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Cameron Boutin
Northeastern University

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The Diverse Roles of Natural Environments in the American Civil War

Cameron Boutin

Northeastern University

From 1861 to 1865, the American Civil War, one of the most bloody and destructive conflicts in American history, raged across the United States. As the armies of the Union and Confederacy marched and clashed, many individuals, from soldiers to officers to politicians, gained renown for their actions and the parts that they played in the war. These people, as well as the armies, battles, and campaigns, have been the focus of countless historical studies in the century and a half since the Civil War ended. However, there is one aspect of the struggle that has been largely underappreciated by both scholars and the general public. Natural environments, from ecological landscapes to weather conditions, had a significant and influential role in nearly every part of the Civil War. Traditionally, few scholars have specifically analyzed the importance of nature in wars, and most military studies of the Civil War normally only include analyses of how geographic and topographic features affected battles and campaigns.¹ The diverse roles and actual agency of natural environments have not begun to receive attention from scholars until relatively recently. Insight into the variety of different ways that natural environments affected and were altered by their interactions, both violent and nonviolent,

¹ Lisa Brady, "The Wilderness of War: Nature and Strategy in the American Civil War," *Environmental History* 10, no. 3 (2005): 423.

with the human participants of the conflict enables a more complete understanding of the integral relationship between them. Environments impacted or were impacted by the experiences of both soldiers and civilians, the execution of military operations, and the course and ultimate outcome of engagements, campaigns, and the entire war. From the beginning of the Civil War to its end, natural environments were a resource, an adversary, a target, and an unintended victim.

The Supplies of Timber, Food, and Animals and the Ecological Results

For the American people of the nineteenth century, one of the most important natural resources that they depended on for survival was timber, particularly hardwoods from deciduous trees such as oak or beech, which were obtained from the country's forests and woodlands. Since immense amounts of timber were used for a wide range of purposes, from fuel for fires to constructing buildings and farm structures, swaths of forests across the United States were progressively cleared and destroyed. In addition to the deforestation caused by logging, large parts of the American landscape, particularly in the South, "had been undergoing profound forest degradation for at least a thousand years" because of the common agricultural system of field-making.² This practice involved burning an area of woodland to create farms and cultivate fields for a few years, only to abandon them when they had been exhausted and repeating the process once the environment had somewhat recovered. The new growths of trees simply did not have time to mature, preventing forests from ever truly replenishing. Human-induced

² Jack Temple Kirby, "The American Civil War: An Environmental View," *National Humanities Center*, July 2001, <http://nationalhumanitiescenter.org/tserve/nattrans/ntuseland/essays/amcwar.htm>.

degradation of woodlands was significantly augmented by the Civil War, since the armies of both the Union and the Confederacy actively interacted with forests and completely relied on them for supplies of timber.

“As massive armies marched, camped, and fought between 1861 and 1865, soldiers consumed vast quantities of wood culled” from the forests and woodlots of the South, where the main fighting of the war occurred.³ “Soldiers were forester-engineers nearly everywhere - felling trees, stripping limbs,” and gathering lumber in order to meet their seemingly incessant needs.⁴ One of the armies’ regular uses of timber during the Civil War was as fuel for their fires, which were necessary to provide warmth, cook food, and illuminate encampments as well as light the way during night marches or operations. In a letter written by Private William Paynton of the 21st New Jersey Regiment in 1862, he describes military units’ standard fires to his wife: “You can imagine the size of them when I tell you that we use as much woods as you could put on a cart in one fire . . . our Regt, will burn perhaps fifty loads every day.”⁵ Since hundreds of thousands of men served in the Union and Confederate armies, a continuous supply of lumber would have been collected and fed to the various military forces’ fires on a daily basis, especially during cold weather and the months of winter.

The timber acquired from forested environments during the Civil War was also used for a variety of building purposes. Soldiers needed to fell trees for wood “to build the landscape of war transportation—the bridges and corduroy roads that were vital

³ Megan Kate Nelson, *Ruin Nation: Destruction and the American Civil War* (Athens: University of Georgia Press, 2012), 104.

⁴ Kirby, “The American Civil War: An Environmental View.”

⁵ William Paynton, Private in the 21st New Jersey Regiment, Letter, November 26, 1862, Bound Volume 480, Fredericksburg and Spotsylvania National Military Park.

elements of the wartime infrastructure.”⁶ Throughout the conflict, the armies of the Confederacy and Union were nearly constantly in motion, marching to new locations for a variety of reasons, including confronting the enemy, completing certain operations, or obtaining vital supplies or resources. Troops often had to move through difficult terrain and regions such as swamps and mountains, demonstrating one of natural environments’ adversarial roles during the Civil War. The armies needed wood to construct the roads and bridges that would not only allow them to transport themselves in a more swift and efficient manner, but also sometimes at all.

