

BURNSIDE BRIDGE SYCAMORE  
(Burnside Bridge *Platanus occidentalis*)  
NPS Witness Tree Protection Program  
Antietam National Battlefield  
Southwest of Burnside Bridge  
Historic Burnside Bridge Road  
Sharpsburg vicinity  
Washington County  
Maryland

HALS MD-8  
MD-8

PHOTOGRAPHS

PAPER COPIES OF COLOR TRANSPARENCIES

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

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

**HISTORIC AMERICAN LANDSCAPES SURVEY****BURNSIDE BRIDGE AMERICAN SYCAMORE  
(Burnside Bridge *Platanus occidentalis*)****HALS No. MD-8**

<u>Location:</u>	Antietam National Battlefield, southwest of Burnside Bridge, historic Burnside Bridge Road, Sharpsburg vicinity, Washington County, Maryland
<u>Owner/Manager:</u>	U.S. Government, National Park Service
<u>Present Use:</u>	Ornamental and shade tree; prominent landscape element
<u>Significance:</u>	The Burnside Bridge American Sycamore ( <i>Platanus occidentalis</i> ) in the Antietam National Battlefield is significant because of its survival, size, and historical association with the 1862 Battle of Antietam, as illustrated by Civil War photographer Alexander Gardner in his battlefield photograph.
<u>Author &amp; Discipline:</u>	Jonathan Pliska, Landscape Architectural Historian, 2006
<u>Project Information:</u>	The Witness Tree Protection Program was a pilot project undertaken by the Historic American Landscapes Survey and the National Capital Region of the National Park Service. The principals involved were Richard O'Connor, Chief, Heritage Documentation Programs; Paul D. Dolinsky, Chief, Historic American Landscapes Survey; Darwina Neal, Chief, Cultural Resources, National Capital Region; Jonathan Pliska, Historian, Historic American Landscapes Survey; Jet Lowe and James Rosenthal, Photographers, Heritage Documentation Programs.

**PART I. HISTORICAL INFORMATION**

With over 23,000 total casualties, the Battle of Antietam, fought 17 September 1862, was not only the bloodiest single day of the Civil War, but all of American history. Although neither side could claim a decisive victory from the carnage, Union Maj. Gen. George B. McClellan's Army of the Potomac succeeded in thwarting Confederate Gen. Robert E. Lee's first attempt to carry the war into the North. Unsuccessful, his Army of Northern Virginia retreated south, Great Britain delayed its recognition of the Confederate government and Abraham Lincoln issued the Emancipation Proclamation, outlawing slavery in all areas currently under rebellion. These consequences dealt a serious blow to the legitimacy of the Confederacy, hampered its war effort, and helped ensure that a

conflict that began as a campaign to preserve the United States would end a moral crusade against slavery. Battle was joined at dawn when Union Maj. Gen. Joseph “Fighting Joe” Hooker's artillery fired on Confederate Lt. Gen. Thomas “Stonewall” Jackson's men in the Miller cornfield north of the town of Sharpsburg, Md. Actions here culminated in bitter fighting, from 9:30 a.m. to 1 p.m., along an old sunken road, the infamous “Bloody Lane.” The loss of life was staggering as some 5,500 men fell in this short time.

Meanwhile, southeast of Sharpsburg, Maj. Gen. Ambrose Burnside and the Federal 9th Corps had been charged with first taking a stone bridge spanning Antietam Creek and then pressing on to Lee's headquarters within the town. Burnside's attack was designed to coincide with Hooker's daybreak artillery volleys, but because of delays ordered by McClellan, he did not move against the bridge, known after the battle as Burnside Bridge, until after 10:00 a.m., some five hours behind the original schedule. When he did attack, the entrenched Confederates repelled several charges by concentrating fire on the narrow bridge opening on the creek's eastern bank. Bodies piled up near the entrance, and the span became slick with blood. Union soldiers also reported that Confederate artillery had brought railroad iron to bear against them. Amid the shot being leveled against the bridge, and the chunks of shrapnel hurtling overhead, Burnside believed he faced a much stronger enemy than that which waited across the creek.<sup>1</sup> His force of 12,000 was being held at bay by a mere 400 resolute Georgians, whom historian James V. Murfin has dubbed “the brigade that held off a corps.”<sup>2</sup> Ultimately the defenders were only dislodged when a contingent from the Federal force forded the shallow creek downstream and threatened to outflank them. Low on ammunition, the Confederates withdrew, but this small group, less than 4 percent of Burnside's total strength, had cost him precious time. Burnside's own ammunition shortfall caused further delays, and the bridge itself proved a bottleneck for the throngs of soldiers, supply wagons, and artillery attempting to cross. As Brig. Gen. D. R. Toombs, in command of the Confederate defenders remarked, “Though the bridge and upper ford were thus left open to the enemy, he moved with such extreme caution and slowness that he lost nearly two hours in crossing and getting into action on our side.”<sup>3</sup>

