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Olmsted Center
for Landscape Preservation

Cultural Landscape Report for Rapidan Camp

Shenandoah National Park



"One of the few opportunities given a President for the refreshment of his soul and the clarification of his thoughts by solitude lies through fishing."
Herbert Hoover

Cultural Landscape Report for Rapidan Camp

Shenandoah National Park

Madison County, Virginia

Site History

Existing Conditions

Analysis and Evaluation

Treatment

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Cover Photo: Herbert Hoover and Lou Henry Hoover on the wooden footbridge at Rapidan Camp. (Herbert Hoover Presidential Library)

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FOREWORD

In April of 1929 President Herbert Hoover selected a site for a summer retreat at the headwaters of the Rapidan River in the Blue Ridge Mountains. He was seeking relief from the Washington summer heat, a place to relax, rejuvenate, and partake is his favorite pastime, trout fishing. As it turned out, many of his retreats became high level work sessions which included his Cabinet members and the Prime Minister of England.

Today Rapidan Camp is an important tourist destination in Shenandoah National Park. Over the many years since the Hoover's enjoyed the peace and tranquility of Rapidan Camp, many changes have occurred on site to dramatically change the atmosphere. Most of the buildings are now gone and the loss of so many hemlock trees has turned the landscape into a sunny open space dominated by hardwood trees and underbrush as opposed to a cool, shaded refuge with little to no understory.

The park has done an excellent job of restoring the three buildings that remain: the President's House, the Prime Minister, and the Creel Cabin. We recognize that there are many other resources and features within the landscape that need our attention. The park has started an effort to re-establish the canopy and remove some of the understory with some success. This Cultural Landscape Report re-enforces our current landscape management efforts and offers treatment recommendations which will, over a period of time, restore the landscape as near as possible to the landscape of the Hoover era. Guidance provided in this report will serve the park well as we continue to preserve and protect this valuable resource.



Introduction

For four years, as the economic turmoil of the Great Depression descended on the nation, a secluded hollow on the eastern slopes of the Blue Ridge Mountains at the confluence of two mountain streams served as the rustic retreat of the president of the United States. Here, in simple cabins and tents, the president held high-level cabinet meetings, crafted important legislation, negotiated international accords, and conducted the urgent work of the nation. Here, too, beneath the deep shade of towering hemlocks, the chief executive clambered over boulders, waded through shallow pools, collected rocks to build small dams, and cast innumerable artificial flies into the streams and pools in the hope that a brook trout would rise and take his hook. Rapidan Camp was more than a "summer White House;" it was a place for Herbert Hoover to recharge his energies, clear his head, and make regular contact with the outdoor life that was so much a part of him.

Located at the headwaters of the Rapidan River within Shenandoah National Park, Rapidan Camp is the site of President Herbert Hoover's summer retreat while he was in office from 1929 to 1933. During that period, the camp consisted of thirteen rustic cabins, including a comfortable cabin for the president and Mrs. Hoover that featured two bedrooms, a living room and sitting room, a study, and two large stone fireplaces. Other cabins included guest sleeping quarters, public spaces, and a dining area, arranged within a network of stone-lined paths, bridges, outdoor gathering spaces, and stone features. All of the cabins were of simple construction designed to harmonize with the wooded setting and minimize the separation between inside and outside. The camp was nestled in a grove of hemlocks between two small mountain streams, Mill Prong and Laurel Prong, that converged to form the Rapidan River. Hemlock Run, a constructed stream channel, forked off of Laurel Prong and flowed through the heart of the camp, feeding waterfalls and small pools before rejoining the river. The secluded location, dappled shade, and ever-present sound of water led White House physician Joel Boone to describe Rapidan Camp as "one of the most relaxing places that I have ever known."[1]

In 1988, Rapidan Camp was designated a National Historic Landmark, recognizing its significant contribution to our nation's history. Today, three of the thirteen original cabins remain, including the President's Cabin and two guest cabins. Also present are trails, paths, stone footbridges, a stone fountain, a massive outdoor

stone fireplace, and the constructed stream channel. The exteriors of the cabins have been restored in recent years, and the interior of the President's Cabin has been meticulously restored to period conditions using original, period (substitution), and reproduction furniture. Overall, the landscape retains many of the character-defining features and landscape characteristics that convey its historic associations.