Besides making transportation structures, American soldiers depended on the timber taken from woodlands to construct shelters for themselves. When armies were campaigning or regularly moving, troops built different types of temporary housing structures such as lean-tos and shelter roofs, which normally did not require much extensive woodcutting. “However, when the northern and southern armies entered into winter quarters, soldiers almost immediately set to work on what they variously referred to as their huts, cabins, shanties, houses, and log palaces.”⁷ Essentially, entirely new villages and settlements were constructed out of the resources culled from the expanses of forest across the South during the four years of the Civil War. The log cabins and other wood-built structures, including churches and entertainment facilities, provided the men participating in the conflict with “both shelter and a sense of domesticity for themselves in camp,” either in the short-term or for longer durations.⁸ Large amounts of timber were also needed by the armies to build fortifications and other defensive structures, such as

⁶ Nelson, *Ruin Nation*, 105.

⁷ Nelson, *Ruin Nation*, 120.

⁸ *Ibid.*, 121.

breastworks, stockades, battery platforms, abatis, and chevaux-de-frise. All of the “elements of the protective landscape of battle were constructed of wood, almost all of it culled from nearby forests.”⁹ The various forms of fortifications and defensive works were constantly needed throughout the Civil War, especially during large-scale clashes between armies and the sieges of southern cities. Both Union and Confederate soldiers highly valued the protection given by their timber structures, as well as the fact that the edifices provided them with a significant advantage over an attacking enemy.

Clearly, the armies that fought in the Civil War could not have operated effectively or even survived at all without the timber that was collected from forested environments. Soldiers may have needed the resources from woodlands for several reasons, but a consequence of their continuous interaction with nature was that forested areas were completely devastated. Encamped armies “represented a continuous, grinding strain on the local ecosystem, depleting virtually all of its resources” and making them more destructive than even some of the most brutal battles.¹⁰ Soldiers’ widespread use of wood would have required trees to be felled and timber cut up on an unrelenting basis, and “as a result, troops transformed huge swaths of the South’s forests into landscapes of stumps.”¹¹ Areas that were the sites of constant campaigning or military activity during the Civil War, such as Spotsylvania County in Virginia, suffered unprecedented levels of deforestation, leaving the local communities economically ruined and preventing the regions from quickly recovering after the conflict ended.

⁹ Ibid., 138.

¹⁰ J. Harrison Powell, “Seven Year Locusts: The Deforestation of Spotsylvania County during the American Civil War,” University of Virginia and Essays in History, 2010, <http://www.essaysinhistory.com/articles/2011/4>.

¹¹ Nelson, *Ruin Nation*, 104.

Some Union and Confederate soldiers expressed regret about converting woodlands to ruins, but many observers admired the ways that the landscape was dramatically transformed.¹² No matter their perception of the exploitation of forests, all soldiers marveled at the armies' ability to cause "the woods to disappear with magical rapidity."¹³ Private John L. Smith of the 118th Pennsylvania Regiment provided an apt description of the forest degradation caused during the war when he wrote "Why, we cut down a woods in a few days! You have no idea what damage an army can do - it is worse than seven year locusts."¹⁴ As the war progressed, the armies' requirements resulted in troops obtaining wood from man-made structures, such as fences and local farms, and being forced to travel farther and farther distances to find suitable timber sources. In regions such as Spotsylvania, soldiers had to go to extremes to fulfill their needs for wood, even at only the mid-point of the conflict. "The fact is the woods have all been cut down, and fuel is very scarce. We now are gathering what we call the second crop, that is, we cut off the stumps even with the ground," elaborated David Thomas, a captain in the 27th Connecticut Regiment, in a newspaper article written on April 15, 1863.¹⁵ The total consumption of woodlands cannot be accurately calculated, but a reasonable estimate is that the Union and Confederate armies annually consumed at least 400,000 acres of trees for firewood, while a total of around two million southern trees were used for construction purposes by the end of the struggle.¹⁶

¹² Ibid., 154.

¹³ "Prisoners in Richmond," *Harper's Weekly* (New York, NY), February 22, 1862, <http://www.sonofthesouth.net/leefoundation/civil-war/1862/february/richmond-prisoners.htm>.

¹⁴ John L. Smith, Private in the 118th Pennsylvania Regiment, Letter, January 25, 1863, Bound Volume 44, Fredericksburg and Spotsylvania National Military Park.

¹⁵ David Thomas, Captain in the 27th Connecticut Regiment, *Morning Journal and Courier* (New Haven, Conn.), April 15, 1863, Fredericksburg and Spotsylvania National Military Park.

¹⁶ Nelson, *Ruin Nation*, 152.