The hours lost over the course of the day proved extremely costly to the Federals, affording Maj. Gen. A. P. Hill adequate time to march his division of 3,000 Confederates the seventeen miles from Harper's Ferry. Covering the distance in less than eight hours, the men arrived weary, but their timely intervention successfully halted Burnside's advance at the outskirts of Sharpsburg. Many military historians contend that had Hill not arrived precisely when he did, Sharpsburg would have been encircled, Lee's retreat cut off, and the Army of Northern Virginia defeated. However, that these events did not

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<sup>1</sup> James V. Murfin, *The Gleam of the Bayonets: The Battle of Antietam and Robert E. Lee's Maryland Campaign, September 1862* (Baton Rouge: Louisiana State University Press, 1965), 270-75.

<sup>2</sup> *Ibid.*, 274.

<sup>3</sup> United States War Dept., *The War of the Rebellion: A Compilation of the Official Records of the Union and Confederate Armies*, ser. 1, vol. 19, part 1 (Washington, D.C.: Government Printing Office, 1887), 891.

occur, and that the Civil War pressed on for three more years, can and should be equally attributed to the actions of Toombs' brigade at Burnside Bridge. Even with the earlier delays ordered by McCellan, if not for the extra time incurred in his crossing, Burnside would have most likely reached Lee's flank before Hill could save the day.

Only days after the battle, Civil War photographer Alexander Gardner arrived to document the scene. In his photographs of Burnside Bridge a small American sycamore sapling is clearly visible along the eastern bank of Antietam Creek, a few feet north of the bridge. The failed Federal charges were halted within arms reach of its branches. Only a few years old, it somehow stood up to the torrent of Confederate musket fire and artillery, as well as soldiers' boots, horse hooves, and wagon wheels. Gardner's focus was understandably the bridge itself, and not the seemingly insignificant little sprout adjacent to it. However, in the intervening years this tree has grown into a majestic specimen, and has taken on historical importance in its own right. Commemorated as a witness to the hard fighting it observed in youth, the tree is today as much a part of the site's interpretative value as Burnside Bridge itself. Moreover, because of widespread alterations to the physical environment of Antietam National Battlefield throughout the late nineteenth and early to mid-twentieth centuries, the Burnside Bridge American Sycamore is likely the sole remaining living spectator of America's bloodiest day. With the tree stout and strong, severe weather in August and September 2003 nearly accomplished what the battle could not when it was small and vulnerable. Strong winds first accompanying severe thunderstorms, and later Hurricane Isabel, brought down a total of forty-six trees within the battlefield, many over 100 years old. Wind gusts of up to 100 miles per hour also cracked off three of the witness tree's largest limbs. Crashing down, the force of their impact broke open a 5' long x 3' wide hole in the south wall of Burnside Bridge. National Park Service staff repaired the bridge, and thankfully the tree survived.<sup>4</sup> However, the incident highlights the crucial difference between the two historical symbols; given proper maintenance and repair Burnside Bridge may survive indefinitely, but as with all living things the sycamore will eventually die. That this cultural resource has a definite lifespan, however, does not make its preservation and care any less important, but stewards and visitors alike must accept this eventual outcome.

