

# Gettysburg grounds: a battle on many fronts

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The preservation, restoration and maintenance of Pennsylvania's Gettysburg National Military Park present an epic battle for groundskeeping foreman Danny Greever and his staff. In addition to more traditional landscape-oriented duties, they take care of more than 1,400 statues, plaques and other memorials at the historic 6,000-acre site.

"We have the premier collection of outdoor sculpture in the United States here at Gettysburg," says Greever, noting that the ensemble is valued at more than \$300 million.

Managing the Gettysburg grounds is a monumental task in other ways, too: They have to "get the lead out," dodge crowds and cope with the Virginia Worm—all the

while keeping a constant lookout for buried treasure. "We have problems here that other landscapers don't," Greever observes. "We have such a high visitation; a million and a half people walk through this area every year."

## **Cannons, old buttons and the "Worm"**

As for the Virginia Worm, it's not an exotic new pest, but rather a type of historic split-rail fencing set in a zig-zag pattern that makes up a portion of the various old time fencing styles requiring constant repair: By the time the crews make a fence repair route through the park it's time to start over again.

The lead to be removed involves the cannons. "We have 385 pieces of artillery on the field, and unfortunately, all 385 pieces have lead paint on them, and we have to remediate that," Greever explains. This ongoing restoration process has run up bills of \$1,050 for each of the 43 weapons done so far, and the efforts can

require welding and other individual touches to keep these artifacts in 1863 battle condition.

Bullets, buttons and other bits of battlefield remnants still lie just beneath the ground's surface. Thus, every task ranging from stump grinding to trimming, pruning and mowing must be plotted and planned with the primary aim of archaeological preservation. Bruce Craig, a preservation officer, has recently been brought on board to assist in these efforts.

Over the years, much work has been done to preserve the general look of the battlefield areas, but a massive plan is being developed by the park to further restore the site to its actual 1863 appearance:

- Modern day museum buildings and latter-day farm structures are to be moved or demolished, 576 acres of woodlands will be cut down and 115 acres of new woods are to be added.

- Some 40 miles of new old-style fencing are being installed, and 65 acres of planted thickets will be maintained at their 1863 height. The thickets were in the thick of the battle. "This was difficult for the soldiers to move through," notes the park's Katie Lawhon, who adds that 278 acres of woodlands are now to be managed as woodlots. Farmers back then had grazing animals that kept these wooded parcels picked clean of undergrowth—thus giving this element a role in the battle's outcome. "The soldiers were able to move through the woodlots, and they were able to see through them," Lawhon reports.

- Farm forage fields and peach production efforts were also involved in the historic onslaught, as throughout the three-



Danny Greever, groundskeeping foreman says the lead-based paint on the cannons is being removed, one cannon at a time.



◀ The monuments, walkways, roads, skirmish sites and trails all require high maintenance caused by thousands of visitors each year.

▼ Many trees and shrubs on Little Round Top were devastated during the battle.

day battle, soldiers ran all over the place. Today, 160 acres of orchards are to be planted—in addition to the many crop fields currently maintained on a permit basis by local farmers adhering to 1863 agricultural specifications. The farmers pay the government a fee to farm the land and they get to keep the harvests. “That helps us because we don’t have to go in there and mow them,” says Greever.

The Gettysburg park is an American institution in a number of ways, both in regard to the event itself and within a greater context: The Civil War has always held a great attraction to many Americans. In addition to magnifying the political issues of the day, the conflict was a turning point in the conduct of warfare worldwide.

Located 50 miles northwest of Baltimore, the small town of Gettysburg was the site of the largest battle ever waged in the Western Hemisphere, by its end involving 160,000 Americans. The Battle of Gettysburg commenced on a beastly hot July 1, and ceased two days later with the climactic “Pickett’s Charge.” It resulted in a Union victory for the Army of the Potomac, which turned back an invasion of the North by Gen. Robert E. Lee’s Army of Northern Virginia.

During the famed “Pickett’s Charge” at Gettysburg, the troops in gray lined up in a mile-wide formation to silently march across a wheat field towards an entrenched Union force. As the Southerners got within range, Union cannons using grapeshot (a



shell containing iron balls that blew apart when fired) opened fire, as deadly accurate rifle volleys blasted into the line.

