



STONES RIVER NATIONAL BATTLEFIELD



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Tennessee's Civil War National Parks

REPORT SUMMARY

Considered by some to be one of the forgotten engagements of the Civil War, the Battle of Stones River was nonetheless significant: Its outcome put in motion a chain of events that would ultimately allow for Union triumph. When the Confederate Army of Tennessee met the Union Army of the Cumberland at Stones River on December 31, 1862, both sides were in desperate need of a victory. Defeat at

Fredericksburg was still a fresh, painful memory for the Federals, and the Confederates anxiously clung to hopes of regaining control of Middle Tennessee.

The clash between the North and South at Stones River—near Murfreesboro, Tennessee—claimed nearly 24,000 casualties, making it the eighth bloodiest battle of the war. The Union Army took advantage of their narrow victory here by constructing Fortress Rosecrans—an

This is the landscape at McFadden Farm that Union soldiers saw as they fired cannons on Confederate soldiers on January 2, 1863, during the Battle of Stones River.



earthworks fortification that stretched more than 14,000 feet and enclosed more than 200 acres. The fortress served as a supply depot and allowed the Union control of this strategic location, which was needed to protect railroad lines to Nashville. The Confederate loss at Stones River marked a major turning point in the campaign for Middle Tennessee and set the stage for several key battles that ultimately shifted the tide of the war in favor of the Union throughout 1863.

In 1927, Congress officially recognized the significance of the events that transpired during the Battle of Stones River with the creation of Stones River National Military Park. The park includes Stones River National Cemetery, authorized in 1864. In 1960, Congress changed the military park's name to Stones River National Battlefield. Composed of six noncontiguous units, the 650-acre park (712 acres authorized) is highly fragmented and embedded in an urban setting.

Landscape restoration efforts—to benefit ecosystems and preserve historic settings—are a primary part of natural and cultural resource management at Stones River. Several hay and row-crop fields are being converted to native warm-season grasses at the McFadden Farm and Nashville Pike units. Efforts to use native grasses to preserve earthworks in the park began in 2000 and 2001. Beginning in 2006, the park collected grass seed from an area in the park known as the Michigan Marker field for use in restoring other fields.

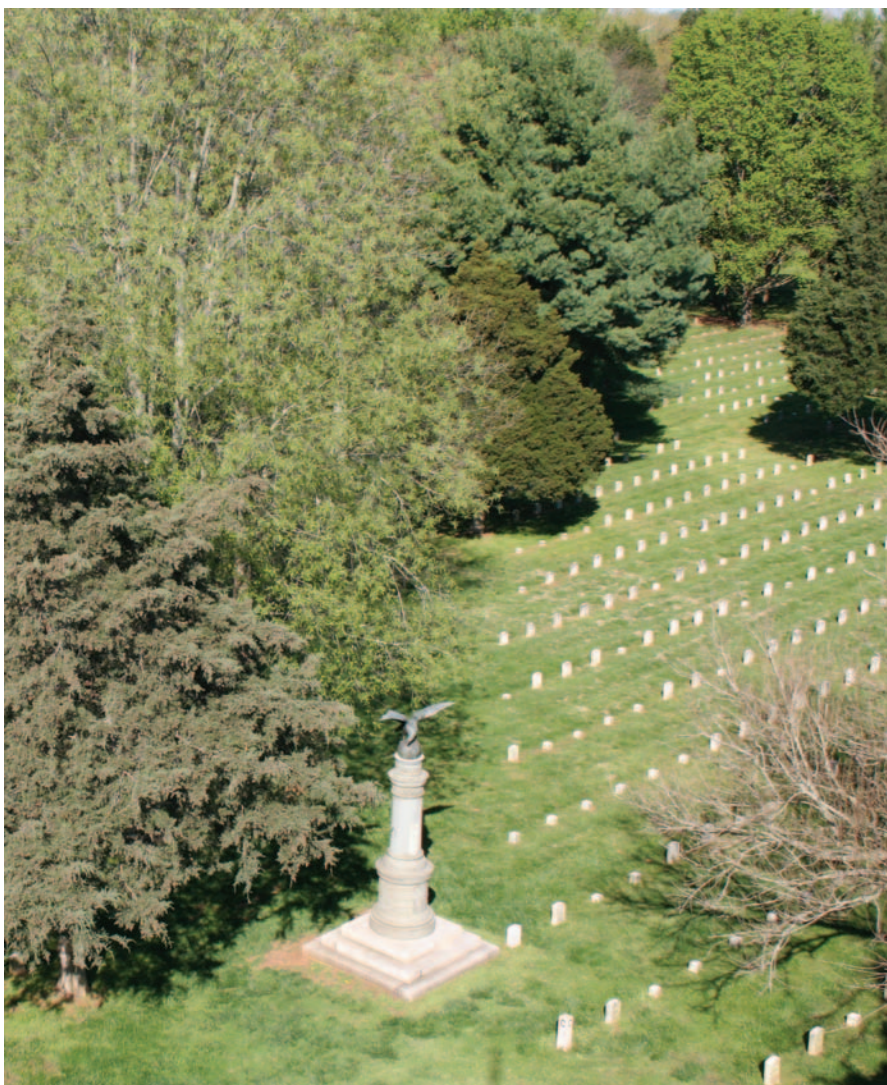
Stones River's many cultural resources belie its small size. Included in the park are 3,000 linear feet of Fortress Rosecrans' earthen walls, as well as the earliest Civil War monument erected. Threats to cultural resources at Stones River include erosion that degrades earthworks and the effects of weathering on monuments, markers, and other historic structures.

Natural resources in the park are also noteworthy. Stones River protects rare cedar glades, special plant communities that continue to

disappear from Tennessee at an alarming rate due to urban development. The spread of non-native plants is the biggest threat to all ecological systems in the park, as many non-natives are aggressive invaders that displace native communities.

In addition to natural forces and non-native invaders, adjacent land use is negatively affecting the aesthetic character and ecology of the park. Stones River was intended as a peaceful place for future generations to engage in reflection on the somber events that occurred there, but surrounding development, noise, and air pollution are increasingly degrading the visitor experience.

Stones River National Cemetery was authorized in 1864. It is the final resting place for the remains of Union soldiers who died at Stones River and outlying areas, as well as veterans (and some of their family members) who served since the Civil War.



RATINGS

Current overall conditions of the known **cultural resources** at Stones River rated 82 out of a possible 100, indicating “good” conditions. The scores for cultural resources are based on the results of indicator questions that reflect the National Park Service’s own *Cultural Resource Management Guideline* and other policies related to cultural and historical resources.