Management of the cultural landscape at Rapidan Camp is challenged by a number of factors that have altered its appearance and threaten its valuable resources. Disease and pests, including the hemlock woolly adelgid (*Adelges tsugae*), have killed or damaged many of the trees, opening the canopy to sunlight and encouraging pioneering young birch, maple, and tulip poplars. The majority of the stately hemlocks that once shaded the camp are dead, some still standing as ghostly snags and more still clogging the stream channels. Storms and floods have scoured the stream and river beds, eroding their banks and threatening the cabins and other features. Finally, the remote location and rugged terrain hinder the maintenance of the structures, many of which are of simple, insubstantial construction and materials.

PROJECT SCOPE AND METHODS

The cultural landscape report serves as the primary treatment document for cultural landscapes in the National Park Service and the primary tool for their long-term management. It provides treatment guidance within the context of the site's history and significance, extant features and historic character, and current planning objectives and management goals. Treatment guidelines and recommendations developed in the cultural landscape report are grounded in research, inventory, documentation, and analysis and evaluation of the landscape characteristics and features that contribute to the site's historic character.

The methodology used in this report follows *A Guide to Cultural Landscape Reports: Contents, Process, and Techniques* (1998). Methodology includes primary and secondary historical research to develop a narrative site history; surveys of existing documentation, including historic photographs, plan drawings, and narrative descriptions, to determine historic site conditions; and documentation of existing conditions through direct site observations, photography, and surveys of current and recent site plans and aerial photographs.

This report includes a history of the site, documentation of existing conditions, and an analysis and evaluation of the significance and integrity of the cultural landscape. The report also contains guidance for the treatment of the cultural landscape, offering general practices and specific recommendations for managing the historic resources. The findings of the report are supported by historic

photographs, current site photographs, diagrams, and site plans for both historic and existing conditions.

PROJECT SETTING AND STUDY AREA

The Blue Ridge Mountains are a physiographic sub-region of the larger Appalachian Mountain range, extending from southern Pennsylvania to northern Georgia. The mountain range is composed primarily of a long series of nearly continuous ridges that snakes through Virginia, North Carolina, and Tennessee. Branching off of this central ridge are short spur ridges separated by deep hollows, rolling mountain slopes, and tumbling rivers. Rounded and softened by millions of years of erosion, the Blue Ridge Mountains are the ancient remnants of what were once a high and jagged mountain range. Now, the weathered ridges and hollows draped in a blanket of deciduous forest give the mountains their soft, rolling character. The Blue Ridge Mountains comprise the eastern front of the Appalachian Mountains and separate the Piedmont, a broad area of rolling foothills to the east, from the Ridge and Valley area of the Appalachians to the west.

Rapidan Camp is located on the eastern slope of the Blue Ridge Mountains in northern Virginia, about eighty miles southwest of Washington D.C. and two miles southeast of Big Meadows in Shenandoah National Park. The site is situated on a relatively level bench at the confluence of the Mill Prong and Laurel Prong, which join to form the Rapidan River. The surrounding area is characterized by rugged, steep slopes cloaked in dense hardwood forests. Surrounded by undeveloped area, the remote site is a mile inside the park boundary and more than six miles by road from Big Meadows and Skyline Drive, the public scenic highway through Shenandoah National Park.

The study area of this report coincides with the National Historic Landmark boundary established in 1988. The eighty-acre site, a portion of the 164 acres that Hoover owned, encompasses the extant landscape features associated with President Hoover's camp on the Rapidan, including cabins, cabin sites, circulation, and other features. The boundary encompasses a roughly triangular area around the camp, bounded by Mill Prong and Laurel Prong on the northeast and southeast respectively. The western boundary is a nearly north-south line drawn to include Big Rock Falls on Mill Prong, a prominent feature often visited by camp guests during the historic period, and the site of Laurel Dam and the origination point of Hemlock Run on Laurel Prong. The National Historic Landmark boundary also includes the 1.3-mile portion of the entrance road between the camp and the Shenandoah National Park boundary. The boundary does not include the site of the former Marine Camp, approximately three quarters of a mile to the east, which supported the Marine detachment that constructed Rapidan Camp and provided security and other services while Hoover was in camp. The Marine