The Civil War was fueled by the timber that was culled from forests and woodlands, but this was not the only way that natural environments served as a resource during the conflict. For all of the soldiers and civilians of the Union and Confederacy, an ever-present concern was “the eternal quest to survive biologically, to derive the requisite number of calories from food . . . [which] depended on agriculture, on the land,” and on other aspects of the natural world.¹⁷ One of the oldest and most accurate military epithets is “an army marches on its stomach,” and if the military forces of both sides were not provided with or could not obtain an adequate amount of food and other natural materials, there were drastic negative effects. Without proper food supplies, troops’ health and morale substantially decreased, leaving them more vulnerable to sicknesses as well as diminishing their ability to fight or engage in other wartime activities. Almost equally important as the vast quantity of food needed by the armies during the war was livestock, particularly horses and mules, “the animals upon which all fighting forces utterly depended.”¹⁸ Besides using certain animals, such as swine, as a source of food, armies needed thousands of mules and horses “to move artillery, carry supplies, and send the cavalry out to find the enemy.”¹⁹ Soldiers and their officers highly valued horses and other animals, since not possessing enough of them meant potential paralysis and defeat. Both the governments of the North and South sought to organize agricultural and animal husbandry systems that could effectively supply both their armies and the civilian populations. The South tried to increase its use of the land for food production in order to

¹⁷ Ted Steinberg, *Down to Earth: Nature’s Role in American History* (New York: Oxford University Press, 2002), 89.

¹⁸ Mark Fiege, “Gettysburg and the Organic Nature of the American Civil War,” in *Natural Enemy, Natural Ally: Toward an Environmental History of Warfare*, ed. Richard P. Tucker and Edmund Russell (Corvallis: Oregon State University Press, 2004), 98.

¹⁹ *Ibid.*, 104.

guarantee that its military forces as well as its civilians received proper sustenance, but its “commitment to staple agriculture, to the production of cotton, hindered the ability of the Confederacy to feed itself.”²⁰ Conversely, “the more varied agriculture practiced in the North – a region not centered exclusively around one main crop for markets – provided both its soldiers and its citizens with a better and more diverse set of dietary options.”²¹ Despite the rations provided to them, the Union and Confederate armies needed to augment their limited supplies by foraging, extracting food and animals from local environments. The conditions of the armies were therefore closely tied to the physical condition of the lands around them. Although both the troops of the North and South used local environments for sustenance and additional supplies, the Confederates attained the majority of their sustenance from them, and thus the health of the “soldiers literally waxed and waned in relation to the richness or poverty of the surrounding farms.”²²

“Across the South, armies from both sides stripped and ruined agricultural landscapes” in the pursuit of food, animals, and other natural resources.²³ As the Civil War progressed, the massive consumption of resources degraded agricultural lands throughout the South, lessening the Confederacy’s ability to provide for itself and leaving its population, both military and civilian, physically weakened because of hunger and malnourishment, which also damaged its capacity to wage war. The importance of the environment’s role as a resource was a concept that was understood by all manner of Americans, and the “Union armies sought to control [geographic] space in order to

²⁰ Steinberg, *Down to Earth*, 98.

²¹ Steinberg, *Down to Earth*, 98.

²² Fiege, “Gettysburg and the Organic Nature of the American Civil War,” 105.

²³ *Ibid.*, 95.

deprive the Confederacy of the food and materials that it needed to continue fighting.”²⁴ Throughout the conflict, the South’s inability to provide enough food or animals not only affected the general health conditions of its people, but also was one of the utmost military concerns and continually dictated armies’ actions. For example, by 1863, the Army of Northern Virginia’s need of sustenance was so severe that for its commander, General Robert E. Lee, “the question of food . . . gives me more trouble than anything else combined.”²⁵ To gain the various supplies that they desperately needed to survive and continue the war, Lee and the Confederate forces had to invade Pennsylvania, a campaign that eventually culminated in the Battle of Gettysburg, one of the conflict’s largest and most famous engagements. The Union’s capability to more proficiently control and utilize food and animal resources provided by natural environments gave them a significant advantage over the Confederacy, allowing their armies to execute military maneuvers without any major fears of not having enough supplies at their disposal and certainly contributing to their ultimate victory in the war.

The Adverse Power of Weather Conditions and Diseases

One of the reasons that the South was not able to obtain an adequate quantity of food, animals, and other products from nature during the Civil War was the environment’s role as an adversary. During much of the conflict, adverse weather and climatic conditions, uncontrollable and unpredictable aspects of the natural world,

²⁴ Ibid.

