

BEAR CREEK BRIDGE
(Haggard Ford Bridge)
Spanning Bear Creek at Cottonwood Road
Harrison
Boone County
Arkansas

HAER AR-87
AR-87

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
U.S. Department of the Interior
1849 C Street NW
Washington, DC 20240-0001

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BEAR CREEK BRIDGE (Haggard Ford Bridge) HAER No. AR-87

Location: Spanning Bear Creek at Cottonwood Road, Harrison, Boone County, Arkansas

UTM: 15.485970.4018378, Batavia, Arkansas, Quad.

Structural Type: Wire cable suspension bridge

Construction Date: 1941; rehabilitated 1977

Engineer: J. Medlan, Works Projects Administration Project Engineer, Fort Smith, Arkansas

Builder: Works Projects Administration (WPA)

Owner: Boone County, Arkansas

Previous Use: Vehicular bridge

Present Use: Pedestrian bridge and historic landmark

Significance: Bear Creek Bridge was one of at least six suspension bridges built by the Works Projects Administration in Arkansas and one of two in Boone County. It is significant for its association with the unemployment relief efforts in Arkansas and of engineering interest for its vernacular design. It is one of three surviving vehicular suspension bridges in the state.

Project Information: The Arkansas Historic Bridges Recording Project is part of the Historic American Engineering Record (HAER), a long-range program that documents historically significant engineering sites and structures in the United States. HAER is administered by the Heritage Documentation Programs Division of the National Park Service, United States Department of the Interior, Richard O'Connor, Manager. The Arkansas State Highway and Transportation Department sponsored this project.

Lola Bennett, HAER Historian, 2007

Chronology

- 1801 James Finley erects America's first suspension bridge at Uniontown, Pennsylvania
- 1803 Louisiana Purchase doubles size of the United States
- 1816 White and Hazard use wire cables for a suspension bridge at Philadelphia
- 1819 Arkansas Territory created from part of Louisiana Purchase
- 1834 Henri Vicat pioneers wire cable spinning technology in Fribourg, France
- 1836 Arkansas becomes 25th state to join the Union
- 1841 Charles Ellet erects America's first wire cable suspension bridge at Philadelphia
John Roebling patents method for spinning wire cable
- 1849 Charles Ellet builds 1,010' wire cable suspension bridge at Wheeling, West Virginia
- 1855 John Roebling erects 821' suspension bridge at Niagara Falls
- 1869 Boone County formed
- 1873 Arkansas Legislature authorizes counties to build and maintain bridges
- 1883 John Roebling's 1,595' Brooklyn Bridge completed at Brooklyn, New York
- 1889 Widow Nancy Haggard settles near this site on Bear Creek
- 1929 U.S. stock market crash marks beginning of the Great Depression
- 1932 President Franklin D. Roosevelt proposes unemployment relief programs
- 1935 Congress passes Emergency Relief Appropriation Act; WPA created
- 1941 WPA erects Bear Creek Bridge
- 1943 WPA program ends
- 1961 Bear Creek Bridge closed to vehicular traffic
- 1977 Bear Creek Bridge rehabilitated
- 1995 Bear Creek (Haggard Ford) Bridge listed on the National Register of Historic Places

Description

Bear Creek Bridge is a single-span wire cable suspension bridge with concrete towers and a cambered wooden deck. The deck is supported by wire suspenders hung over the main cables. The bridge is 12' wide and has a clear span of 160'. The concrete towers consist of two 20' high posts, which taper from approximately 3' at the bottom to approximately 18" at the top, capped with a concrete lintel. The main cables pass over the tops of towers and are anchored below grade approximately 60' behind them. No saddles or anchorages are visible.

Each 3"-diameter main cable is comprised of a bundle of approximately 25 strands of 1/8"-diameter wire, over-wrapped with wire. Thirty-four 1-1/2"-diameter suspenders are spaced at regular intervals along the length of each cable. The suspenders loop over the main cable and around the wooden floor beams. There are six lines of stringers supporting the wood plank deck on top of the floor beams. Lower lateral bracing is comprised of bundled wire cables below the floor beams. There is a wooden railing and galvanized steel fencing on each side of the deck. The south portal bears the inscription: US WPA • 1941.

History

Cottonwood Road was laid out in the nineteenth century as a farm-to-market road through the fertile valley north of Harrison. In 1889, the Haggard family settled near this site on Bear Creek and by the early 1900s, this crossing was known as Haggard Ford.

Bear Creek Bridge (sometimes called Haggard Ford Bridge) was built in 1941 by the Works Projects Administration (WPA) as part of the improvement of Cottonwood Road.¹ This was the second suspension bridge the WPA erected in Boone County, the first being erected one year earlier across Crooked Creek near Harmon.² Both bridges were built in accordance with standard plans and specifications developed by the WPA. These unembellished structures featured boxy concrete towers, hand-bundled wire cables and timber decks.

In 1961 floods severely damaged both Bear Creek Bridge and the suspension bridge at Harmon.³ The county subsequently demolished the Harmon Bridge and built low-water bridges at both sites. By the 1970s, the Bear Creek Bridge had become a potential hazard for patrons of the nearby swimming hole. When Boone County Judge Clifford Tomlinson ordered county road crews to dismantle the structure, a local citizens' committee organized a petition drive to save it and raised \$3,281.58 for repairs. In the summer of 1977, volunteers rebuilt the bridge deck and the span was re-opened to pedestrian traffic on October 1. A new steel girder bridge is located approximately 50 yards upstream.