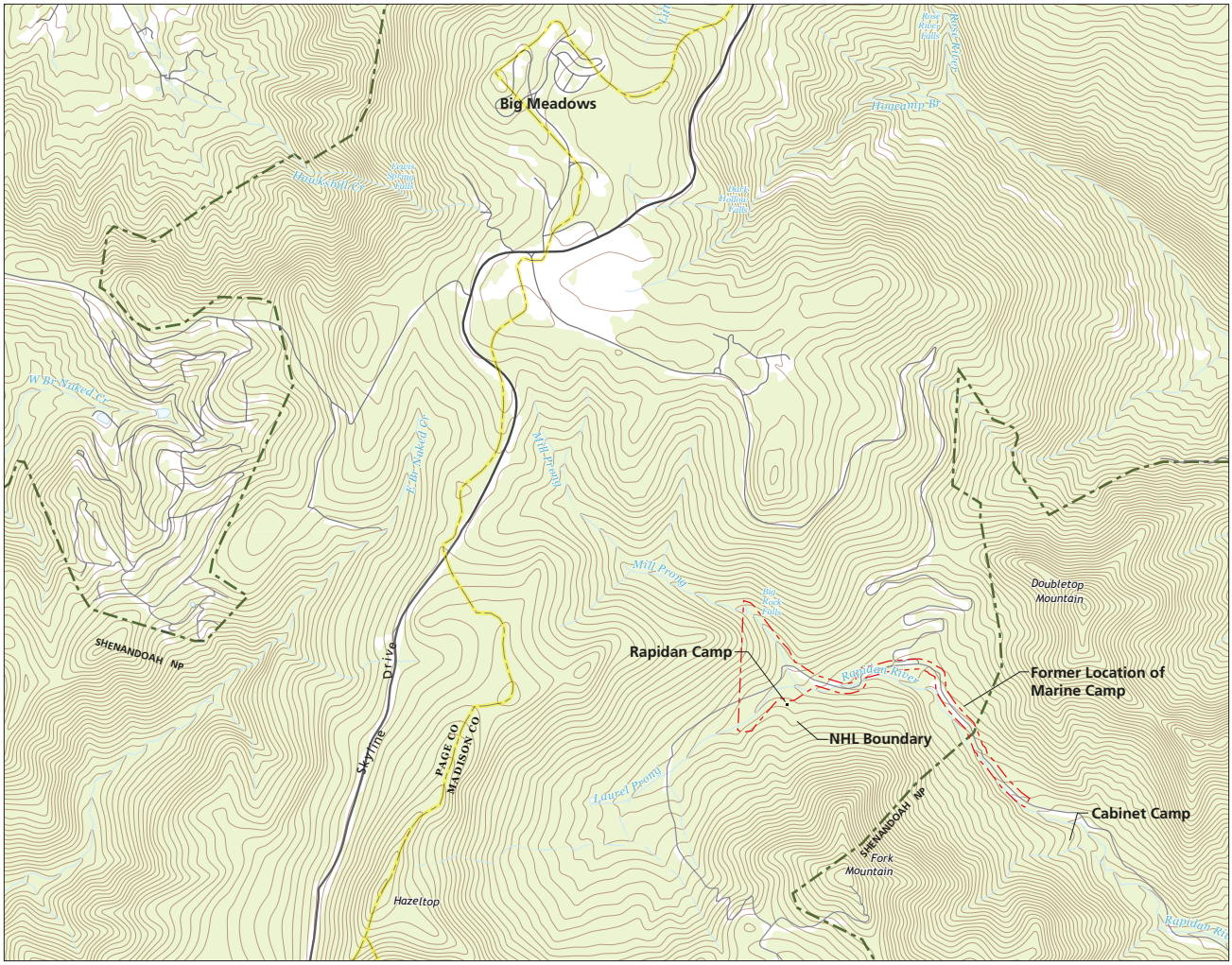


Figure 0.1. Area map showing the locations of Rapidan Camp and other sites and landmarks within Shenandoah National Park. (Adapted from USGS Quadrangle, 2013)

Camp was dismantled after the historic period and no significant above-ground features remain. The boundary also excludes the Cabinet Camp, 1.3 miles southeast of the President's Camp, where Hoover's cabinet stayed. Cabinet Camp, which retains a number of cabins and other structures from the historic period, is outside the park boundary and is in private ownership.

