogdoches to the south. There was another trail that ran west out of Washington and cut south across the Red River slightly below its confluence with the Kiamichi River. Jonesborough, which was the first Anglo-American settlement in Texas, was established at this crossing on the south side of the Red River in 1815. It was joined the next year by Pecan Point about 30 miles downstream at the confluence with Pecan Bayou.

(2) The second factor contributing to the development of the area was the

decision by the United States government to relocate the Indians east of the Mississippi River to the Indian Territory in what is now Oklahoma. This process began with the Choctaw in 1820s and 1830s, who were relocated from Mississippi and Alabama to southern Oklahoma. They were joined in the same area by the Chickasaw from northern Mississippi in the 1830s.

Some of the Choctaw and Chickasaw were mixed-blood slaveholding cotton planters in their homelands and were quick to seize the new opportunities afforded by the Red River valley. Two of the most notable of these were the Choctaw Robert Jones and the Chickasaw Robert Love, both of whom became multiple plantation owners and among the wealthiest persons in the South.

(3) The third factor in the development of the area was the establishment of forts to protect Arkansas settlers and the resettled Indians from the Indians to the west. These forts included Fort Gibson in east-central Oklahoma and Fort Towson slightly north of the Red River and east of the Kiamichi River, both of which



were established in 1824. They were joined in 1842 by Fort Washita farther to the west on the Washita River. The forts took on a secondary role as administrative centers for the newly relocated Indians.

The white settlers, the Indians, and the forts were serviced by keelboats, which could be manually propelled upstream, and by flatboats, which had no means of propulsion and ran with the current downstream. The first keelboat penetrated the upper Red River in 1816 under the command of James Moss, along with his brothers William and Mathew, who settled between Washington and Mound Prairie. Claiborne Wright brought his family to Pecan Point in September 1816 aboard the keelboat *Pioneer*.

Upstream movements of keelboats and downstream movements of keelboats and flatboats would have been from and to Alexandria during the first few years, because that point had been reached by commercial steamboats in 1818. These activities would have switched to Natchitoches in early 1820, which was regularly served by steamboats from that year onward. Upstream movements carried settlers, farm and plantation supplies, military personnel, and military provisions. Downstream movements carried cotton and Indian trade goods such as hides, pelts, skins, and bear oil, which were offloaded at Natchitoches and sent downstream to New Orleans. There were also substantial movements

between points on the upper Red River. Military records indicate the movement of more than one keelboat to Fort Towson almost every year at least through the late 1830s. The extent of private passenger and freight transport is unknown because of the absence of systematic records. However, it must have been substantial, because settlement had been fairly rapid, and large-scale cotton agriculture had emerged in the upper Red River area by the early 1820s. Flatboats were common and continued to be used during the steamboat period when the river was low. Private keelboat activities included William Dewees with 10 families from Tennessee to Pecan Point in 1819. Persons known to have operated keelboats and flatboats on the upper Red River include Travis Wright (Claiborne's son), Dick Finn, Abraham Block, George Alban, and Jim Gamble. The Caddo Lake recluse and bee hunter Hiram Bails served as pilot for many keelboat passages. Keelboat crews at the time were said to be "a wild set composed of renegade whites and Indians."

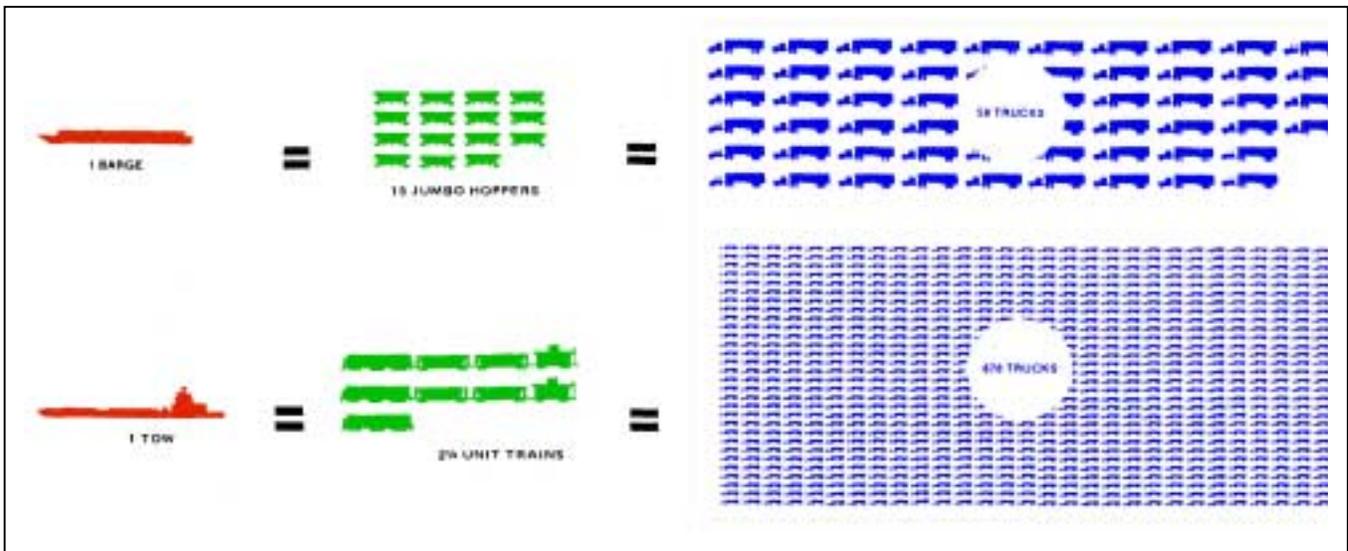
The best indication of the extent of keelboat and flatboat traffic on the upper Red River is a list of landings published in 1854 that was prepared during the keelboat period and originally included all of the plantation landings. The keelboat landings, moving upstream and on both sides of the river, were Caddo Prairie, Diggs' Bluff, Sulphur Fork, Conway, Abrams',