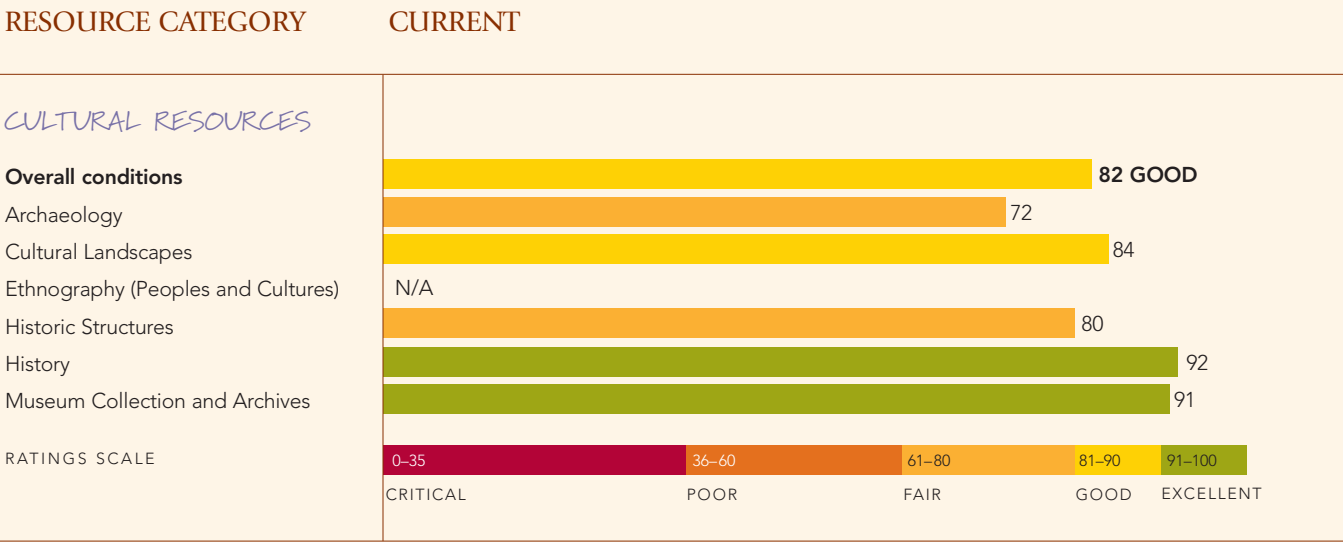
Vital reports needed to guide management of cultural resources remain unwritten due to budgetary shortfalls. Weather and erosion are also concerns, as they degrade the fragile earth-works and monuments.

The park has a limited ethnography program, despite ties to descendants of African Americans who settled near the national cemetery after contributing most of the labor needed to build it and burying the dead there. Some

potential may exist for better relations with other traditionally associated peoples, descendants of the American Indians who used resources on the land before the events of 1862–1863. However, to date, American Indian tribes have not responded to park attempts to solicit comments on park planning processes. Part of the historic Cherokee Trail of Tears passes through Stones River. The park would like to develop a wayside exhibit on the trail in partnership with the Trail of Tears National Historic Trail and the Middle Tennessee State University Center for Historic Preservation. The park’s bookstore offers numerous publications about the trail.

This assessment did not rate the overall conditions of Stones River’s **natural resources**, because only 48 percent of the information required by the Center for State of the Parks

Note: When interpreting the scores for resource conditions, recognize that critical information upon which the ratings are based is not always available. This limits data interpretation to some extent. For Stones River National Battlefield, 100 percent of the cultural resources information was available. Because only 48 percent of the natural resources information was available, natural resources were not rated.



The findings in this report do not necessarily reflect past or current park management. Many factors that affect resource conditions are a result of both human and natural influences over long periods of time, in many cases before a park was established. The intent of the Center for State of the Parks is not to evaluate Park Service staff performance, but to document the present status of park resources and determine which actions can be taken to protect them into the future.

assessment methodology was available. Based on the available information, the main threats to the park's natural resources are non-native plants, which are outcompeting native plant species for sunlight, water, nutrients, and space.

LAND USE HISTORY AND PARK ESTABLISHMENT

Stones River National Battlefield is located in central Tennessee, an area known for rolling hills, woodlands, rocky outcrops, sinkholes, and cedar glades. The first inhabitants of the Stones River area were prehistoric peoples known as mound builders. Later, American Indian tribes that lived in the area included the Chickasaw, Shawnee, Koasati, Yuchi, and Cherokee. During the 18th century, various battles were fought among these tribes for possession of the region, but the area was eventually considered a neutral hunting ground open to all tribes.

French fur traders and trappers were present in the area as early as 1710 when a trading post was opened at French Lick (later known as Nashville). Euro-American settlement began near the time of the Revolutionary War, when lands there were purchased from the Cherokee Indians. Settlement was encouraged when Tennessee was admitted to the Union in 1796, and Middle Tennessee was further opened to settlement in 1805 after the United States negotiated a treaty with the Cherokee to purchase more land. In the 1830s, all American Indian tribes were forcibly removed from Tennessee through Andrew Jackson's Indian Removal Act. The Indian Removal Act led also to a forced march of thousands of Cherokee from their ancestral homes in Georgia to resettlement areas in what is now Oklahoma. Portions of the northern route of the Trail of Tears—named for this arduous trek—passed directly through lands now within Stones River National Battlefield.

STONES RIVER NATIONAL BATTLEFIELD AT A GLANCE

- **Historic structures:** Stones River provides protection for the remains of the largest earthworks of the Civil War—Fortress Rosecrans. Once 14,000 linear feet in size, the 3,000 feet of remaining fieldworks are planted with native grasses to control erosion. The park is also home to the oldest intact Civil War monument, the Hazen Brigade Monument. Unfortunately, the inscription on monument is slowly weathering away, likely due in part to acid rain.
- **Endangered plants:** Two federally listed endangered plants—the Tennessee purple coneflower and Pyne's ground plum—occur at Stones River. While not historically present, a biology professor from Middle Tennessee State University planted the coneflower in the park, and the park reintroduced the ground plum in conjunction with the Tennessee Department of Environment and Conservation and the Missouri Botanical Garden. Both species were planted as part of efforts to perpetuate the species in Tennessee.
- **Final resting place:** More than 6,100 Union soldiers and nearly 1,000 veterans of other wars (and some of their family members) are buried at Stones River National Cemetery.
- **Cedar glades:** Cedar glades (shown below) are the most environmentally significant natural feature in the park. In 2003, 185 acres that include the sensitive cedar glade ecosystem at Stones River were designated a Tennessee State Natural Area, affording them an added level of protection. These recognized natural areas represent some of Tennessee's best examples of intact ecosystems and serve as reference areas for how natural ecological processes function.



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RESOURCE MANAGEMENT HIGHLIGHTS

- **Revised auto tour planned.** Due to the disjointed nature of the park—six units separated by urban infrastructure—visitors sometimes become confused when traveling from one unit to the next, in some cases never reaching all of them. Discrepancy in visitation among units has been attributed to inadequate or confusing signage. In order to provide a more complete story of the Battle of Stones River, managers are designing a new auto tour route that will make the two largest sections of park accessible from a major city road and will make circulation more direct for visitors taking the battlefield tour. Funds for planning and designing the route have been appropriated, but construction funding has not yet been obtained.
- **Museum catalogs near completion.** Despite the lack of an official, full-time museum curator, nearly 97 percent of the park's museum and archival collections have been cataloged, and the park has met nearly 98 percent of the standards in the *Checklist for the Preservation and Protection of Museum Collections*. Stones River benefits from a strong relationship with Middle Tennessee State University, which is a source of job applicants, interns, and volunteers to address museum management needs. The park's law enforcement officer also serves as the park's curator, and coordinates volunteers, interns, and seasonal museum technicians to accomplish museum tasks.
- **Habitat restoration ongoing.** The park has an innovative native habitat restoration program, and was recognized in 2006 with the Governor's Environmental Stewardship Award for Excellence in Natural Heritage Conservation. As part of this program, native plant material, such as seeds and transplants, are collected in and around the park for revegetation of the historic fields and earthworks. The park is also using prescribed fire to promote native plant restoration and reduce woody encroachment and non-native species. Some of the restoration work has been accomplished with the help of volunteers.
- **Visitor center renovated.** The park's remodeled and expanded visitor center, completed in 2004, is a major highlight for interpretation. The Battle of Stones River is brought to life through museum exhibits, audio presentations of soldiers' letters and diaries, and a video presentation featuring a battle reenactment. In addition, new storage space for museum collections and a conference room were added in the center's redesign.

In the 1860s, the landscape now within the park was comprised of agricultural fields and woodlands, including dense thickets of eastern red cedar. Local industries in the 1860s included brick plants, cotton processing plants, and mills. At the time of the Civil War, about 25 homes were located on what would become the battlefield.

