United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations of eligibility for individual properties or districts. See instructions in *Guidelines for Completing National Register Forms* (National Register Bulletin 16). Complete each item by marking "x" in the appropriate box or by entering the requested information. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, styles, materials, and areas of significance, enter only the categories and subcategories listed in the instructions. For additional space use continuation sheets (Form 10-900a). Type all entries.

1. Name of Property

historic name MONTGOMERY (snagboat)
other names/site number

2. Location

street & number Tom Bevill Visitor Center ☐ not for publication
city, town Pickensville ☐ vicinity
state Alabama code AL county Pickens code 107 zip code

3. Classification

Ownership of Property	Category of Property	Number of Resources within Property	
		Contributing	Noncontributing
☐ private	☐ building(s)		buildings
☐ public-local	☐ district		sites
☐ public-State	☐ site		sites
☒ public-Federal	☒ structure	1	structures
	☐ object		objects
		1	Total

Name of related multiple property listing:

Number of contributing resources previously listed in the National Register 0

4. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this ☐ nomination ☐ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property ☐ meets ☐ does not meet the National Register criteria. ☐ See continuation sheet.

Signature of certifying official Date

State or Federal agency and bureau

In my opinion, the property ☐ meets ☐ does not meet the National Register criteria. ☐ See continuation sheet.

Signature of commenting or other official Date

State or Federal agency and bureau

5. National Park Service Certification

I, hereby, certify that this property is:

☐ entered in the National Register.
☐ See continuation sheet.
☐ determined eligible for the National Register. ☐ See continuation sheet.
☐ determined not eligible for the National Register.
☐ removed from the National Register.
☐ other, (explain:) _____

Signature of the Keeper Date of Action

6. Function or Use

Historic Functions (enter categories from instructions)

GOVERNMENT--public works
TRANSPORTATION--water related

Current Functions (enter categories from instructions)

RECREATION AND CULTURE--museum

7. Description

Architectural Classification (enter categories from instructions)

N/A

Materials (enter categories from instructions)

foundation N/A
walls N/A
roof N/A
other N/A

Describe present and historic physical appearance.

Montgomery is a riveted-steel, steam-powered, sternwheel-propelled snagboat built for the United States Army Corps of Engineers. Montgomery is now a museum vessel at the Tom Bevill Lock and Dam Visitor Center of the U.S. Army Corps of Engineers at Pickinsville, Alabama. The center and snagboat interpret the role of the Corps of Engineers on the Alabama-Tombigbee-Tennessee River system. The superstructure is built of wood, and the hull is built of steel. Montgomery's large sternwheel is propelled by a high-pressure, non-condensing, reciprocating steam engine.

Montgomery was built in 1925 by the Charleston Drydock and Machine Company of Charleston, South Carolina. Montgomery remains almost unchanged from her appearance and condition when built. [1]

Hull

Montgomery was built of heavy steel plates, double-riveted to steel angle frames. She measures 156 feet long, with an overall length, including sternwheel, of about 178 feet. She is 34 feet, 3 inches wide and her depth of hold is 6 feet. [2] The hull was fitted with a full scow-form bow, a flat bottom with no external keel, and a tucked-up run to the stern with rounded indentations to clear the balance rudders. Internally, Montgomery is divided into several watertight compartments by longitudinal and athwartships bulkheads.

Montgomery utilized a modern structural design for her hull. The hull was built to be strong enough to support machinery weight evenly over its length. The hull also had to be strong enough to support great weight suspended from the boom while snagging.

Two rows of vertical I-beams rise from side keelsons, and through the deck, parallel to the center keelson. These support the superstructure, and reinforce the weight of heavy fittings, such as the dredging boom, or snagging "A" frame forward.

☒ See continuation sheet

8. Statement of Significance

Certifying official has considered the significance of this property in relation to other properties:

[X] nationally [ ] statewide [ ] locally

Applicable National Register Criteria [X] A [ ] B [X] C [ ] D

Criteria Considerations (Exceptions) [ ] A [ ] B [ ] C [ ] D [ ] E [ ] F [X] G

Areas of Significance (enter categories from instructions)
Maritime History
~~Engineering~~
~~Commerce~~
~~Transportation~~

Period of Significance
1926-1982

Significant Dates

Cultural Affiliation
N/A

Significant Person
N/A

Architect/Builder
Charleston Dry Dock & Machine Co.