#### **They went no further north**

“The high-water mark of the Confederacy occurred right here,” Greever points out. “That’s as far North as they got: Pickett’s Charge.” Confederate casualties in dead, wounded, captured or missing were 28,000 out of 75,000 troops on the scene, while Union casualties were 23,000 out of 88,000 soldiers, making it the bloodiest battle of the Civil War.

Volumes thicker than big-city telephone books have been written about the ensuing three days of high-caliber combat, but perhaps the battle is best known for what occurred in its aftermath on a brisk sunny day that following November:

The President of the United States was invited to make “a few appropriate remarks” to commemorate the official dedi-

cation of the 17-acre “Soldier’s Cemetery,” which had earlier been hurriedly designed by landscape architect William Saunders. (It had to be done quickly because rainfall immediately following the battle created a sea of bloated bodies; however, Saunders’ master plan is still adhered to by Greever and other park personnel.) Abraham Lincoln spoke for just over two minutes in a speech that became honored as among the most extraordinary ever uttered in American history.

#### **Maintaining a national shrine**

Danny Greever has spent his entire 30-year career tending to the Soldier’s Cemetery and the surrounding battlefields. “I started here five days after I graduated from high school,” he recalls, musing that in those days few young people were attracted to working for the National Park Service — unlike today where these positions are in high demand.

At Gettysburg it's very much a team effort in making sure that the grounds are properly cared for. Duties intertwine as the staff steps up to maintain battle-related areas such as hills, ridges, fences, roads, lanes, open fields, forests, buildings, high points, stone walls, earthworks, battle artifacts, monuments, vegetation and other aspects of the park.

Greever must keep 26 miles of park roads clear of snow in the winter, along with keeping the many walkways passable. Cabs and plows are attached to John Deere tractors, and snowblowers are put to work. "For the roads, we use road salt mixed with antiskid material—which is stone from a quarry. For the walks, we use calcium chloride," he notes.

During the Great Blizzard of 1993, front end loaders from Valley Quarries were brought in for \$1,000 a day and spot-terers were used to avoid hitting hidden monuments.

Each year, nearly 5,000 horse and rider teams travel over the park's bridle trails, and Greever quips that "that's an area that has its own problems with the amount of horses that go through." Aside from the sweeping tasks that follow horses wherever they go, the maintenance team fights compaction and hoof-induced erosion with geotextile materials and a trail mix brought in from Thomasville, PA, which creates a horse-friendly surface.

Mowing assignments for the bluegrass and fescue grasses throughout the park are carried out on a pattern basis, with a specific crew assigned exclusively to the Soldier's Cemetery. "We mow the cemetery twice a week and we trim it once a week," Greever explains. Three Hustler zero-turn radius mowers are on the job here. "The Hustlers go between all the stones," Greever says.

Smaller mowers are used for severe slopes and other hard-to-reach spots.

"In the rest of the park we have two guys using John Deere tractors with Woods rotary mowers, and we have a four-man trimmer crew that follows them."

Greever points out that "it takes 10 days to make one complete lap of the park, and at the end of those 10 days it's time to start over."

Stihl backpack trimmers are the weapon of choice at Gettysburg. "They're just great," Greever opines, lamenting that the company is discontinuing this model. Ever proactive, Greever recalls that when the Stihl news hit, "I spent two days on the phone" trying to track down more

We found out that there are 11 of them left in the country—and I had some money, so I bought six of the 11."