The Battle of Stones River occurred in late 1862 and early 1863, fought on more than 3,700 acres, whose natural landscapes directly affected the outcome of the battle fought there. The rolling land and forests made it difficult to find a vantage point offering a commanding view of the battlefield, and forests limited the line of sight, making it sometimes impossible for troops to penetrate in battle formation. While rock outcroppings provided cover for troops, they impeded movement of artillery and support wagons.

In 1864, Stones River National Cemetery was authorized for Union soldiers and veterans. After the close of the war in 1865, the 111th Regiment United States Colored Troops provided most of the labor for cemetery construction, and they also disinterred and reburied the remains of Union soldiers who died at Stones River and outlying areas. In 1897, veterans and interested citizens mobilized to protect lands there as a national military park. It wasn't until 1927—after much of the land composing the battlefield was in private hands—that Stones River National Military Park was established under the War Department. By that time, many former slaves who had worked on the construction of the national cemetery, as well as descendants of those workers, had settled in the area around the national cemetery. (This community aptly and humbly referred to itself as "Cemetery.") When Congress created the national military park, the War Department purchased the land through condemnation procedures and the residents were forced to move elsewhere. Tensions that arose from the forced reloca-



tion of these African Americans continue to be felt today.

In 1933, stewardship of Stones River was transferred from the War Department to the National Park Service. Between 1933 and 1955, the superintendent of Chickamauga and Chattanooga National Military Park also managed Stones River. The park was redesignated a national battlefield in 1960, and its authorized boundary was expanded at that time; it was expanded again in 1987 and in 1991, to today's total of 712 acres (about 650 acres are currently federally owned). Nearly 300 of the current park acres have been added since 1988. In total, about 17 percent of the original battlefield is located within the

authorized boundary of Stones River. There are six private inholdings within the main park unit; all are under an acre in size.

Stones River National Battlefield is composed of six unconnected areas: the Nashville Pike (Main) unit, where the visitor center, museum, Stones River National Cemetery, and Hazen Brigade Monument are located; the McFadden Farm unit, located to the north of the main unit; the remains of the Fortress Rosecrans earthworks, located to the south of the main unit; the General Rosecrans Headquarters just north of the main unit; the General Bragg Headquarters just south of the main unit; and Redoubt Brannan, part of the original Fortress Rosecrans.

Stones River's visitor center was dedicated in 1964. The park has since expanded and remodeled the visitor center to provide guests with a state-of-the-art facility.

KEY FINDINGS

- Development on adjacent land is threatening the ecological and aesthetic character of all six units at Stones River. Commercial, residential, and industrial development on lands surrounding the park disrupt habitat, generate noise, and mar viewsheds, affecting the park's ability to preserve the Civil War-era setting. Further development on the park periphery, including a hospital and an outdoor mall, is under way and proceeding rapidly. In addition, because the park is highly fragmented and is surrounded by an urban environment, it is difficult for plants and animals to disperse and recolonize what little natural habitat exists within the park.
- Key reports are needed for management of the park's cultural resources, including an archaeological overview and assessment, a cultural resource base map, a study of the park's monitoring and control efforts on the Fortress Rosecrans earthworks, historic structures reports, and an ethnographic overview and assessment. The park's administrative history needs to be updated as well.
- According to the Environmental Protection Agency's 2008 list of impaired waterways, portions of the West Fork Stones River are impaired due to excessive nitrates, loss of biological integrity due to siltation, and low dissolved oxygen. Specific locations for these impairments are not given. The Cumberland Piedmont Network is monitoring nitrates and dissolved oxygen as part of its routine water-quality monitoring program at Redoubt Brannan and McFadden's Ford on the West Fork Stones River.
- The park needs additional full-time personnel, specifically a full-time cultural resources manager, one more law enforcement ranger, an interpretive ranger, and a maintenance worker. Staff members juggle multiple job duties to provide services to visitors. For example, while some staff are trained to provide living history demonstrations, other responsibilities, such as law enforcement or management activities, limit the time they can devote to this popular form of interpretation. Without a cultural resources manager overseeing projects at the park, other staff must pitch in to ensure that projects are initiated and completed. In addition, the newly revamped visitor center requires more maintenance and staff than it did prior to remodeling. The park has received a portion of the funds to meet these needs and is waiting to see if the remainder will be allocated in 2009. Finally, the many limestone, granite, and marble monuments and tombstones in the park require upkeep and repair. The park cannot provide the level of care its resources need with limited staff (two maintenance workers and one maintenance supervisor).

The park needs additional maintenance staff with specialized training to care for the many historic structures and monuments, such as the Artillery Monument in the background of this photograph.



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THE STONES RIVER NATIONAL BATTLEFIELD ASSESSMENT



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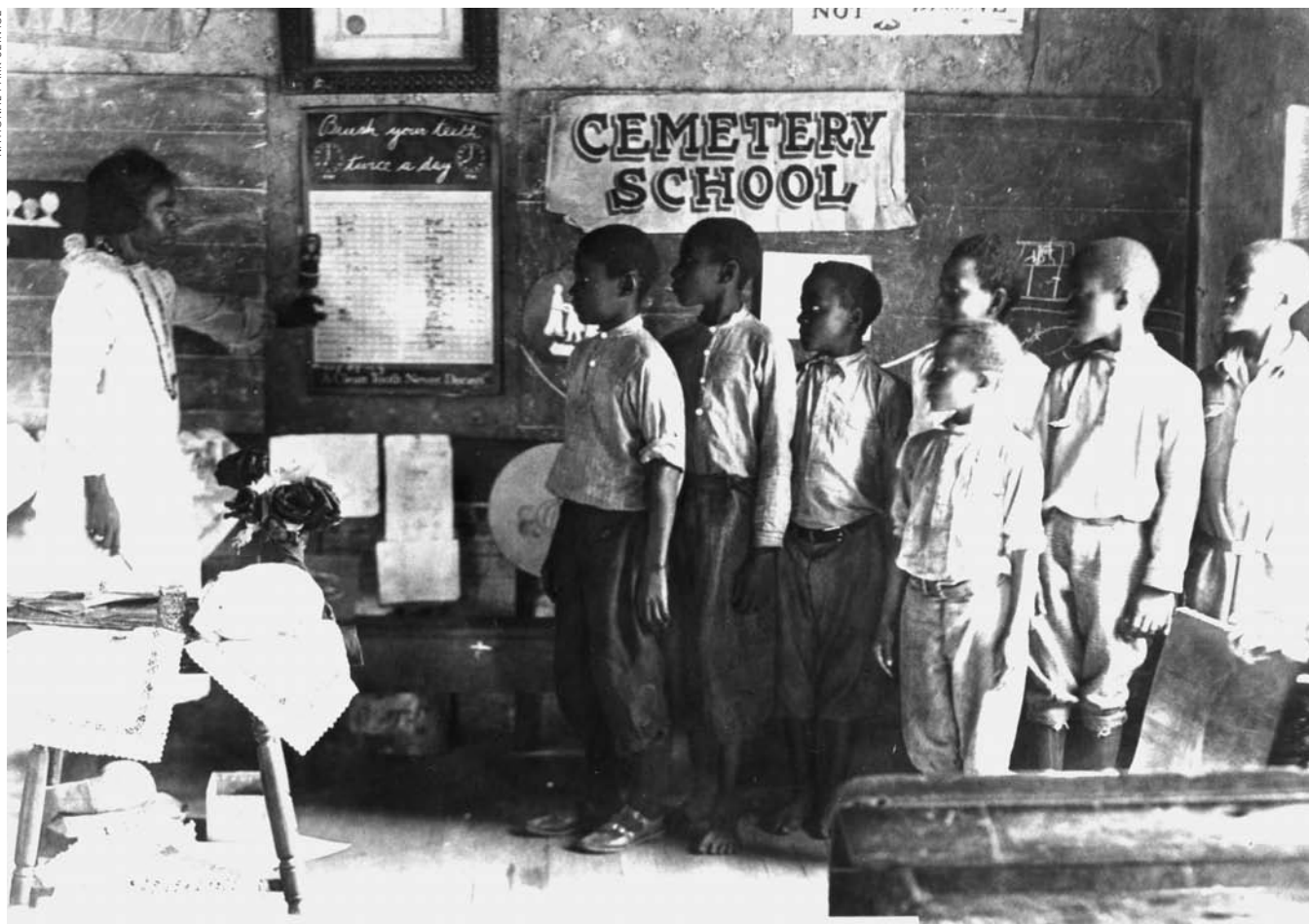
Tennessee's Civil War National Parks