State significance of property, and justify criteria, criteria considerations, and areas and periods of significance noted above.

The steam-propelled, sternwheel snagboat Montgomery is one of a handful of steam-powered sternwheelers in the country and, along with W.T. Preston in Anacortes, Washington, one of only two surviving Corps of Engineers snagboats. [1] Snagboats cleared the Western Rivers of countless obstructions and allowed the spread of navigation to regions previously inaccessible. Montgomery played a major part in the creation of the Alabama-Tombigbee-Tennessee river project, an alternative river system to the Mississippi, as well as serving to maintain the Apalachicola, Black Warrior, Chatahoochee, Coosa, and Flint Rivers. While her career was tied to a single region, Montgomery is nationally significant as one of two surviving examples of a national type and because of the significance of the Tennessee-Tombigbee River system to national trade and commerce.

The preceding statement of significance is based on the more detailed statements that follow.

The Development of Western Rivers Watercraft

The Western Rivers system, composed of the Mississippi, Ohio, Missouri and other tributary rivers, carried most of the immigrants and freight that settled the Midwest. Starting in the late 1700s, most settlers travelled from the East Coast overland to Pittsburgh, Wheeling, or Redstone and then down the Ohio River to points west. [2] Only a small number traveled north from New Orleans and southern regions using the Mississippi and other rivers running from the North.

[X] See continuation sheet

9. Major Bibliographical References

See footnotes in text.

☐ See continuation sheet

Previous documentation on file (NPS):
- ☐ preliminary determination of individual listing (36 CFR 67) has been requested
- ☐ previously listed in the National Register
- ☐ previously determined eligible by the National Register
- ☐ designated a National Historic Landmark
- ☐ recorded by Historic American Buildings Survey # _____
- ☐ recorded by Historic American Engineering Record # _____

Primary location of additional data:
- ☐ State historic preservation office
- ☐ Other State agency
- ☐ Federal agency
- ☐ Local government
- ☐ University
- ☐ Other

Specify repository: _____

10. Geographical Data

Acreage of property Less than one acre.

UTM References

	Zone	Easting	Northing
A	16	600900	4235120
B			
C			
D			

UTM should be 16, 380200, 3675470

Verbal Boundary Description

All that area encompassed by the extreme length and beam of the vessel.

☐ See continuation sheet

Boundary Justification

The boundary encompasses the entire area of the vessel as she floats in her berth.

☐ See continuation sheet

11. Form Prepared By

name/title Kevin J. Foster, Historian
organization National Park Service (418) date February 5,1989
street & number P.O. Box 37127 telephone 202 343-9525
city or town Washington, state DC zip code 20013

Snagboats are designed to clear rivers of dangerous debris, consisting primarily of stumps and wreckage, called snags. Snagboats possess one major fitting not found on other river types. A rigid A-frame derrick on the bow uses massive steel cables and winches, pulling a six-ton iron grappling hook, to wrench large snags and wreckage from the river bottom. The A-frame replaced an earlier gallows frame snagging derrick. Montgomery could also replace the gallows frame with a heavy dredging derrick and bucket dredge to clear away smaller debris. [3]

Superstructure

The superstructure of Montgomery consists of three decks: the main, on which the propelling and snagging machinery is located, the upper deck above the boilers, and the pilothouse above the upper deck roof. Stanchions and framing for the superstructure are built of wood with lightweight steel reinforcement. [4]

The main deck has a small square foredeck that extends aft to the front of the superstructure. Montgomery is presently partially rigged for bucket dredging. A heavy steel A-frame with multiple cables supports the dredging boom. Two large steam winches, under cover forward, move the boom. One, called a swinging winch, turns the boom in an arc in front of the boat. The other more massive winch, called a hoisting engine, lifts the boom and snag. Steam powered capstans, to port and starboard behind the A-frame, assist in mooring the boat while snagging. Two smaller capstans are mounted on deck, to port and starboard, about 50 feet from the stern.