²⁵ Robert E. Lee quoted in Glen Tucker, *High Tide at Gettysburg: The Campaign in Pennsylvania* (Indianapolis: Bobbs-Merrill Company, 1958), 18.

hindered and disrupted the production of food and other crops across the United States, but especially in the South. In 1862, a widespread drought reduced corn and wheat yields throughout large parts of the Confederate states. To augment the problem, “the heavy rains that preceded the drought created conditions congenial for the development and spread of a rust fungus,” a plant parasite that further laid waste to the wheat crop.²⁶ Also during 1862, flooding of the Mississippi River and other major waterways in the South ravaged the growing crops and ruined some of the most productive land. In the years that followed, poor weather, from droughts to torrential rains to unseasonal heat or frost, continued to damage the South’s agriculture and spoiled various crops, but the North suffered its own harmful conditions at that time as well, such as a severe frost in the summer of 1863 that reduced food yields. Although hostile weather was a frequent occurrence during the war, the most extreme climatic event, one that inflicted far-reaching hardship and destroyed crop and animal resources in both the Union and Confederacy, was the winter of 1863-1864. In Tennessee, “the temperature plunged a staggering fifty degrees in just 24 hours . . . [and] in Texas, the Arctic outbreak killed half to perhaps as much as nine-tenths of the cattle found on some farms.”²⁷ The American people had no way to protect their food production or livestock from damaging weather conditions and were forced to try to adapt to changing circumstances, which included maintaining whatever crops and other natural resources that they could in order to survive and continue the war effort.

Adverse weather not only negatively affected the agricultural systems of the South and North during the Civil War, but also continually presented itself as an obstacle or

²⁶ Steinberg, *Down to Earth*, 96.

²⁷ Steinberg, *Down to Earth*, 96.

difficulty to the soldiers themselves. Weather and climatic conditions, along with other environmental features such as geographic terrain, shaped the daily experiences of troops and directly dictated armies' actions, as well as the actual ways that they engaged in their operations. "More than civilians, who at least had proper shelter in most cases, soldiers down south suffered due to extreme weather" throughout the conflict.²⁸ For example, when Union forces besieged Fort Donelson in Tennessee in February 1862, unseasonably warm weather abruptly ended and a freezing snowstorm swept in that made the campaign miserable for the northern troops. As noted by one of the senior Union officers, Lew Wallace, his soldiers lacked proper camp equipage and "laid down as best they could on beds of ice and snow, a strong cold wind making the condition still more disagreeable."²⁹ In almost every year of the war, the climate was particularly hazardous for soldiers in the regions along the Mississippi River, where a leading cause of casualties for the armies of both the North and South, especially during the campaigns against Vicksburg and Port Hudson in the spring and summer of 1863, was sunstroke and heat exhaustion. Another of the many times that weather impacted soldiers' experiences was in Georgia in September 1863, when the massed Union and Confederate armies initially complained about intense heat and dust, but then the temperature suddenly plunged to near freezing levels shortly before the rival forces met in battle at Chickamauga. As the survivors tried to recover from the first day of the bloody clash, "frost covered the ground, the wounded, and the dead. Most of the men preparing to fight another day had no blankets."³⁰ Bitter

²⁸ Kenneth W. Noe, "Fateful Lightning: The Significance of Weather and Climate to Civil War History," in *The Blue, the Gray, and the Green: Toward an Environmental History of the Civil War*, ed. Brian Allen Drake (Athens: University of Georgia Press, 2015), 22.

²⁹ Lew Wallace quoted in Lisa Brady, "Nature as Friction: Integrating Clausewitz into Environmental Histories of the Civil War," in *The Blue, the Gray, and the Green: Toward an Environmental History of the Civil War*, ed. Brian Allen Drake (Athens: University of Georgia Press, 2015), 152.

³⁰ Noe, "Fateful Lightning," 22.

cold, scorching heat, heavy rain, and other types of inhospitable weather augmented the horrors of war for soldiers, who were weakened both physically and mentally before they even experienced the rigors of battle and whose fighting performance would consequently suffer. Despite the environmental hardships, the troops had no choice but to do their utmost to endure the conditions and conduct military activities, from fighting to building to marching.

More than simply have a damaging effect on the morale and physical health of soldiers, hostile weather directly shaped several engagements and expeditions, which many times “involved torrential rain, flooding, and mud that determined commanders’ decisions in decisive ways.”³¹ Rainy or foggy weather would often transform battle or campaigning fields into much more challenging landscapes for armies to operate in, creating widespread confusion and chaos among the troops of both sides, such as in the battle at Williamsburg in May 1862.³² Additionally, at numerous points in the war, adverse conditions forced the delay or complete alteration of the execution of the Union and Confederate commanders’ most meticulously prepared plans, since these men had no way to accurately predict the upcoming weather systems. The hindrance of a military force’s plans was not the only way that meteorological or climatic conditions created disadvantages for an army. For example, during the engagements at Mill Springs and Chantilly, the actual fighting capability of the soldiers was impeded by heavy rains, which made the ammunition for their small arms and artillery useless, preventing men from participating in the fighting or requiring them to engage in hand-to-hand combat.³³

³¹ Noe, “Fateful Lightning,” 24.

³² Stephen Sears, *To the Gates of Richmond: The Peninsula Campaign* (New York: First Mariner Books, 2001), 71-84.