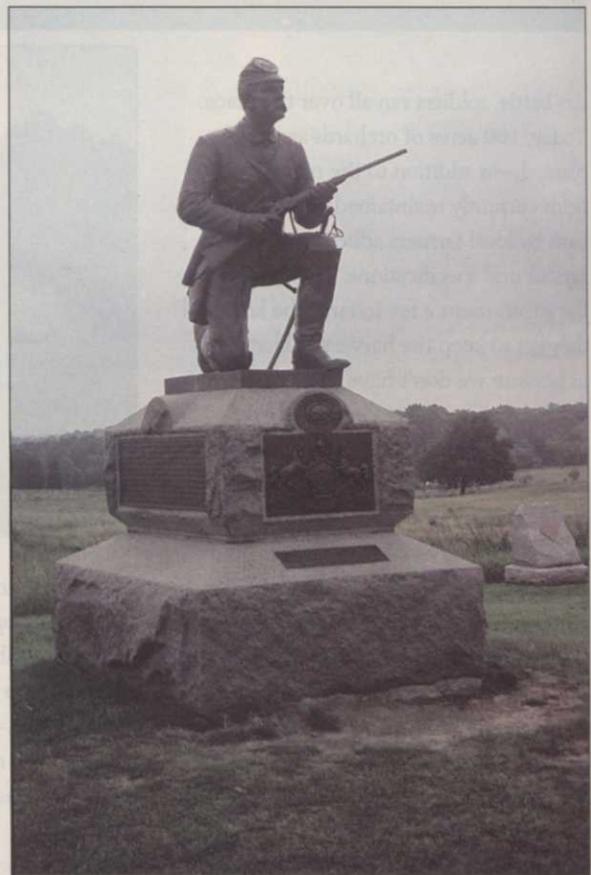
#### **Battle site problems**

Certain areas of the park have specialized programs, such as the breastworks that continually fascinate the visitors. Using limbs, logs and dirt, these were snaking mounds frantically constructed by troops seeking cover from the flying lead.

Nowadays, Greever tries to discourage tourists from climbing on the unique artifacts. "These are historic—they were part of the battle—so we just let the grass grow on them, and once a year we go in and trim them. We try to trim the grass a foot high just to keep people off them."

Erosion brought about by the tremendous foot traffic is always a struggle, particularly on the turf areas surrounding monuments. "They (tourists) walk up to read the monument," says Greever, and as a result, blotches of dirt are created in the landscape. The team tried a sheeted bio-ring product in an effort to promote turf growth, but the pressure of all those shoes is just too much for any shoots to take hold.

Not surprisingly, the many species of trees at the park receive top priority treatment. A grove known as "the clump of trees" was a major strategic element of the battle, and arborists are still debating whether these standing specimens are offspring or actual elderly survivors from the conflict. Other trees are those specified by landscape architect William Saunders in his November 1863 plan. Diseases and



▲ The huge number of people walking up to the monuments wears down the turf.

► The monument for the 86th New York Infantry gets a good cleaning with water.

pests such as the Gypsy moth have wreaked havoc (they took down 1,000 trees 12 years ago), and "right now we're having a real problem with the ash trees in the park," says Greever. "There's an anthracnose that's killing them off."

Keeping the trees properly trimmed is an ongoing program, especially in the "Class A" areas most frequented by tourists. It is important that protect visitors from an errant limb or branch. "We do pruning on a regular basis because we have

so much foot traffic in here." Some of the park's tree care is done on a contract-bid basis by Pennington Tree Service of Gettysburg.

Lightning rods are an electric issue at the park. "Being up on a hill here, we have a lot of lightening strikes when we have thunder storms," Greever reveals. The tree-based lightning rod system was re-

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cently upgraded with assistance from Pennington and the Massachusetts-based Olmsted Center for Landscape Preservation.

#### **Monumental upkeep**

Greever has long been involved in keeping the many monuments in top gazing shape, although recently, Vic Gavin has been brought on board to oversee this aspect of the groundskeeping.

The bronze figures are sandblasted to keep the finish in acceptable form. "I use the word sandblasting, but it's not actually sandblasting," Greever notes. "We actually blast them with ground walnut shells." The walnut-spitting equipment is designed for cleaning the insides of jet engines, yet it performs a monumental job in removing corrosion, dirt and traces of a previous wax coating. The bronze is then heated and a beeswax-based material is applied to the metal before it cools. The team takes care not to overheat the bronze or apply too much wax. Once the wax is applied, the excess is removed and the finish hand rubbed. The protective coating will protect the bronze and help repel acids which are prevalent in rain and vehicle exhaust fumes.

The preservation and restoration of the entire Gettysburg National Military Park is an effort that is continually under review. Some of the latest fronts being planned are a comprehensive inventory of all the plant materials and a mapping program based on satellite technology. And Danny Greever continues to apply his considerable skills toward keeping the wide-ranging living memorial in tip-top shape on behalf of the American people: "This is a *special* place," he explains. **LM**