Chicaninny Cutoff, Col. Winn's Fishers Prairie, Little's Prairie, Hamilton's Lost Prairie, Dooley's Ferry, Buzzard Bluff, Fulton, Glass Landing, White Oak Shoals, Pine Prairie, Shaw's Landing, McKinney's Landing, Paxton's Bluff, Spanish Bluff, Smith's Landing, Lanesport, Mill Creek, Pecan Point, Rowland, Albion, James Bluff, Jonesborough, Fort Towson, Kiamichi, Wright's, Pinehills, and Slate Banks.

WATER TRANSPORT EXTERNALITIES

It is well known that compared to other transport modes such as rail and truck, barges use less fuel, produce fewer exhaust emissions, and are safer. Fuel efficiencies are important to the analysis of transport cost savings that would be achieved by diverting commodities presently carried by rail and truck to barges; but they are not usually thought of as an independent benefit of a waterway project resulting from reduced fuel consumption. Emissions and safety may be taken into consideration in evaluating a navigation project.

When it is known that commodities will move by barge or some other transport mode, a comparison of these modes with respect to such things as fuel consumption, exhaust emissions, and safety is obviously important in determining the overall benefits of a navigation project to a region and to the nation. These external benefits of water transport were



first addressed by M. William Newstrand in a 1992 article “Environmental Impacts of a Modal Shift” in the *Transportation Research Record*. Newstrand looked at four commodities presently carried on the upper Mississippi River and Great Lakes that could be diverted to truck or rail and determined some of the effects that would be produced by this modal shift. Among other things, Newstrand found that a shift of the four commodities from water to truck would result in annual increases of 3.8 million gallons in fuel consumption, 573 tons of exhaust emissions, and 18 probable accidents, along with the need to dispose of 2,746 used truck tires.

The Tennessee Valley Authority (TVA) refined and expanded Newstrand’s model and is presently using its model to determine the effects of a modal shift in the study area. Various commodities that are presently moved by truck have been identified as potential movements by water because of transportation cost savings. TVA is looking at how the shift of these commodities from truck to water would affect such things as traffic congestion, traffic accidents, traffic fatalities, roadway repair needs, and pollution directly attributable to trucks and indirectly attributable to congestion. These effects will be quantified, and estimates of their dollar value will be prepared. This will provide an additional perspective on the social, environmental, and economic benefits that could result from construction of the Southwest Arkansas Navigation Project.

CULTURAL RESOURCES INVESTIGATIONS

The first phase of the cultural resources investigations has been completed. This phase was concerned with the compilation and analysis of existing information on archeological and historical sites and the general cultural development of the Red River and its contiguous area in the

reach above Shreveport-Bossier City.