³³ Shelby Foote, *The Civil War: A Narrative, Volume 1: Fort Sumter to Perryville* (New

Other times, an unusual atmospheric phenomenon called an acoustic shadow masked the sounds of battle, preventing divided army units from uniting against enemy forces and causing them to be nearly overwhelmed because their comrades did not even know that a clash was in progress. One of the several engagements in which an acoustic shadow occurred was the fight at Iuka in September 1862, when two Union columns commanded by Generals Edward Ord and William Rosecrans failed to concentrate against a Confederate army. Following the battle, Ord explained that for him and his men, “the wind, freshly blowing from us in the direction of Iuka during the whole . . . [of the battle] prevented our hearing the guns and co-operating with Rosecrans.”³⁴

Although difficulties for armies were frequently the result of adverse weather, the conditions also occasionally provided an advantage for one side during the war. Soldiers used meteorological events such as storms, both rain and snow, to conceal their offensive and defensive movements or elude the enemy. Examples include Confederates troops’ attempted retreat from Fort Donelson and a southern garrison’s successful withdrawal from a position on Island Number Ten. By causing armies’ offensive maneuvers to be delayed during all four years of the war, hostile conditions also enabled their opponents more time to prepare for an attack or react accordingly. At other points in the conflict, inhospitable weather even had the power to cause fighting to occur that otherwise would not have happened at all. A prime example was when the Confederate army was retreating after being defeated at Gettysburg and had to engage in several minor engagements, during which they suffered further casualties, against the pursuing Union

York: Random House Inc., 1958), 177-180 and 644-645.

³⁴ Edward Ord quoted in Lisa Brady, “Nature as Friction: Integrating Clausewitz into Environmental Histories of the Civil War,” in *The Blue, the Gray, and the Green: Toward an Environmental History of the Civil War*, ed. Brian Allen Drake (Athens: University of Georgia Press, 2015), 155.

units because they could not cross the rain-swollen Potomac River until the water level decreased.³⁵ Romney, Front Royal, Seven Pines, Tullahoma, Spotsylvania Courthouse, and Nashville were only a few of the many other battles and expeditions in which weather and climatic conditions had an active part in effecting the course of events and the final outcome.

Throughout the Civil War, mud distinguished itself as one of the most detrimental environmental conditions related to weather. Mud made travel in the Confederate states exceptionally arduous for armies and oftentimes hindered their maneuvers, especially in the winter because the ground did not completely freeze. Both sides' forces could not avoid muddy terrains, but nevertheless it was worse for the Union troops, who were unaccustomed to this common feature of the South's landscape. "Poorly drained and consisting of soil composed largely of red clay (at least in Virginia, where much of the fighting went on), southern roads turned into quagmires when it rained, leaving . . . supply trains to slog through muck that at times buried mules up to their ears."³⁶ The incident that most clearly demonstrates the problems involved with moving soldiers and transporting large amounts of supplies on roads of questionable quality is the so-called Mud March. In January 1863, the Union army commanded by General Ambrose Burnside attempted to cross the Rappahannock River in Virginia in order to outflank Confederate forces led by Lee, but over a day of constant rain transformed the roads to sludge. "The mud is not simply on the surface, but penetrates the ground to a great depth . . . Everything is buried in a sticky paste mixed with liquid mud, in which, with my own

³⁵ Shelby Foote, *The Civil War: A Narrative, Volume 2: Fredericksburg to Meridian* (New York: Random House Inc., 1963), 583-593.

³⁶ Steinberg, *Down to Earth*, 90.

eyes, I have seen teams of mules buried,” wrote the Union officer Regis de Trobriand when he later described the disastrous march.³⁷ The Union army attempted to force its way through the muddy terrain, but after several days of little progress, the soldiers were exhausted and demoralized, leaving them no other option but to withdraw until conditions improved. Environmental difficulties were an ever-present adversary for the soldiers of the North and South, ones that posed a greater threat and had to be confronted much more frequently than the actual enemy troops.

Adverse weather and other physical features of the environment certainly served as an obstacle for soldiers, but the aspect of the natural world that inflicted the most damage and hardship on armies was disease. “Military historians have long known that for every Civil War soldier killed in battle, two more died of disease.”³⁸ Although certainly not all of the diseases that afflicted the Union and Confederate armies were environmental in origin, many of them were, or were at least exacerbated by conditions associated with nature, such as weather, landscape, and sustenance options. A large number of the men, particularly those from the South, who became soldiers had dwelled in rural areas, and thus they had “lived in relative isolation from common viruses and bacteria that flourished in larger human populations.”³⁹ Since most common childhood diseases had gradually disappeared from local rural communities, when would-be soldiers were “suddenly and densely brought together in encampments and cities . . . they exchange[d] pathogens and, lacking immunities, many sicken[ed], and many die[d].”⁴⁰

³⁷ Regis de Trobriand quoted in David Ludlum, *Early American Winters II: 1821-1870*. (Boston: American Meteorological Society, 1968), 129.