Boiler

The boiler is aft of the hoisting engine. It is the original large Scotch marine boiler that powered the boat when she was built. Scotch boilers are the most common type of fire tube boiler. Scotch boilers heat the water inside a cylinder by passing the fire through the water to the back of the boiler and back to the front by way of a number of small tubes. Exhaust gasses passed through uptakes above the fire box, and exited the boat through a smokestack on the centerline. Steam produced by the boilers was extracted from the top of the boiler and passed through the main steam line overhead to the engine room. The entire assembly is covered by a shell of sheet steel over a coat of refractory material. This boiler produced steam at a pressure

of 210 lbs. per square inch. The boiler burned coal when the boat was new, but after the Second World War she was converted to burn No. 2 diesel fuel. [5]

The passageways on deck outboard of the boilers are wide and have no rails. Access to the second deck forward is by way of stairways inside the supports on each side of the boiler for the superstructure. The engine room is entered by way of the deck to port and starboard of the superstructure. In the engine room access to the deck above is a stairway over the port engine.

Cabins for the crew are located amidships between the boiler and the engine room. Four crew members were housed in each of six cabins. Each crewman had his own bunk and locker. Each cabin had a door onto the deck outside and another opening onto a central passageway. The crews' head is located aft of the cabin area.

Engine Room

The engine room occupies the entire width of the stern and contains the engines, rudders, auxiliary machinery, and engine controls. The engines are mounted to port and starboard in the engine room on massive steel structural members called cylinder timbers. The cylinder timbers support the cylinders and crossheads at their inboard end and the paddlewheel shaft at the after end.

The engines were built by Charleston Drydock and Machine Company, of South Carolina. They are high pressure, or non-condensing, joy valve engines. These engines are very simple in design. Each piston pushes a heavy crosshead along a slide attached atop the cylinder timbers. The crosshead and slide are unusual in that they have a curved upper surface, probably to assist in centering the action of the piston. The crosshead pushes and pulls the pitman (an overgrown connecting rod) that turns the crank and thus the paddlewheel. The cylinders are 14 inches in diameter, have a stroke of 72 inches, and develop 325 brake horse power. [6]

The paddlewheel is a massive construction of steel and wood that propels the boat. It is 18 feet in diameter, and 20 feet long. Five flanges, each holding 14 angle-iron arms, are evenly spaced along the paddleshaft. The arms are held rigid by steel circles. Each arm and flange assembly forms one segment of the

paddlewheel. The ends of the arms on each segment are attached to the paddle bucket planks that push the boat. [7]

All engine room controls are located just in front of, and between, the engines. A system of bells, connected to the pilothouse, guided the engineer on duty as to what speed and direction (forward or reverse) was desired.

The steering was controlled from the pilothouse, but much of the multiple rudder system is located in the engine room. Two systems were used. One used a steam steering engine, controlled from the pilothouse, to move the central tiller arm and turn the four yoked rudders. The second system, added later, used cables from the pilothouse to move auxiliary or monkey rudders aft of the paddlewheel for additional control in maneuvering.

Second Deck

The second deck holds staterooms for the officers. These cabins were of the lightest possible construction. The second deck holds the officers' mess, six cabins, a galley, pantry, and the crews mess room. The officers were housed in single cabins, with doors opening both to an inside hallway, and to the deck outside. The cabins were cooled by opening small ventilating windows in the raised clerestory in the roof and heated by several large coal stoves and the heat radiated by the boilers and engine room. Later the Corps added air-conditioning that was removed when Montgomery became a museum ship. A covered walkway runs around the second deck from the pilothouse aft to an open deck area aft.

Pilothouse

The pilothouse is built of steel, with large sliding windows all around. It is raised above the level of the second deck house to allow the steersman 360 degree visibility. A stairway is mounted amidships to give access from the second deck to the pilothouse. The roof is flat with a very slight crown. A pair of carbon-arc searchlights are mounted to each side atop the pilothouse roof. A three chime steam whistle is mounted on the forward side of the smokestack. Controls for the derrick are mounted to starboard in the pilothouse and engine telegraphs and some of the steering controls are on the centerline.