## PART II. BIOLOGICAL INFORMATION

Commonly known as the American sycamore, or simply sycamore, *Platanus occidentalis* is native to North America with a home range stretching from Maine to Ontario and Minnesota, and south to Florida, Texas, and northeastern Mexico.<sup>5</sup> However, its growing zone extends across the contiguous forty-eight states, except California. It is one of six

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<sup>4</sup> J.W. Howard, "Antietam National Battlefield News Release" (National Park Service, Antietam National Battlefield, 23 September 2003), [http://www.nps.gov/anti/Press\\_Re40.htm](http://www.nps.gov/anti/Press_Re40.htm) (accessed 10 July 2006).

<sup>5</sup> This species is also known as the American planetree, buttonwood, and buttonball-tree; O. O. Wells and R. C. Schmidting, "Eastern Cottonwood," in *Silvics of North America: 1. Conifers. Agricultural Handbook 654*, online ed., tech. coords. Russell M. Burns and Barbara H. Honkala (Washington, D.C.: U.S. Dept. of Agriculture, U.S. Forest Service, 1990), 1004, [http://www.na.fs.fed.us/spfo/pubs/silvics\\_manual/volume\\_2/silvics\\_v2.pdf](http://www.na.fs.fed.us/spfo/pubs/silvics_manual/volume_2/silvics_v2.pdf) (accessed 13 June 2006).

or seven large species of trees classified under the family Platanaceae.<sup>6</sup> The bark is the most distinguishing feature of the species. The outer layer is smooth in texture and a dark grayish-brown. It flakes off in large, irregular patches, revealing the grayish or cream-colored inner bark, which becomes whitish following its exposure. Together the different colors of bark create an impressive mottled appearance, especially in the winter after the deciduous leaves have fallen.<sup>7</sup> These leaves vary in length from 4" to 12", are rather star-shaped, and resemble maple leaves. They exhibit pinnate venation, where lateral veins diverge on either side of one large central vein, or midrib. The perimeter is coarsely toothed or serrated, and leaves are arranged singly on alternate sides of the branches. They are medium to dark green in the summer and turn an unremarkable shade of yellowish-brown in the autumn.<sup>8</sup> After reaching physiological maturity in six to seven years, the trees produce red, ½" to 1" diameter ball-shaped flowers. These appear by May in the north and as early as late March in the south. American sycamore is monoecious; male and female flowers appear on the same tree. They remain distinguishable since "the male flowers grow in clusters grow on branchlets of the previous year and the female flower clusters grown on older branchlets."<sup>9</sup> The fruit is similarly rounded, but brown in color and ripens by September or October. They often remain on the tree over winter, with the dry, hard shell breaking up the following spring to release many individual, hairy seeds.<sup>10</sup>

*Platanus occidentalis* grows quickly, at a maximum rate of 3' per year, and is one of the most impressive trees in the United States.<sup>11</sup> Individuals typically grow 75' to 100' tall, with a similar or greater crown spread.<sup>12</sup> The species also boasts the greatest diameter at breast height (d.b.h.) of any temperate hardwood tree, often reaching 10' to 13' (a circumference of approximately 190" to 245").<sup>13</sup> Although the Burnside Bridge *Platanus occidentalis* has not yet been measured, it appears to be a large specimen. Its size is all the more impressive given that the tree's very survival is remarkable given its vulnerability on the day of the battle. Additionally, as it was naturally established prior to the Battle of Antietam, the precise age of this American sycamore is unknown. However, given its diminutive size in the historical photographs, the tree was very young when the battle occurred, possibly ten years old or less. Extrapolation fixes its age in 2006 at approximately 150 years. Though a witness to a century and a half of fighting,

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<sup>6</sup> Liberty Hyde Bailey and Ethyl Hyde Bailey, "Platanus," in *Hortus Third: A Concise Dictionary of Plants Cultivated in the United States and Canada*, revised and expanded by the staff of the Liberty Hyde Bailey Hortorium, Cornell University (New York: Macmillan Publishing Co., Inc., 1976), 883.

<sup>7</sup> Michael A. Dirr, *Manual of Woody Landscape Plants: Their Identification, Ornamental Characteristics, Culture, Propagation and Uses*, 5th ed. (Champaign, Ill.: Stipes Publishing L.L.C., 1998), 754.