³⁸ Timothy Silver, “Yancey County Goes to War: A Case Study of People and Nature on Home Front and Battlefield, 1861-1865,” in *The Blue, the Gray, and the Green: Toward an Environmental History of the Civil War*, ed. Brian Allen Drake (Athens: University of Georgia Press, 2015), 62.

³⁹ Ibid., 57.

⁴⁰ Kirby, “The American Civil War: An Environmental View.”

Throughout the conflict, all military units could not avoid diseases and continually suffered casualties as a result. Measles, pneumonia, typhoid, exposure, scurvy, dysentery, and malaria were only some of the illnesses that regularly ravaged the vulnerable troops of the Union and Confederacy. A soldier of the 16th North Carolina Regiment who witnessed some of the epidemics described the damage inflicted by sicknesses in a simple manner: "Disease caused greater mortality among us than any battle of the war."⁴¹ At all times in the war, illnesses determined the fighting strength and operational capacity of military forces, and even the men who managed to recover from afflictions would most likely have still been weakened, both physically and mentally, to some degree, reducing their effectiveness in combat. Almost every soldier suffered a bout of some type of sickness, even the commanders, including the Union General George McClellan. For example, during the Peninsula Campaign of 1862, "the average Confederate soldier deployed on the peninsula . . . had likely endured at least three extended bouts with some combination" of diseases such as typhoid and chronic diarrhea.⁴² Illnesses were thus one of the greatest fears for all soldiers, who "lived with the hope that if he died he would go quickly on the battlefield, not alone after the prolonged agony of a sickness he only dimly understood but acutely suffered."⁴³ A reason that diseases were such a major fear among soldiers was that unlike the enemy or other environmental hardships such as inhospitable weather or mud, they had no real way to physically fight against illnesses and their chances of survival were largely out of their control.

⁴¹ Lawson Harrill, *Reminiscences, 1861-1865* (Brady the Printer: 1910), 7, <http://digital.ncdcr.gov/cdm/ref/collection/p15012coll8/id/2921>.

⁴² Silver, "Yancey County Goes to War," 58.

⁴³ Kathryn Shively Meier, *Nature's Civil War: Common Soldiers and the Environment in 1862 Virginia* (Chapel Hill: University of North Carolina Press, 2013), 15.

The thousands of animals that accompanied the military units during the Civil War also faced threats from epidemic sicknesses. The disease that was the most devastating to the animal resources of the Confederate and Union armies was glanders, a highly contagious and lethal equine infection. Outbreaks of glanders occurred in both sides' herds in early 1862 and continued to afflict them throughout the remaining years of the conflict. The armies suffered severe losses from glanders, but it was more damaging to the Confederacy, since it "broke out from the military herds and followed the trails of war to infect animals on southern farms."⁴⁴ To provide soldiers with some form of fresh food, Union and Confederate governmental officials sent the armies cattle and swine, but certain of these creatures carried deadly microorganisms, which led to diseases such as cholera and cattle fever spreading and ravaging the animal supplies of not only military units, but also the civilian communities of the South. The gathering of horses, mules, hogs, and cattle for the different campaigns of the conflict, "like the mustering of men – created a new disease environment that affected southern animals and agricultural life for years to come."⁴⁵

Illnesses and diseases, as well as the other ways that the natural environment acted as an adversary, inflicted more physical and mental damage on Civil War soldiers than enemy troops ever possibly could. Both Confederate and Union soldiers "believed nature to be a significant and sometimes definitive force in shaping their physical and mental health."⁴⁶ As a result, troops sought to overcome the environmental challenges and improve their chances of maintaining proper health by developing informal networks

⁴⁴ Silver, "Yancey County Goes to War," 60.

⁴⁵ Ibid.

⁴⁶ Meier, *Nature's Civil War*, 3.

for sharing knowledge about the ecological world and providing health care.

Understanding the environments that they were regularly forced to live, march, and fight in was part of the seasoning process for soldiers, who needed that comprehension if they had any hope of surviving the conflict. Men possessing knowledge about how to maintain their health and conduct military activities amid the various environmental conditions of the war, particularly the hazardous ones, were overall more efficient soldiers, and they had a distinct advantage over an enemy who was less knowledgeable than themselves. Troops' comprehension about how to effectively operate could have potentially proved decisive in engagements in which weather or other environmental features were a considerable factor. The Union and Confederate soldiers perceived nature as an omnipresent obstacle that needed to be endured and overcome, but they still valued environments as a resource and understood that they relied on them to survive. The importance of natural environments for the North and South was the reason that over the course of the war, they became primary targets for military forces.