¹ "Cottonwood Road Nears Completion," *Harrison Daily Times*, 13 March 1941, 1.

² "Will Build WPA Bridges," *Harrison Daily Times*, 26 May 1940, 1.

³ "Flood Destroys Swinging Bridge at Harmon," *Harrison Daily Times*, 22 May 1961, 1.

Builder

The Works Projects Administration (WPA) was a federal agency established under President Franklin D. Roosevelt to combat unemployment during the Great Depression. Originally called the Works Progress Administration, it employed 8,500,000 people in public works projects between 1935 and 1943. In addition to projects that employed artists, actors and writers, WPA workers built schools, courthouses, parks, roads and bridges, many of which are still in use today.

Design

In 1801, Judge James Finley (1756-1828) built America's first modern suspension bridge at Uniontown, Pennsylvania. Unlike primitive suspension bridges that deflected significantly under loads, Finley's bridge had a level deck hung from wrought iron chains supported by wooden towers. In 1808, Finley received a patent for his idea and designed dozens of chain suspension bridges during his lifetime.

In the 1840s, Charles Ellet (1810-1862) and John Roebling (1806-1869) took Finley's idea further, employing high-tensile strength wire cables and monumental stone towers, to create some of the longest and most famous suspension bridges in the world.⁴ By the mid-nineteenth century, the pioneering work of Finley, Ellet and Roebling was inspiring many lesser-known engineers to successfully build suspension bridges throughout the country.

While suspension bridges have always tended toward long spans, they are sometimes used for sites over navigable waterways, sites having substandard subsoil conditions or sites prone to flooding. Today, only two suspension bridges are in use on Arkansas' highways. Historically, though, at least twenty noteworthy suspension bridges (also known as "swinging bridges") once stood in this state. The following chart lists the structures identified to date. Bear Creek Bridge is the last surviving WPA-built suspension bridge and one of only three surviving vehicular suspension bridges in Arkansas.

⁴ See HAER No. MA-93, Essex-Merrimac Bridge (Chain Bridge), Essex County, Massachusetts; HAER No. WV-2, Wheeling Suspension Bridge, Ohio County, West Virginia; and HAER No. NY-18, Brooklyn Bridge, Kings County, New York.

ARKANSAS SUSPENSION BRIDGES⁵

| AHTD # | BRIDGE | COUNTY | ROAD | STREAM | DATE | BUILDER | NOTES |
|--------|-----------------|------------|-----------------|------------------|------|------------------------|--------|
| | KING'S RIVER | CARROLL | BERRYVILLE TK | KING'S RIVER | 1894 | | LOST |
| 01952 | MILLER | CLEBURNE | AR 16 | LITTLE RED RIVER | 1912 | HARRY CHURCHILL | LOST |
| | TUMBLING SHOALS | CLEBURNE | AR 16 | LITTLE RED RIVER | 1912 | HARRY CHURCHILL | LOST |
| | WINKLEY | CLEBURNE | AR 110 | LITTLE RED RIVER | 1912 | HARRY CHURCHILL | LOST |
| | HIGDEN | CLEBURNE | | LITTLE RED RIVER | 1912 | HARRY CHURCHILL | LOST |
| 00887 | KING'S RIVER | MADISON | AR 21 | KING'S RIVER | 1928 | ARKANSAS HIGHWAY DEPT. | LOST |
| | POWHATAN | LAWRENCE | | BLACK RIVER | 1925 | AUSTIN BRIDGE COMPANY | LOST |
| | POCAHONTAS | LAWRENCE | AR 166 | SPRING RIVER | 1936 | WPA | LOST |
| | LESLIE | SEARCY | | LITTLE RED RIVER | | WPA | LOST |
| | SCOTLAND | VAN BUREN | | LITTLE RED RIVER | | WPA | LOST |
| M1897 | CLEAR CREEK | MARION | | CLEAR CREEK | 1940 | WPA | LOST |
| | HARMON | BOONE | | CROOKED CR | 1940 | WPA | LOST |
| | BEAR CREEK | BOONE | COTTONWOOD ROAD | BEAR CREEK | 1941 | WPA | EXTANT |
| 02236 | SYLAMORE CREEK | STONE | AR 14 | SYLAMORE CR | 1943 | ARKANSAS HIGHWAY DEPT. | EXTANT |
| 02562 | KENSETT | WHITE | AR 36 | BARBER'S LAKE | 1948 | ARKANSAS HIGHWAY DEPT. | LOST |
| 02388 | BEAVER | CARROLL | | WHITE RIVER | 1949 | PIONEER CONSTRUCTION | EXTANT |
| | DES ARC | PRAIRIE | | WHITE RIVER | 1928 | | LOST |
| | HARRIET | SEARCY | AR 14 | BIG CREEK | | | LOST |
| | | | AR 154 | PETIT JEAN RIVER | | | LOST |
| | WEST FORK | WASHINGTON | | WHITE RIVER | | | LOST |

⁵ Data compiled from AHTD records, www.bridgehunter.com and author's research.

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