CULTURAL RESOURCES— PARK PLANNING DEFICIENT; REPORTS NEEDED

Stones River National Battlefield scored an overall 82 out of 100 for the condition of its cultural resources, which include archaeology, cultural landscapes, history, historic structures, and museum collection and archives. This score indicates that the resources are in “good” condition.

Cultural resources at Stones River include the national cemetery and associated structures, earthworks of Fortress Rosecrans, the historic Hazen Brigade monument, and an impressive archival collection. Threats to resources include erosion of the earthworks area and the potential effects of acid rain on monuments. The park lacks important management documents to guide preservation and maintenance of its irreplaceable treasures.

On January 2, 1863, Confederate soldiers crossing the West Fork Stones River were met with dozens of cannons and thousands of Union soldiers stationed on this hill.



Many former slaves who had worked on construction of Stones River National Cemetery, as well as their descendants, settled and formed a community around the cemetery. This photograph shows students at the cemetery school.

HISTORY—ADMINISTRATIVE HISTORY REQUIRES UPDATES

At Stones River, interpretation focuses on the Civil War period (1861 to 1865) and the historic events of the battle that occurred there. The significance of the battle—as a morale booster and turning point in the war for the Union Army—is emphasized. The park uses existing firsthand accounts of the battle (including letters and diaries); topographical and troop movement maps; early park planning documents; and subsequent research by students, historians, and contracted researchers in their interpretation efforts. Additional themes interpreted in the park include the early years after Stones River National Battlefield was established and the legacy of the African-American cemetery community—composed of former

slaves and their descendants—that was displaced in order to develop the park.

Important studies document historical events at Stones River. A historic resource study—which provides a historical overview of the park and identifies and evaluates its cultural resources within historic contexts—is used to guide management. This document, completed in 2004, includes chapters dedicated to the battle and its place in the larger picture of the Civil War; the battle's relationship to the campaign for Middle Tennessee; and the commemorative period witnessed in the United States after the war.

While the park's historic resource study is recent, its administrative history needs updating. Administrative histories document a park's conception and establishment, as well as its

management to the present day. A park's legislative history—as well as planning, land acquisition and development, public relations, and ongoing management concerns—are emphasized in this document. The administrative history in use at Stones River was completed in 1958. Naturally, this report is outdated in many respects. The growth of Murfreesboro and its increasing population has put additional pressures on park resources; park boundaries have changed several times; and there have been changes in the way resources are managed and interpreted. Oral histories from descendants of the African-American cemetery community have also contributed knowledge that is not accounted for in the current administrative history.

Beginning in the late 1950s, prominent historian Edwin Bearss completed a number of historic studies for Stones River, and these documents are still used in park interpretive planning. Additional research is needed, especially with regard to American Indian history. While the park actively works on research projects that involve the African-American cemetery community, no direct efforts have yet been made to interpret American Indian history. (See “Ethnography” on page 80.)

Due to funding shortfalls, Stones River does not employ a full-time historian. To accomplish necessary historical research in the park, staff work closely with students and faculty at Middle Tennessee State University. Graduate students have written master's theses and a dissertation on topics such as the park's general management plan, Civil War commemoration at the park and in the county, Mission 66 at the park, and interpretation at the park. A graduate seminar recently spent a semester researching the cemetery community. A subsequent seminar focused on developing an exhibit on the cultural landscape of the park, including the cemetery community. The Center for Popular Music at Middle Tennessee State University collaborates with the park to develop temporary

museum exhibits on music and the Civil War.

Park staff participate in training sessions and workshops that focus on oral history, interpretation, and curatorial management. Some employees and volunteers are trained in living history and historic weapons and actively participate in interpretive events at the park throughout the year.

CULTURAL LANDSCAPES—IMPORTANT REPORT COMPLETED FOR BATTLEFIELD

Cultural landscapes, which encompass natural and built features, illustrate how people have adapted to their surroundings through time. Within Stones River National Battlefield, park staff have identified eight cultural landscapes: Stones River National Battlefield; the Nashville Pike (Main) unit; McFadden Farm unit; the Hazen Brigade Monument; General Rosecrans Headquarters Site; General Bragg Headquarters Site; Stones River National Cemetery; and Fortress Rosecrans, which includes its four component structures—Redoubt Brannan, Curtain Wall No. 2, and Lunettes Palmer and Thomas. All eight landscapes are listed in the National Register of Historic Places.

Working with the Park Service's Southeast Regional Office and contractors, the park completed a cultural landscape report in 2007 that will guide management of all of the battlefield landscapes for the foreseeable future. A former park employee completed a draft cultural landscape report for the national cemetery several years ago. The regional office will assist with completing that report, as staff time becomes available.

Park staff also collaborated with the regional office to complete a number of cultural landscape inventories in 2007. According to the cultural landscape inventories, the Stones River Battlefield Landscape, Nashville Pike unit, General Bragg Headquarters Site, Redoubt Brannan, Curtain Wall No. 2, and Lunettes Palmer and Thomas are in “good” condition,

TRANQUILITY AND 19TH-CENTURY ATMOSPHERE THREATENED AT STONES RIVER

The tone of thoughtful reflection that a historic battlefield evokes is one of the primary benefits it provides as a national treasure. A certain solemn atmosphere—undisturbed views and respectful silence—is necessary to convey the significance of the events that occurred at Stones River National Battlefield, but adjacent land development is threatening this aesthetic quality as well as the park's ecological communities. Because much of the original battlefield is located on private land, it has been developed for commercial and residential purposes. Two new streets were recently constructed adjacent to the park; other projects complete or under way include a multistory hospital; chamber of commerce visitor center; conference center; hotels; restaurants; and an outdoor mall. Some of these buildings are within the viewshed of the park, impairing the integrity of the 1860s battlefield. In addition, roads leading to and between the various park units are lined with commercial businesses and light industrial facilities. The Nashville Pike (Main) unit and the McFadden Farm unit are in close proximity to industrial, commercial, and residential development; a deep excavation pit and limestone quarry surround the General Rosecrans Headquarters Site; and two telecommunications towers mar the viewshed at Redoubt Brannan.

Adjacent land development affects the park's aesthetic quality and its ecological communities.

although the degree to which individual components of these sites meets the criteria for "good" condition varies. The Hazen Brigade Monument, General Rosecrans Headquarters Site, McFadden Farm unit, and Stones River National Cemetery are considered to be in "fair" condition.

Threats to cultural landscapes at Stones River are both natural and human-caused. The natural process of erosion, especially in the earthworks areas, is accelerated by burrowing groundhogs (*Marmota monax*). Park staff mitigate these threats in various ways, including prescribed burns, reintroduction of native plants and grasses, and removal of animal species that pose threats. Adjacent land use—specifically the increasing development of Murfreesboro—jeopardizes views, contributes noise and air pollution, and impairs the park's ability to provide visitors with the opportunity to experience a Civil War-era setting.