The Deliberate Devastation of the South's Agricultural Systems

From the beginning of the Civil War, soldiers on both sides sought to obtain and utilize the supplies and natural resources of the enemy. However, as the conflict progressed, Union commanders realized that an effective way of inflicting widespread damage on the Confederacy would be by targeting its connection with the natural world, specifically its agricultural system, its greatest military asset. To Union officers, to "strike against war resources suggested an indirect means of accomplishing the destruction of the enemy armies. If the enemy were deprived of the economic means to maintain armies,

then the armies obviously would collapse.”⁴⁷ The Union forces’ most efficient method of attacking the South’s agricultural resources was the massive foraging raid, also known as the chevauchee. During these expeditions, which were meant to be a dramatic demonstration of power, invading Union troops seized food, animals, and any other stores that they could carry and then destroyed the economic and agricultural resources that remained. “Although railroads, armories, iron works, and cotton stores were primary targets of the new strategy, the vast acres of fertile farmland that grew crops for human and livestock consumption were more important to southern economic, social, and cultural systems.”⁴⁸ Since the Union raids successfully undermined the relationship between southerners and natural environments by devastating their ecological system, the Confederate armies could not be properly supplied or equipped, guaranteeing the northern forces’ ultimate victory. The foraging raids implicitly combated and weakened the Confederate soldiers, but they directly disrupted the daily lives of southern civilians, who suffered the most immediate harm. Even though it deviated from the previously accepted rules of conflict, the Union’s strategy of “total war” was intended to not spare noncombatants in order to reduce both their will and capability to support the Confederate war effort.

One of the main proponents of the military operations that devastated the South’s natural environments was Union General Ulysses Grant, as well as his lieutenants William Tecumseh Sherman and Philip Sheridan. Grant utilized the total war strategy during the campaign against Vicksburg in Mississippi in 1863 by having his soldiers

⁴⁷ Russell Weigley, *The American Way of War: A History of United States Military Strategy and Policy* (Bloomington: University of Indiana Press, 1973), 145.

⁴⁸ Brady, “The Wilderness of War,” 428.

confiscate all of the local stores in the area surrounding the besieged city and destroy everything that southern citizens' employed in pursuit of agricultural productivity. No longer able to use the natural landscape as a resource and left with little provisions, the southern population of Vicksburg and the neighboring lands had no way to continue resisting and were soon forced to surrender to the Union army.⁴⁹ In 1864, Sheridan and his army targeted the ecological system of the Shenandoah Valley in Virginia, a region that throughout the Civil War had served as a primary source of food and other resources for the Confederate forces. As described by eyewitnesses, Sheridan's troops laid waste to the Shenandoah, marching through the farm fields and "destroying everything before them. Hogs, sheep, cattle, &c. were shot down and left to rot and horses were taken and carried away, whether needed by the army or not. Springdale was left like a wilderness, almost every living animal on the place either being driven off or else killed in sheer deviltry and wickedness."⁵⁰ In one of his reports to his superiors, Sheridan noted that "I have destroyed over 2,000 barns filled with wheat, hay and farming implements; over seventy mills filled with flour and wheat; have driven in front of the army over 4,000 head of stock, and have killed and issued to the troops not less than 3,000 sheep."⁵¹ Sheridan's forces transformed one of the most fertile landscapes in the South into a ruined wasteland, but by devastating the Shenandoah's material source of strength, Confederates' agricultural systems, his "campaign furthered the Union cause more than almost any campaign up to that time."⁵²

⁴⁹ Ibid., 430-431.

⁵⁰ Robert Barton memoir excerpt in Margaretta Barton Cole, *Defend the Valley: A Shenandoah Valley Family in the Civil War* (New York: Orion Books, 1994), 340.

⁵¹ Philip Sheridan to Ulysses Grant, 7 October 1864, Sheridan Papers (Microfilm Edition), Library of Congress.

⁵² Brady, "The Wilderness of War," 435.

As Sheridan's operation in Virginia was ending, a Union army commanded by Sherman initiated the largest and most famous example of a destructive foraging expedition. As Sherman's forces marched through Georgia and the Carolinas, they used foraging as a weapon, cutting a swath of destruction up to sixty miles wide. Sherman and his soldiers were determined to dismantle the military and agricultural infrastructure of the Confederacy, as well as strike such a momentous psychological blow to southerners that their spirit to continue fighting would be crushed. Fire served as one of the greatest tools of Sherman's troops, who took supplies and everything related to agricultural production that they could before destroying whatever remained, leaving the local civilians with no means of sustenance. "Sherman's men set fire to any building, warehouse, or structure that could be used for military purposes; they pried up the railroads, set the ties ablaze, and melted the rails."⁵³ Sherman's march through the South devastated the Confederate armies' last source of supplies and left the region bereft of nearly all animals, food, and other resources.

By making natural environments a target, Union forces inflicted severe logistical, strategic, and social damage on the South. The northern armies' ravaging campaigns not only destroyed the Confederates' ecological systems, but also "demonstrated that the Federal government ultimately controlled how the American landscape and its resources would be used and by whom."⁵⁴ The effectiveness of the total war strategies of the Union soldiers were undeniable in contributing to the North's eventual victory, but a long-term consequence was that the environments of the South were transformed from productive, cultivated lands to barren wastelands.