Notes

1
Norman J. Brouwer, International Register of Historic Ships (Annapolis, Maryland: Naval Institute Press, 1985) pp. 256-257.

2
David H. Grover, U.S. Army Ships and Watercraft of World War II (Annapolis, Maryland: Naval Institute Press, 1987) p. 178.

3
"Steel Hull Snag Boat, Outboard Profile & Hurricane Deck," (Reduced scale plans of original configuration, War Department, Corps of Engineers, U.S. Army, 1924).

4
"Steel Hull Snag Boat, Main and Upper Decks," (Reduced scale plans, War Department, Corps of Engineers, U.S. Army, 1924).

5
"Statistics, U.S. Snagboat Montgomery" (Pamphlet, on file at Tom Bevill Visitor Center).

6
"Exhibits For Snagboat Montgomery, TTW" (Aliceville, Alabama: NP, May 23, 1984) p. 2.

7
Ibid., p. 3.

To reach the new lands of the West, Europeans adapted boat types already in use by Native Americans and on the East Coast. Explorers used birch bark canoes and settlers used larger dugouts to open the west to settlement. As more people moved west, boats with greater capacity were needed, which called for new boat types. A form of enlarged dugout, called a pirogue, was developed first. Pirogues were more capacious than dugouts and were themselves adapted into more useful forms. The first adaptation changed the method of construction, by taking the well-formed hull shape of the pirogue and replacing the hewn multiple-log construction of pirogues with European plank-on-frame construction. [3]

Plank-on-frame construction was also used for another boat type, the bateau. Bateaus had been adapted for frontier use on the eastern seaboard in the early 1700s and were built for use on the Western Rivers later. When more traditional European construction practice was followed with these vessels, they resembled ship's boats but with more substantial timbers. When the best features of pirogues and bateaus were combined, they were given a hull shape that provided little resistance to the water, an external keel to help in steering, and sufficient cargo capacity to pay their way. This new type was called a keelboat. [4]

Keelboats were the most developed form of watercraft on the river and were used for rapid transportation of passengers and high value freight. Keelboats were usually 40 to 80 feet long and 7 to 10 feet broad. They possessed a well-modelled form, and could be propelled about 15 miles a day, either by oars at the bow or by poles pushed by crew members walking along a footway at each side. A single steersman stood atop a block at the stern to guide the keelboat using a long steering oar. Some keelboats which sailed an advertised route on a regular schedule came to be known as packets, the deep water term for vessels in such service. [5]

Cheaper transportation was afforded by the use of barges and flatboats. Flatboats were box-shaped variants of the scow hull form used for ferries on shallow Eastern rivers. Flatboats were the cheapest form of transportation on the rivers. Intended to travel only one way and then be broken up for lumber, flatboats could be built, loaded with household goods, and sailed by the settlers themselves. [6]

Barges occupied the middle range of watercraft between keelboats and flatboats. Though similar in construction to keelboats, early barges were built wider, more robust, and drew more water. Barges, with their deeper draft, transported heavy freight on the deeper rivers. [7]

Development of the Western Rivers Steamboat

Robert Fulton built the steamboat New Orleans at Pittsburgh, Pennsylvania, in 1811, and started a revolution that changed the pattern of commerce on the rivers. New Orleans proceeded down the Ohio and Mississippi rivers to her namesake city, attracting publicity and attention along the way. The advent of steam propulsion on the Western Rivers revolutionized river transportation. Steamboats provided convenient, inexpensive transportation and greatly facilitated the opening of the continent to settlement. New Orleans and the boats that were built on her pattern, were powered versions of canal boats. Their long, narrow, deep hulls were better suited to deep eastern rivers than the shallow Mississippi, but were needed to support heavy steam machinery. Another sort of boat was required, but several design problems had to be overcome before steamboats could be a success on the Western Rivers. [8]

To navigate on the shallow rivers of the West, steamboat hulls and machinery had to be made as light as possible. Machinery weight problems were solved first. A light weight, high-pressure engine was employed to propel the small boat Comet in 1813. The powerplant was further refined in 1816 by Henry Shreve, who put the boilers on deck and designed a new type of engine to distribute machinery weights out over a large area of hull. Shreve's new engine design used a direct-acting, horizontal, high-pressure engine to drive the paddlewheel propeller. The second design problem was overcome over time. Lightweight hull construction gradually replaced earlier robust "canal boat" construction and a broad, shallow-draft, hull form, using a truss rod system rather than heavy wooden beams, developed.