In addition to landscape rehabilitation efforts using native species, the park has restored and manages open fields and crop fields—which historically were corn, cotton, and hay—that approximate their day-of-battle locations. Park staff establish a sense of boundaries in the park through the use of wooden rail fences of the sort typical of the mid- to late 19th century. These fences, situated along historic farmland tracts and other areas of the battlefield, require constant maintenance, due to natural deterioration from weathering. Volunteers and interns assist with fence maintenance projects.

Interpretation can be a challenge for some sites in the park, particularly those whose appearance has been significantly altered by the effects of time. For example, the earthworks of Fortress Rosecrans can be difficult to understand to a novice unfamiliar with Civil War structures of this kind. Museum exhibits and a site bulletin about the fort are available at the visitor center; while wayside exhibits at the fort help



visitors understand the landscape. In addition, the park has installed wayside exhibits to improve interpretation at Redoubt Brannan, which was a key position that offered views of the railroad, river, and Nashville Pike. Though no historical landscape architect, historical architect, or cultural landscape specialist is employed by Stones River, the park has access to specialists at the regional level as needed. These specialists were integral to completion of the 2007 cultural landscape inventories.

HISTORIC STRUCTURES—REPAIRS NEEDED AT SEVERAL SITES

The earthworks and monuments at Stones River are physical reminders of the Civil War and the commemorative period in America that followed its resolution. A total of 21 historic structures have been identified in the park, though none of them are actual buildings. They include roads, monuments, markers, cemetery features, and features of Fortress Rosecrans. Of these, 11 are listed in “good” condition, while ten rated “fair” on the park’s list of classified structures (a list of the park’s historic structures). Nineteen structures are listed in the National Register of Historic Places.

The Hazen Brigade Monument marks one of the country’s first formal efforts at honoring Civil War dead, and is the oldest standing Civil War monument in the United States. Within six months after the Battle of Stones River, a detail of men from the brigade built the monument and buried 45 soldiers there. The Hazen Brigade Monument and all of its associated structures are currently listed as being in “good” condition; however, managers feel that “fair” would be a more appropriate condition rating, as the etched inscriptions on the monument are wearing away, likely due in part to acid rain.

Structures in the Stones River National Cemetery include a poignant set of markers featuring the famous poem “Bivouac of the Dead,” written by Theodore O’Hara in 1847 (inscribed on them in sections); markers denot-



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ing the locations of cannons during the battle; a flagstaff; and a limestone wall. All structures in the national cemetery are in “good” condition, with the exception of the flagstaff, which was last evaluated to be in “fair” condition. Two-thirds of the national cemetery stone wall was completely repaired, repointed, and rebuilt in 2008. Funding to complete the wall is in place for 2009. The flagstaff was painted and the weather vane at the top of the pole was repaired in 2008, which should bring the flagpole to “good” condition.

The monument at the General Rosecrans Headquarters Site presents unique challenges for park managers. Because social trails (unofficial trails not authorized or maintained by

The Hazen Brigade Monument, built just six months after the Battle of Stones River, is the oldest intact Civil War monument in the United States. Etched inscriptions on the monument are wearing away, likely due in part to acid rain.



The Artillery Monument is currently in “fair” condition. The park received funds to rehabilitate this historic structure in 2009.

the Park Service) run through the General Rosecrans site to a quarry located directly behind it, people going to the quarry frequently use the site. The site is isolated and is subject to vandalism. The monument there—a pyramid of cannonballs that marks the location of the general’s headquarters—has been looted in the past; some of the cannonballs that make up the monument are actually concrete replicas of original ones that were stolen. Park and county law enforcement personnel regularly patrol the social trail at the General Rosecrans Headquarters Site. The monument there, and a similar one at General Bragg’s Headquarters, have been listed as being in “good” condition but show paint chipping

and general signs of deterioration; they are scheduled for upcoming maintenance work. Another concern is the integrity of the locations of the sites themselves, which have not been conclusively verified.

Other monuments considered to be historic structures include the U.S. Regulars Monument, Artillery Monument, and 43rd Wisconsin and 180th Ohio Marker. The U.S. Regulars Monument is in “good” condition, after being vandalized in 1995 and subsequently repaired in 1999. The two remaining monuments are in “fair” condition due to cracking and deterioration. The park has received funding to rehabilitate the Artillery Monument in 2009.

Because the earthen fortifications at Stones River were never meant to be permanent, they are especially vulnerable to the elements. The remaining 3,000 feet of Fortress Rosecrans are classified as four historic structures: Redoubt Brannan, Lunettes Palmer and Thomas, and Curtain Wall No. 2; all are in “fair” condition. Since 1994, the park has built trails, boardwalks, and viewing platforms to protect the earthworks while allowing visitors access.

The park’s 2005 business plan estimated that an investment of \$560,000 was required to rehabilitate and restore all historic structures to “good” condition. As of 2009, the park continues to work towards this goal, through funding requests on a project-by-project basis.

Stones River does not have a historical architect or historic preservation specialist on staff, but this expertise is available at the regional level; the park has also contracted work to qualified specialists when necessary. Stones River receives assistance from the Park Service’s Historic Preservation Training Center for masonry projects, since upkeep and repairs are needed regularly for the stone walls and granite, marble, sandstone, and limestone monuments in the park.

No historic structures reports have been prepared for the park (though staff have requested funding for several). In the absence of

these reports, the maintenance crew at Stones River uses general Park Service guidelines regarding the care and recommended treatments for historic structures and often works with other natural and cultural resources personnel to develop suitable treatment plans. In addition to requests for funds to support historic structure reports, the park has requested funding to develop a preservation guide for monuments.

ARCHAEOLOGY—OVERVIEW AND ASSESSMENT NEEDED

Archaeological resources at Stones River National Battlefield consist of burial locations (i.e., Stones River National Cemetery, Hazen Brigade Cemetery, the site where two United States Colored Troops were buried, and the McFadden family cemetery), earthworks (e.g., Fortress Rosecrans), the headquarters sites of General Rosecrans and General Bragg, and other battle-related locations. In addition, the park harbors evidence of pre-Civil War use by ancient cultures and American Indian groups.

Staff from the Park Service's Southeast Archeological Center have evaluated some archaeological sites at the park, but less than 30 percent of the park has been surveyed since the 1970s, and no archaeological overview and assessment has been conducted. Funding for this important undertaking—which guides future research and protection efforts—has been requested, but the project has not been funded. An overview and assessment would assist in determining eligibility of individual archaeological sites for listing in the National Register of Historic Places (none are currently listed individually). In addition, an overview and assessment would help managers at Stones River supplement the interpretation of archaeological resources in the park. Artifacts recovered are often displayed in the visitor center museum, and the park archaeology in a number of programs, including a curriculum-based lesson plan.

In addition to an archaeological overview and assessment, further archaeological research is needed at the remains of Fortress Rosecrans to determine if more can be learned about the daily lives of the soldiers stationed there, and at sites that are not associated with the Civil War. A limited amount of work has been done to determine how heavily the area was used by ancient cultures and American Indian tribes. Archaeological investigations have yielded some artifacts, including bone scatters, bifaces (stone tools with points flaked sharp on both sides), and chert and rock flakes associated with the carving of projectile points. In addition to prehistoric sites, there may be other as yet unidentified sites associated with the Trail of Tears, which passed through portions of land now within the park.