⁵³ Brady, "The Wilderness of War," 436.

⁵⁴ *Ibid.*, 439.

The Unintentional Ravaging of Forests

Although the natural world of the Confederacy suffered widespread devastation during the Civil War, not all of the damage was deliberately inflicted. Throughout the conflict, the environment was often unintentionally harmed, particularly when armies clashed, and thus it became one of the struggle's foremost victims. An ordinary consequence of large bodies of men gathering together in confined military encampments was air and water pollution, which only increased when Union and Confederate forces met in battle. Soil erosion also occurred throughout the lands of the South as a result of the soldiers' extensive clear-cutting of trees for timber supplies. The aspect of the natural world that was subjected to the most unintended harm, specifically attributable to the fighting of the Civil War, were highly wooded areas. Many of the battles and engagements that occurred between 1861 and 1865 were in the vicinity of or even amid forests and woodlands. As stationary objects near or on battlefields, the trunks and branches of trees were regularly hit with stray bullets and cannon shots. The years of widespread and often heavy fighting "took a toll on the surrounding trees, creating ghost forests: large acreages of trees stripped of branches and leaves and so whittled by bullets and cannonballs that they resembled corseted southern ladies."⁵⁵ For example, after the battle at Franklin in Tennessee in November 1864, Captain Theodore F. Allen of the 7th Ohio Cavalry recalled that in "a small grove of about 200 locust trees" that were "about

⁵⁵ Nelson, *Ruin Nation*, 144.

the size of a common bed-post,” the “trees were literally cut to pieces by the bullets. Some of them not as large as a man’s body had 50 to 60 bullet marks.”⁵⁶

A heavily forested region, Spotsylvania County was the site of some of the conflict’s fiercest clashes, such as the battles of Chancellorsville and Spotsylvania Courthouse, and thus its wooded environments were considerably ravaged by the firepower of the combating American forces again and again. One soldier, Private Frank Wilkeson of the 4th US Artillery, wrote in his diary that during the Battle of the Wilderness in May 1864, “small limbs of trees were falling in a feeble shower in advance of me. It was as though an army of squirrels were at work cutting off nut and pine cone-laden branches.”⁵⁷ Later, Wilkeson noted that “shot and shell from [Confederate] guns cut great limbs off of the trees.”⁵⁸ Besides the damage inflicted on forests by bullets and cannons, bursting shells combined with the dry weather and woods regularly caused conflagrations to break out during the engagements in the Spotsylvania region. “Irrepressible fire fed off of the dense undergrowth and scrub oaks of the area, ripping through the woods seemingly at will.”⁵⁹ When writing accounts of the war, soldiers of both the North and South marveled at their weapons’ ability to transform nature into destroyed wastelands. Natural environments often bore the brunt of warfare, and even though the devastation of nature was not always a specific goal of armies, it was a common byproduct of battle.

Conclusion

⁵⁶ Theodore Allen, *Diary*, 12 January 1865, quoted in Brady, “The Wilderness of War,” 427.

⁵⁷ Frank Wilkeson, *Turned Inside Out: Recollections of a Private Soldier in the Army of the Potomac* (New York: The Knickerbocker Press, 1887), 61.

⁵⁸ *Ibid.*, 72.

⁵⁹ Powell, ““Seven Year Locusts.””

More than simply a backdrop of the events of the American Civil War, natural environments were involved in nearly every aspect of the struggle, having one of the most extensive and impactful roles. Both Union and Confederate soldiers constantly experienced and needed to overcome the difficulties created by nature, but they also completely depended on environments as a resource, which was the principal reason that ecological systems ultimately became military targets. Additionally, the natural world suffered continuous and unintentional harm during the conflict just like ordinary soldiers and civilians, demonstrating how environments were also victims. Natural environments across the United States were substantially affected by their continuous interactions with the participants of the war, but they also demonstrated a large degree of agency by directly shaping the events of the conflict, from the experiences of soldiers and civilians to the course of military operations and engagements. Contemporary individuals from both the North and South recognized the significance of nature in the war by regularly writing about its diverse roles in their diaries, memoirs, reports, and letters. In order to understand the course of the Civil War and construct an accurate, comprehensive account of the struggle, the roles of natural environments need to be taken into consideration. Nature had a significant role in affecting not only the Civil War, but also in nearly every conflict in American and even world history. Therefore, to develop a complete comprehension of these different wars, from ancient times to the modern era, it is incredibly important for scholars to analyze the struggles from an environmental perspective.

About the author

Cameron Boutin recently graduated with undergraduate degree in History from Northeastern University in Boston. Currently He is in the Master Program at Northeastern. The area of study that he is interested in is the American Civil War.