<sup>8</sup> Ibid; Edward F. Gilman and Dennis G. Watson, *Platanus occidentalis: Sycamore*, (Gainesville, Fla.: University of Florida, Institute of Food and Agricultural Sciences, November 1993), <http://edis.ifas.ufl.edu/ST484> (accessed 12 June 2006).

<sup>9</sup> Wells and Schmidting, 1008.

<sup>10</sup> Ibid; Gilman and Watson.

<sup>11</sup> Jeffery L. Reimer and Walter Mark, *SelectTree: A Tree Selection Guide* (San Luis Obispo, Calif.: Urban Forest Ecosystems Institute, 2004), California Polytechnic State University, <http://selectree.calpoly.edu> (accessed 21 June 2006).

<sup>12</sup> Dirr, 755.

<sup>13</sup> Reimer and Mark.

interpretation, and preservation, the Burnside Bridge American Sycamore barely qualifies as old in the botanical sense, as its species' longevity is typically greater than 150 years.<sup>14</sup>

In general, American sycamores are most compatible with plantings outside of heavily urbanized environments. Although capable of rooting in small cut-out planting pits, highway medians, parking lot islands, and other similarly enclosed spaces, these locations are not recommended due to the large size the species eventually attains. Protruding branches become a major nuisance near homes or business, and aggressive roots often raise and destroy nearby sidewalks. Likewise, lawn plantings are similarly discouraged due to messy habit, as the trees constantly drop leaves, fruits, and twigs. The dense shade created by the trees may interfere with grass growth, and falling leaves reportedly release a substance which may even kill newly planted grass. The species itself is highly sensitive to elevated ozone levels.<sup>15</sup> For the mutual benefit of the trees and the public, individuals should be planted in expansive, open areas where they will be allowed to grow. *Platanus occidentalis* is extremely hearty, highly drought tolerant, and adapts well to a wide variety of soil conditions – alkaline to acidic, sand to clay, and extended flooding to well drained. However, the species is sensitive to diseases and pests. One such disease, anthracnose, does not usually kill a tree, but causes defoliation, branch and twig cankers, and reduced vigor. Conversely, a bacterial leaf scorch can kill a tree in just a few years. As the disease progresses, leaves appear scorched, become crisp, and curl up as they turn reddish-brown. Sycamore lace bugs cause premature defoliation and aphids suck sap from the trees, but neither seriously affect survival.<sup>16</sup>

The location of the Burnside Bridge Sycamore is generally favorable. Owing to the high degree of historical integrity maintained around Burnside Bridge, its present setting chiefly mirrors the naturalistic conditions of 1862. Additionally, in 1995 Antietam National Battlefield staff and volunteers began reforesting the park's Civil War era woodlots, largely removed during the late nineteenth and early twentieth-centuries. In the seven years from 1995-2002 they planted 16,392 seedlings and 300 trees over a fifteen acre area.<sup>17</sup> This work continues today, and combined with the sprawling pastures and open tracts of farmland within Antietam, the restored woodlots afford the tree a particularly high-quality, large-scale environmental context. Given this natural landscape, falling leaves, fruits, and twigs do not generally constitute a litter problem, and the National Park Service can recognize and combat disease and pests better than many private owners. With no other trees nearby, it has adequate room to grow, although some pruning may be necessary for the ease of visitors crossing over Burnside Bridge. A more serious potential problem center's on the tree's roots. If their expansion threatens the stability of the bridge itself, the NPS may face a difficult decision over which resource to save at the other's expense, and given the historical significance of Burnside Bridge, the

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<sup>14</sup> Ibid.

<sup>15</sup> Gilman and Watson.

<sup>16</sup> Ibid.

<sup>17</sup> *Replanting History: Reforestation of the Historic Woodlots at Antietam National Battlefield* (National Park Service, Antietam National Battlefield, 3 December 2003), <http://www.nps.gov/anti/replanting.htm> (accessed 10 July 2006).

sycamore may well be removed. However, apart from this possibility the tree holds the potential to live for centuries to come. Thankfully, through 150 years or more of tree growth the bridge has shown no signs of damage from its roots, and the tree itself is in excellent condition.