All of the essential elements of the Western Rivers steamboat were present by 1825. Broad, shallow-draft vessels with boilers and engines on deck, side or sternwheels for propulsion, and cabins built on lightweight decks above the freight and machinery-laden maindeck soon appeared on every tributary of the Mississippi. The ease and economy of this service caused the

value of goods reaching New Orleans to double every ten years from 1820 to 1860. [9]

More mundane sisters to the packets operated carrying passengers and cargo, wherever it could be found. Such non-scheduled steamboats often pushed one or more barges to increase cargo capacity or to decrease draft in periods of low water. Coal was carried from the 1850s and later salt, hay, iron ore, and grain were carried. By 1860, a system of towing barges lashed alongside and ahead of the towboat was developed that allowed greater control than towing on a hawser. This type of service favored sternwheel propelled boats over sidewheelers and promoted other improvements as well. Towboats had become a distinct type by 1870 and were moving barges carrying over 19,000,000 tons of products a year by 1889. [10]

The Development of Snagboats

One feature of cardinal concern in the development of Western Rivers steamboats was safety. Early boats were particularly susceptible to boiler explosions, fires, and sinkings caused by hitting snags. Extraordinary dangers included being damaged in floods, tornadoes, and ice gorges. The lifetime of a steamboat in the 1840s and 1850s was estimated to be below five years. This situation changed very slowly.

Navigation on the Western Rivers required that as many hazards as possible be eliminated or at least minimized. One problem that had to be addressed before steamboats could even enter a new area of river was the clearing of snags and logjams that blocked the rivers. Snags are submerged tree stumps, boatwrecks, and other submerged hazards to navigation that block navigation completely or make river travel more hazardous. Most often snags were large trees that fell into the river as banks eroded, became embedded in the river bottom, lost their smaller branches, and lurked beneath the surface, ready to impale a passing steamboat.

Many rafts, as these tangles were called, could be circumvented by skillful captains, but all were dangerous and some impassible. The Red River in Louisiana was one of the largest rivers blocked by snags. It was closed by a massive logjam called the Red River raft, for all but six years in the middle 1830s. The river remained closed, in spite of tremendous efforts to clear it, until 1878. [11]

Snags were one of the principal causes of steamboat and barge losses and continue to concern river pilots today. Congress appropriated $75,000 to support dredging six bars on the Ohio River and start snag removal in 1824. The dredging was begun with small barges equipped with derricks. Henry Shreve, also credited with the design of the first Western Rivers style steamboat, was instrumental in developing an answer to the problem of snag removal. In 1829, Shreve built a steam vessel designed specifically to remove snags. Heliopolis had two hulls connected, side by side, and a Gallows frame derrick to rip snags free of the river bottom. The design was widely copied and Shreve's double hull snagboat design was only improved upon in this century with the advent of high-strength steel hulls. [12]

The U.S. Army Corps of Engineers

The Army Corps of Engineers was involved in river improvement efforts from early in the 19th century and gradually was made responsible for most river improvement work. At first, Corps engineers were only in charge of survey and some mapmaking. Later, the Corps planned improvements, and still later, performed the necessary work directly. A large fleet of Corps vessels was built using the most modern designs available. Flood control was added to Corps responsibilities starting in the 1870s, and the canalization of the Western Rivers was begun around 1900. These new duties not only made navigation safer but also remade the face of America. [13]

During the 1970s the Corps began one of their most ambitious projects to open an alternate water route to the Mississippi. By deepening and combining portions of the Alabama, Tombigbee, and Tennessee rivers, the Corps created a navigable route from the Gulf of Mexico to the Ohio River. This route, completed in 1984, saves shippers to some ports from 400 to 800 miles over the Mississippi route.