Stones River National Battlefield does not employ an archaeologist, so park staff collaborate with staff from the Southeast Archeological Center to protect and monitor resources in situ, conduct surveys and excavations, and conduct individual archaeological assessments as needed. The center houses most of the archaeological artifacts recovered from Stones River, and staff there are responsible for upkeep of the park's entries in the Archeological Sites Management Information System, a Park Service database for organizing archaeological information.

Looting of artifacts is a serious threat in many Civil War parks, and managers at Stones River have gone to great lengths to mitigate problems. By working with the Southeast Archeological Center and local metal-detecting clubs in organized archaeological investigations in the park, managers involve the community in archaeology projects while educating participants about resource protection. In addition to teaching good stewardship, inviting local metal-detecting enthusiasts to participate in events monitored by Stones River and the Southeast Archeological Center has allowed the park to conduct significant research at minimal cost.

The park's museum collection includes soldiers' uniforms, cannons, firearms, ammunition, and much more. New storage facilities for the collection were added to the visitor center during its renovation in 2004.



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ETHNOGRAPHY (PEOPLE AND CULTURES)—OVERVIEW AND ASSESSMENT NEEDED

Stones River National Battlefield possesses potential for integrating into its overall interpretive messages the stories of traditionally associated peoples who lived in the area, both before and after the battle that occurred there. The park has requested funding for an ethnographic overview and assessment, a report that would review available data on peoples who traditionally define some part of the park's cultural and natural features as significant to their ethnic heritage and cultural viability. At this point in time, however, the park's ethnography program is limited, so NPCA did not rate this cultural resource category.

Ethnographic topics with interpretive potential at Stones River include the Cherokee Trail of Tears that passes thorough the park. In the late 1830s, thousands of Cherokee were forcibly removed from their homelands in Tennessee, Alabama, North Carolina, and Georgia, and sent to Indian Territory (today known as Oklahoma). Estimates vary, but it is known that thousands died during the trip and as a result of the relocation. The Park Service manages the Trail of Tears as a national historic trail, and the existence of part of the tragic route in Stones River offers the opportunity to add further dimension to interpretation in the park. Currently, the park does not interpret American Indian history or the ancient peoples who may have once lived in the area, though the park has identified the Cherokee Nation of Oklahoma, the Eastern Band of Cherokee, and the Seminole as potentially associated with the park. The park has requested funding to produce wayside exhibits on these peoples.

Other people traditionally associated with parklands are the former African-American slaves and their descendants who settled in the area around the national cemetery between 1863 and 1927. This community was forced to relocate when the park was established in 1927,

but descendants of former cemetery community residents still live nearby. The park actively collaborates with Middle Tennessee State University faculty and students on research projects that involve the African-American cemetery community. To that end, the university and the park are producing a portable exhibit on the community in 2009.

MUSEUM COLLECTION AND ARCHIVES—INTERNS AND VOLUNTEERS PROVIDE CURATORIAL ASSISTANCE

Stones River's museum collection of more than 135,000 items consists of articles that fall into four broad categories: archaeology; biology; history; and archives. Objects housed in collections at the park are mostly archival material but also include Civil War cannons, firearms, ammunition, and uniforms. Among the park's most interesting objects are a flag from the 6th and 7th Arkansas Regiments, a Kentucky State Guard Militia Uniform, and a wooden grave marker. The overall backlog on cataloging artifacts is only 3.3 percent, a remarkably small number for a park with no official archivist or museum collections specialist.

The park museum, located inside the visitor center, houses multiple displays that interpret the significance of the Battle of Stones River, both as a local event and as a player in the larger context of the Civil War. Premier displays include newspaper articles detailing specific events leading up to and following the battle; audio presentations of letters and diaries from soldiers who fought at the Battle of Stones River; displays of militia uniforms and items carried by soldiers; and video presentations featuring reenactments.

Storage facilities for the park's museum collection were recently added during the renovation of the visitor center, which was completed in 2004. All artifacts requiring preservation or mitigation were treated at that time, and objects considered particularly rare or threatened (especially those composed of paper or fabric) were



This 1863 depiction of the Seventy-eighth Pennsylvania Infantry capturing the Twenty-sixth Tennessee's flag on January 2, 1863, in the Battle of Stones River is from *Frank Leslie's Illustrated Newspaper*, sometimes referred to as *Frank Leslie's Weekly*.

removed from display and replaced with replicas. The storage rooms are generally in excellent condition and currently provide adequate storage space for the park collection.

To guide preservation of their irreplaceable collections, Stones River has completed a collection management plan (2002) and archives and records management action plan (2001). Collections management reports are completed yearly, and a scope of collections statement is in its draft stages. The park expects to complete a collection storage plan in 2009; an integrated pest management plan for the museum should be finalized in 2009; and a draft housekeeping plan is scheduled to be finalized in 2009.

While Stones River retains ownership of its archaeological collections, most of its artifacts are housed at the Southeast Archeological Center headquarters in Tallahassee, Florida. This is due partly to space and staffing constraints at the park. Archival and manuscript collections comprise the overwhelming majority of collections housed at Stones River; all are

available to researchers upon request. The park receives research requests every year and is currently digitizing the archives and photographic museum collections. This material is being made available on the park website, which may reduce the number of requests for onsite research the park receives in the future.

To achieve management goals with limited staff, Stones River has benefited from an ongoing relationship with Middle Tennessee State University. From 1998 to 2009, student interns have significantly reduced the backlog of the park's artifacts and archival collections. Volunteers are also active in museum collections management activities such as digitizing archives and regimental files. The park does not have a museum curator or archivist; instead, the park's law enforcement ranger functions as the museum manager.



Tennessee purple coneflower, federally listed as endangered, is found in the park's cedar glades.

NATURAL RESOURCES— PARK BENEFITS FROM ECOLOGIST ON STAFF

The assessment did not rate the overall condition of natural resources at Stones River National Battlefield, because only 48 percent of the information required by the Center for State of the Parks assessment methodology was available. Information on community structure and function, biotic and trophic interactions, and environmental quality factors such as air and water quality were generally lacking. Based on available information, non-native plant species are the biggest threat to park ecosystems. Stones

River employs an ecologist to oversee natural resource protection, which has bolstered the park's work on habitat restoration and species inventories.

PLANT COMMUNITIES AT STONES RIVER—CEDAR GLADES PROTECT TWO LISTED SPECIES

A 2004 survey recorded 633 species of vascular plants at Stones River, of which more than 154 are non-native. Some of the most interesting plant communities in the park are cedar glades, which develop in areas where limestone occurs at or near the ground's surface. Because the soil in those areas cannot support large trees, the

glades are open areas in a mostly forested landscape. (Refer to “Park Protects Cedar Glades” on page 116 of the Chattanooga and Chickamauga Assessment for more details regarding these kinds of exceptional ecosystems.) In 2003, 185 acres of cedar glade habitat in the park was declared a Tennessee State Natural Area. This designation is bestowed on areas that serve as important reference sites for how natural ecological processes function.

The park is home to six plants listed as threatened or of special concern by the State of Tennessee, as well as two federally listed endangered plants found in the cedar glades of Stones River—the Tennessee purple coneflower (*Echinacea tennesseensis*) and Pyne’s ground plum (*Astragalus bibullatus*). While there is no record of either of these species occurring in the park historically, several colonies of Tennessee coneflower had been planted in the park in the 1970s as part of a study on the light requirements of this species. Second and third plantings occurred in 1991 and 1995, presumably by park neighbors. Stones River staff have found evidence of poachers illegally digging up the coneflower, presumably to stock private collections, though the species is commercially available.