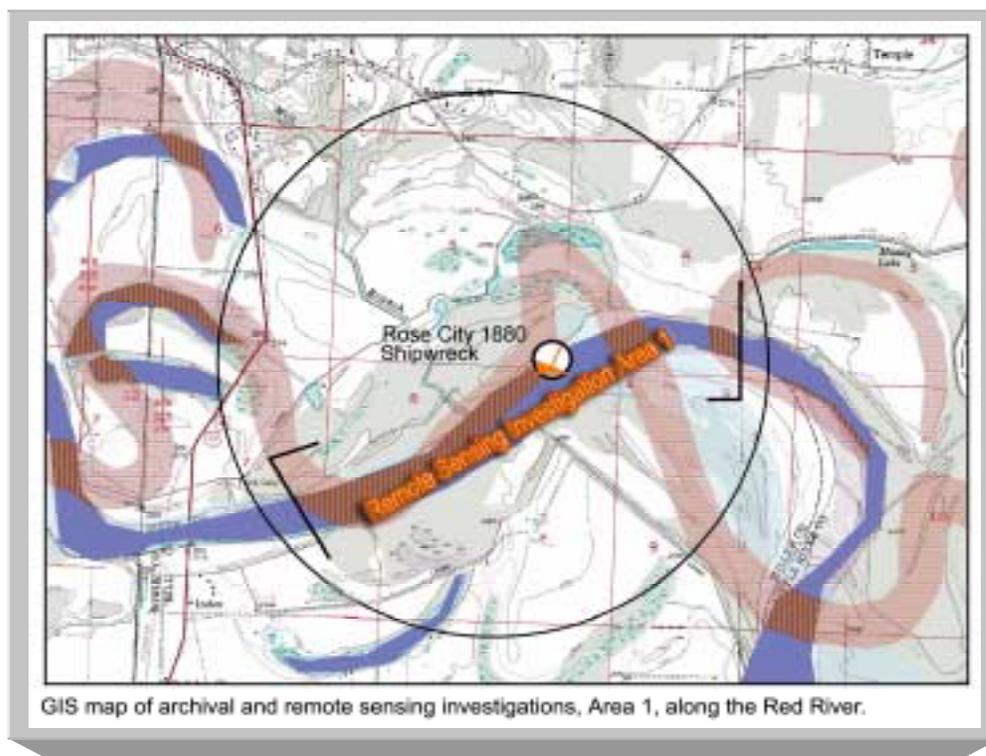
Archeological sites, historic structures, ferry crossings, historic river channels, and information on previous archeological investigations in the area were identified through file, archival, and database investigations in Arkansas and Louisiana. There are 771 recorded archeological sites in the area covered by the 16 U.S. Geological Survey quadrangle maps that include portions of the Red River. Information on possible steamboat wreck locations was obtained from a recent study commissioned by the Vicksburg District of steamboat wrecks throughout the length of the Red River.

This information was assembled into a database and displayed through a Geographic Information System. Because the channel configuration of the Red River has changed dramatically over time, the old channel configurations were superimposed on the present channel configuration, and areas of overlap were identified. The plotted information was analyzed to determine the most-likely areas for the identification of historic and archeological resources (particularly steamboat wrecks) that might be impacted by the project. Nine likely

areas were targeted in which there is an overlap between the old and new channels. These areas are under consideration for the aquatic and terrestrial remote sensing surveys that will be conducted during the winter.

TERRESTRIAL HEP UNDERWAY

A terrestrial Habitat Evaluation Procedures (HEP) team has been formed to quantify the potential effects that construction of the Southwest Arkansas Navigation Project would have on the existing land-based wildlife. The team is composed of the U.S. Fish and Wildlife Service; the Arkansas Game and Fish Commission; the Louisiana Department of Wildlife and Fisheries; and the Vicksburg District, U.S. Army Corps of Engineers. The team chose the barred owl, pileated woodpecker, fox squirrel, wood duck, mink, and Carolina chickadee as representative species for the types of forested habitats that would be affected by the project. The HEP evaluation will determine how suitable the existing habitat is for those species by comparing the existing habitat to the optimum habitat characteristics for those species.



The fieldwork for the terrestrial HEP has been completed. Twenty-two sites from Shreveport-Bossier City, Louisiana, to Index, Arkansas, were selected for analysis. Three plots within each site were then selected, providing a total of 66 sample plots. The plots were circular, encompassing one-fifth of an acre, and were located approximately 300 feet apart on transects generally beginning at the edge of the river and running inland. Numerous habitat features were recorded on data sheets for each plot, including presence of water, distance to water, overstory tree types and sizes, understory tree types and sizes, shrub types, canopy cover of trees and shrubs, ground cover and litter, trees with hollows in their bases, dead branches, root masses and brush piles, burrows, snags, stumps, logs, living trees with cavities, and number of cavities in trees.



These data are presently being compared to the optimum habitat characteristics for each species to develop habitat suitability indices, which are numeric estimates ranging from unsuitable (0) to optimum (1) habitat for the species in question. These units will then be multiplied by the number of acres of each habitat type to establish habitat units, a quantitative

estimate of habitat effects that would be sustained if a project were built. Quantification of habitat values enables the agencies with responsibilities for wildlife to share a common language in discussing project impacts and compensation.

If you would like more information on the study, please contact:

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You are invited to visit the Southwest Arkansas Navigation Study webpage at: <http://www.mvk.usace.army.mil/offices/pa/sans/main.htm>

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