Congress passed the Rivers and Harbors Act of 1946 to authorize construction of the waterway, but construction funding did not begin until 1971. The link between the Black Warrior River and the Tennessee Rivers is 46 miles long. The entire waterway is 234 miles long and is the largest project ever undertaken by the Corps. In 1989, this waterway carries nearly the tonnage of freight as is carried on the Mississippi, and in times of drought carries far more. [14]

Construction and Career of Montgomery

The snagboat Montgomery was built in 1926 for the Corps of Engineers Montgomery District by the Charleston Drydock and Machine Company, of Charleston, South Carolina. She worked mainly on the Alabama and Coosa River system clearing channels of snags, doing some grab dredging, and repairing river locks. The Montgomery District was absorbed into the Mobile District in 1933, but Montgomery continued to work on the Alabama and Coosa Rivers, adding the Black Warrior-Tombigbee Rivers to her responsibilities. Her home port was shifted from Montgomery to Tuscaloosa at that time. In 1959, her home port was shifted to Florida when Montgomery was transferred to the Panama City Area Office. From Panama City, she worked to keep the Apalachicola, Chattahoochee, and Flint Rivers clear of obstructions. In 1979, Montgomery shifted home ports again to White City, Florida where she continued to work on the same waterways until her retirement in 1982. [15]

The retirement of Montgomery, the last steam sternwheeler operating on any southern river, and one of only two remaining steam powered snagboats in the United States, encouraged the Army Corps of Engineers to preserve her for posterity. She is the prize exhibit at the Tom Bevill Visitor Center, where she helps to interpret the role of the Corps of Engineers in the development of America's waterways. [16]

Notes

1
James P. Delgado, et.al., "Evaluative Inventory of Large Preserved Historic Vessels in the United States," (Washington, D.C.: National Park Service,1988) entries for Montgomery.

2
Francis S. Philbrick, The Rise of the West: 1754-1860 (New York: Harper & Row, Publishers, 1965) pp.312-315.

3
Leland D. Baldwin, The Keelboat Age on Western Waters (Pittsburgh, Pennsylvania: University of pittsburgh Press, 1980) p. 41.

4
Baldwin, op. cit., pp. 42-44 and pp. 50- 51.

5
Ibid., pp. 175-177.

6
Philbrick, op. cit. pp. 313-314.

7
Baldwin, op. cit., pp. 44-46.

8
Jean Baptiste Marestier, Memoir on Steamboats of the United States of America (Mystic, Connecticut: The Marine Historical Association, Inc. 1957) pp.1-19, 54-57.

9
Charles Henry Ambler, A History of Transportation in the Ohio Valley (Reprint of 1931 edition, Westport, Connecticut: Greenwood Press, 1970) pp. 119-139, and Archer B. Hulbert. The Paths Of Inland Commerce (New Haven: Yale University Press, 1920) pp. 175-195.

10
Bates, op.cit., pp. 99-107, and The Ohio Historical Society, "W.P.Snyder, Jr., Marietta," (Pamphlet, Columbus, Ohio: Ohio Historical Society, N.D.)

11
Larry Murphy and Allen Saltus, Phase II Identification and Evaluation of Submerged Cultural Resources in the Tombigbee River Multi-Resource District, Alabama and Mississippi (Report of Investigations No. 17, Birmingham, Alabama: the University of Alabama, 1981) pp. 163-169.

12
K. Jack Bauer, A Maritime History of the United States (Columbia, South Carolina: University of South Carolina Press, 1988) p. 167.

13
Floyd M. Clay, History of Navigation on the Lower Mississippi ([Fort Belvoir, Virginia:] U.S. Army Water Resources Support Center, 1983) passim. and Roald D. Tweet, History of

Transportation on the Upper Mississippi & Illinois Rivers ([Fort Belvoir, Virginia:] U.S. Army Water Resources Support Center. 1983) passim.

14
[Mobile District, Nashville District], "Tennessee-Tombigbee Waterway" (pamphlet, [Mobile, Alabama]: U.S. Army Corps of Engineers, 1985) p. 1.

15
"Exhibits For Snagboat Montgomery, TTW" (typescript, Aliceville, Alabama: N.P., May 23, 1984) pp. 1-3.

16
The other steam-powered snagboat is W.T. Preston, now an exhibit in Anacortes, Washington.