Park staff, in conjunction with the Tennessee Department of Environment and Conservation and the Missouri Botanical Garden, planted Pyne’s ground plum in the park in 2001 as part of efforts to perpetuate the species. It is not faring as well as the coneflower, exhibiting a mere 10 percent survival rate. There are only 12 populations of this plant remaining in the world, all in Rutherford County where the park is located.

Cedar glades are threatened by a variety of factors. Encroaching eastern red cedar (*Juniperus virginiana*) trees fill in the open spaces that compose the glades, and they also drop leaf litter that alters soil pH. NatureServe, a nonprofit organization whose mission is to provide the scientific basis for effective conser-

vation action, is currently conducting a cedar glade integrity study at Stones River.

The park has a native habitat restoration program that collects native seeds and transplants from in and around the park for revegetation of the historic fields and earthworks. Native grasses planted in the park include Virginia wild rye (*Elymus virginicus*), Canada wild rye (*Elymus canadensis*), purple lovegrass (*Eragrostis spectabilis*), sideoats grama (*Bouteloua curtipendula*), switchgrass (*Panicum virgatum*), broom sedge (*Carex scoparia*), Indiangrass (*Sorghastrum nutans*), and little bluestem (*Schizachyrium scoparium*).

Non-native plant species are the biggest threat to the overall health of ecosystems at Stones River. The Tennessee Exotic Pest Plant Council considers 44 non-natives at Stones River to be invasive (i.e., possessing the ability to take over areas and outcompete native species). Eighteen of these are a “severe” threat, and 20 are a “significant” threat to the park’s resources. The park successfully controlled kudzu (*Pueraria montana*), one of the most aggressive invasive species, at Fortress Rosecrans, but other invasive plants in need of control include Japanese honeysuckle (*Lonicera japonica*), Chinese privet (*Ligustrum sinense*), and English ivy (*Hedera helix*). Park staff pull thistle

Pyne’s ground plum, federally listed as endangered, was planted in the park in 2001. There are just 12 populations of this plant remaining in the world.



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(*Cirsium* spp.) and cut privet, and receive some additional assistance from the Southeast Exotic Plant Management Team. In 2006, the team removed privet and bush honeysuckle (*Lonicera mackii*) from 26 acres and treated the leaves of privet, bush honeysuckle, and Japanese honeysuckle with a herbicide on about 16 acres within the park.

WILDLIFE—SPECIES RICHNESS AFFECTED BY DEVELOPMENT, FRAGMENTATION

Stones River is home to 25 mammal, 152 bird, 18 reptile, 11 amphibian, and 46 fish species. While no federally listed or state-listed threatened or endangered wildlife species occur in the park, the southeastern shrew (*Sorex longirostris*), a Tennessee species of special concern, is found there. One of the most common wildlife species found in the park is the white-tailed deer (*Odocoileus virginiana*). Populations of white-tailed deer exceed normal densities in many areas of the Eastern United States. Park managers speculate that the deer population may be unnaturally high at Stones River as well; however, they have not yet seen any effects, such as the loss or depletion of palatable plant species. As ongoing development continues to

Visitors to Stones River can enjoy some of the park's colorful wildlife species as they learn about Civil War history.

alter habitat for deer in the Murfreesboro area, Stones River may see deer impacts increase, as the park will be one of the few remaining areas of natural habitat available for these herbivores.

Although birds are considered the most watchable form of wildlife in the park, Stones River harbors fewer species than expected. In a scientific inventory conducted from 2003 to 2005, only 152 of 210 (72 percent) of the species expected to occur in the area (from distribution patterns for the species) were recorded. Roads, farms, and business and residential development surround Stones River National Battlefield, and although no research has been conducted, the resulting habitat isolation could affect certain wildlife species. This surrounding urbanization, combined with the park's small size, is likely the reason the park has recorded fewer than expected species of birds.

AIR AND WATER QUALITY—OZONE LEVELS AND IMPAIRED WATERS OF CONCERN

Air quality at Stones River is compromised due to the park's location near a growing metropolitan area (Nashville). There are 171 major permitted stationary sources of air pollution in Rutherford County, where the park is located, and several of these are in the vicinity of the battlefield. The Environmental Protection Agency designates areas of the country where air pollution levels persistently exceed the National Ambient Air Quality Standards as "nonattainment." Rutherford County is nonattainment for ozone and attainment for all other monitored constituents.

Ground-level ozone, which is formed when nitrogen oxides and volatile organic compounds react in the presence of sunlight, is harmful to people, wildlife, and plants, and it is the primary component of smog. While ozone is not monitored in the park, there is an ozone monitoring site 12 miles away in Eagleville. According to a Park Service report, it is likely



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Water-quality monitoring indicates that the waters of Stones River National Battlefield are compromised due to surrounding development. Potential sources of pollutants include municipal and industrial wastewater discharges; quarrying activities; urban and residential development; storm water runoff; recreational use; and atmospheric deposition. The West Fork Stones River is pictured here.

that ozone levels at Stones River sometimes exceed the human health-based 8-hour National Ambient Air Quality Standard, and ozone levels are also suspected to be high enough to cause foliar (leaf) injury to ozone-sensitive plants. The park has worked with staff at Kentucky's Mammoth Cave National Park to monitor several sensitive species, and may continue to do so as the need arises and funding permits. In addition, the Cumberland Piedmont Network will be monitoring plants at Stones River for foliar ozone damage in the near future.

Damage to the park's limestone monuments (especially the Hazen Brigade Monument) and the headstones in the national cemetery may be caused by the deposition of acidic pollution, broadly called acid rain. Acid rain forms when pollutants such as sulfur dioxide and nitrogen oxides, which largely come from the burning of fossil fuels, react with water, oxygen, and other chemicals in the air to form acidic compounds that can eat away limestone monuments. The

closest sites that monitor wet deposition of the chemical components of acid rain are more than 100 miles from Stones River, so data from these sites do not represent trends in the park.

A 2000–2001 U.S. Geological Survey water-quality study found dissolved oxygen to be below acceptable levels for fish and aquatic life at the West Fork Stones River and King Pond. This study also detected elevated levels of *E. coli* along the West Fork Stones River and several organic compounds, which were attributed to nearby industrial sites. At Battlefield Spring and King Pond the trichloroethylene (a toxic liquid used in industry) concentration exceeded the Tennessee state drinking water standards.

The Cumberland Piedmont Network (CUPN)—one of 32 networks nationwide included in the National Park Service's Inventory and Monitoring Program—began water-quality monitoring at Stones River in 2002. Of the 14 CUPN parks, Stones River exhibits the most compromised water quality due to surrounding large-scale development.

The following are potential sources of pollutants: municipal and industrial wastewater discharges; quarrying activities; urban and residential development; storm water runoff; recreational use; and atmospheric deposition.

The 303(d) List of Waters (updated every two years by the Environmental Protection Agency) reports on streams and lakes identified as impaired for one or more pollutants and which do not meet one or more water-quality standards. According to the 2008 list of impaired waterways, portions of the West Fork Stones River are impaired due to excessive nitrates, loss of biological integrity due to siltation, and low dissolved oxygen. Specific locations for these impairments are not given. The Cumberland Piedmont Network is monitoring nitrates and dissolved oxygen as part of its routine water quality monitoring program at Redoubt Brannan and McFadden's Ford on the West Fork Stones River. The park does not have jurisdiction over the river itself; active management of the river is left to local landowners.

The park uses prescribed burns to manage cultural landscapes, restore native species, and control non-native species.

RESEARCH AND MONITORING— PARTNERS AND VOLUNTEERS ASSIST WITH PRESCRIBED FIRE, INVENTORIES, AND NATIVE PLANTS

Research and monitoring of natural resources at Stones River has been greatly enhanced with the addition of an ecologist to the park's staff in 2002 and the establishment of the Park Service's Inventory and Monitoring Program (Cumberland Piedmont Network). As previously noted, the ecologist, with the help of several seasonal or temporary biological technicians and volunteers, is working to manage non-native plants and establish native grasses. In 2006, five volunteers assisted the park in planting native species, managing native fields, treating non-native plants, conducting prescribed fire effects monitoring, and maintaining trails.

In addition to the air- and water-quality monitoring conducted through the Inventory and Monitoring Program, the park has also received baseline inventories of vascular plants, mammals, fish, birds, reptiles, and amphibians. Future monitoring through the network is expected to provide information on vegetation communities, non-native plants, forest pests, and landscape dynamics.

Other ongoing research projects in the park focus on species richness in cedar glades; hydrogeology; ticks of Rutherford County; native seed collection; northern saw-whet owl (*Aegolius acadicus*) documentation, and various non-native species.





STEWARDSHIP CAPACITY

FUNDING AND STAFFING—MORE MONEY NEEDED FOR PROTECTION EFFORTS

Stewardship capacity details how well equipped the Park Service is to protect the parks. The most significant factor affecting the park's ability to protect its resources is the funding a park receives from Congress. The operational budget for Stones River National Battlefield was \$1.22 million in fiscal year 2008, an increase of about 17 percent from 2007. Most of that increased funding was earmarked for staffing the expanded visitor center.

Currently, 37 natural and cultural resource projects totaling about \$2 million have been identified but remain unfunded at Stones River. These projects include creation of a cultural resource base map, an ethnographic overview and assessment, and an archaeological overview and assessment, as well as further work to restore cultural landscapes and remove non-native plants.

Additional staff would greatly improve visitor services and protection of resources at Stones River. The park has identified a full-time cultural resources manager, one more law enforcement ranger, an interpretive ranger, and a maintenance worker as critical, unfilled posi-

A costumed interpreter teaches participants in the park's Junior Ranger program. Those who complete the program and associated activities receive a certificate, ID card, and Junior Ranger badge.

Interpretive demonstrations bring the park's history to life for visitors.



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tions. With more personnel, the park would be able to provide educational programs on weekdays and conduct important management and monitoring of the park's archival, archaeological, and biological collections, as well as mitigate illegal relic hunting in the park. In an effort to economize, Stones River managers reduced the size of the park's vehicle fleet.

Despite deficits in funding, in 2006 Stones River received the Governor's Environmental Stewardship Award for Excellence in Natural Heritage Conservation. This award recognized the dedication of park staff for their "comprehensive effort to restore the 650-acre park through innovative natural resource techniques."

PLANNING—NEW PLANS WILL AID HABITAT RESTORATION

Several key management plans guide protection of resources at Stones River. The park's general management plan, an overarching document, is up-to-date and staff refer to it regularly for guidance. A cultural landscape report written in 2007 details current and historical cultural land-

scapes at Stones River National Battlefield. A draft cultural landscape report has been prepared for the national cemetery and will likely be completed by a historic landscape architect from the Park Service's Southeast Regional Office.

The park's 2003 fire management plan calls for suppression of all wildland fires but allows the use of prescribed fire and mechanical techniques for the purpose of protecting the historic battlefield landscape; returning a natural fire regime to the cedar glades; controlling non-native species; reducing hazardous fuel accumulations; and improving nutrient cycling in soils. An updated fire management plan was completed in early 2009. Closely related to the fire plan, a vegetation management and native plant restoration plan are both in development. The latter will address the elimination of non-natives, planting and promoting native species, and using prescribed burning to restore native plant populations.

The following planning documents are still needed at Stones River: a new resource stewardship strategy, a cultural resource base map,

several historic structure reports, and preservation treatment plans. The park's 1958 administrative history requires updating, though park staff regularly refer to it. They also use master's theses and dissertations about park history as reference materials.

RESOURCE EDUCATION AND OUTREACH—NEWLY EXPANDED VISITOR CENTER ENGAGES AND EDUCATES

In 2005, 9,400 visitors to Stones River were reached through 800 interpretive programs, which included formal presentations by rangers, both at the park and off-site. Park Service centennial funding in 2008 and 2009, along with improved personnel management, is allowing the park to increase the number of ranger-led programs offered in the summer.

While formal programs are an important part of the learning experience at Stones River,

most visitors receive the majority of their resource education informally, by traversing the park grounds and stopping at wayside exhibits and markers. This underscores the importance of adequate signage and interpretive displays throughout the park. A 2002 visitor survey indicated that while roughly 50 to 90 percent of visitors see the visitor center, battlefield landscapes, national cemetery, and Hazen Brigade Monument, only 37 percent visit the Artillery Monument at McFadden's Ford. A mere 25 percent visit Fortress Rosecrans, and less than 20 percent visit the General Bragg or General Rosecrans Headquarters Sites or Redoubt Brannan. This discrepancy in visitation has been attributed to inadequate or confusing signage at noncontiguous areas of the park. The Rutherford County Chamber of Commerce installed a new sign system in the park in January 2009. It is designed to direct visitors to

Participants in one of the park's ranger-led programs have the opportunity to interact with artillery like that used during the Battle of Stones River.



Volunteers staff the park's bookstore and contribute to park operations and resource protection in many other ways. In 2007, volunteers donated 13,569 hours of service to the park.

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a variety of attractions and should improve the overall quality of visitor experience at the park.

To better interpret the events at Stones River and assist visitors in accessing important sites, the park is planning changes to its auto tour route. The new 5.5-mile road and accompanying trail system—which will cost an estimated \$5.9 million to construct—will be more accessible and will more accurately interpret the Battle of Stones River, as well as the park's cedar glades. Planning and design of the route is near completion, but the park is still awaiting funds for construction.

Since Stones River opened its expanded and remodeled visitor center in 2004, all park guests now have access to a state-of-the-art facility at which to begin their tour of the battlefield. In addition to providing an orientation film and housing outstanding exhibits, the new center also contains facilities for conferences and outreach.

Park staff are involved in various other outreach efforts to engage visitors in stories of the past. The park has an extensive living history program, which includes programs featuring costumed participants interpreting the battle story with historic weapons such as muskets and cannons. Park staff coordinate with Middle

Tennessee State University's Center for Historic Preservation, the university's history department, and the Tennessee Civil War National Heritage Area to present "The Legacy of Stones River" symposium every 18 months. The symposia feature topics related to the battle and life in Middle Tennessee. Noted scholars present talks in Murfreesboro and park staff present special programs at the park.

Natural resources education in the park is provided through several programs. Ranger-led hikes and talks are conducted occasionally to educate the public about sensitive cedar glade habitat and other natural resources found at Stones River. Stones River also hosts an annual bird survey in conjunction with a local birding group.

EXTERNAL SUPPORT—VOLUNTEERS, FRIENDS, AND COOPERATORS PLAY VITAL ROLES

Staff at Stones River work closely with many groups who assist in providing services that otherwise would not be possible, due to funding shortfalls. Established in 1989, Friends of Stones River National Battlefield, a nonprofit, serves as "both an advocacy and advisory group for and a cooperative partner of the National Park Service to positively promote and protect the history and resources of Stones River National Battlefield."

In 2007, Stones River volunteers donated 13,569 hours—the equivalent of \$225,245 (estimating \$16.60/hour). Volunteers assist with natural resource management projects, museum curatorial duties, and interpretation.

Stones River receives additional support from Eastern National, a cooperating association; the Tennessee Department of Environment and Conservation; the City of Murfreesboro Parks and Recreation Department; the Tennessee Wildlife Resources Agency; the Tennessee State Forestry Division; and the Natural Resources Conservation Service. All donate time and resources to the park.