EXISTING DOCUMENTATION AND CONSULTED SOURCES

Owing to its association with Herbert Hoover and his presidency, Rapidan Camp is thoroughly documented through photographs, newspaper reports, letters, and oral histories from people who visited the camp. These primary sources are supplemented by numerous secondary sources related to Hoover and his presidency, as well as a number of sources that address Rapidan Camp specifically. These sources give a clear picture of the history of the camp and its development, its conditions and character during the Hoover period, and the general activities and impressions of the people who had the privilege of visiting.

Historic Maps

A number of detailed maps and plans were created during and after the period of significance, documenting the layout and composition of the camp. These maps include several Marine Corps maps showing the cabins, circulation, utilities, and other features drawn shortly after the camp was constructed. A plan of the camp created by the National Park Service around the end of the historic period, in addition to depicting the structures and layout of the camp, shows the trees that were present at the time, offering valuable information about how the tree canopy has changed. Other maps that show the context of the camp include U.S. Geological Survey maps that date as far back as 1890s, Shenandoah National Park maps, and other regional maps. Aerial photography from the 1950s through the present also provide information on the recent evolution of the camp and its surroundings.

Historic Photography

Numerous photographs were taken of Rapidan Camp during and in the years after its use by Herbert Hoover. Some of the earliest photographs date from August of 1929, showing the camp nearly complete but still under construction. Promotional photographs taken in the early 1930s show President and Mrs. Hoover and some of their guests enjoying the camp. A set of photographs taken by the National Park Service, likely in the late 1930s or early 1940s, shows the condition of the cabins after Hoover stopped visiting the camp. These historic images provide a direct sense of the character of the camp, its structures, vegetation, and other features, and offer insight into how the first couple and their guests used the camp. Historic photographs can also be compared to existing conditions photographs to identify and illustrate the characteristics of the camp that have changed or remained intact. A movie clip, a copy of which is held in the National Archives in College Park, MD, shows the Hoovers in Rapidan Camp, fishing, riding horses, and relaxing near Hemlock Falls. The movie clip shows similar scenes as many of the still photographs of Mr. and Mrs. Hoover.

First-Hand Accounts

First-hand accounts in a variety of forms offer descriptions and other information about Rapidan Camp from the historic period. These include writings by Mr. and Mrs. Hoover and others who visited the park, as well as letters, park records, and other written records. Mrs. Hoover wrote several illuminating pieces in 1929 as the camp was coming together. The first of these was a letter she wrote to a friend before the site was even selected. The letter, written on January 27, 1929 after a trip exploring the Blue Ridge mountainsides in search of a site for the camp, provides detailed descriptions of the area, its terrain, vegetation, and other characteristics.[2] The letter also outlines both Mr. and Mrs. Hoover's visions for the camp

and its various components, including descriptions of the cabins, offices, social areas, mess hall, and service and security facilities.

Later that year or in early 1930, after the camp was constructed, Mrs. Hoover wrote a memo stipulating how the vegetation at camp should be handled. In addition to giving general guidelines about what and where to plant and where to collect plants in the surrounding forest, Mrs. Hoover lists the species found in the area that would be suitable for cultivation.[3] This memo is illuminating both for its articulation of the Hoovers' values and vision for the camp and for its record of conditions at the time the camp was constructed.

Mr. Hoover did not write extensively about Rapidan, but he did often write about his thoughts on the outdoors in general and on fishing specifically. Fishing was often brought up in speeches and memoirs both as anecdote and analogy. In 1963, Hoover published a book called *Fishing for Fun and to Wash the Soul* which contained a collection of folksy observations about fishing. Several other publications by Hoover, including his memoirs published in 1951, detailed his experiences and attitude toward nature.

Secondary Sources

Numerous biographies of Herbert Hoover have been written over the past eighty years, providing a wealth of information about his life. Some of these focus on his relationship with the outdoors, such as the 2005 biography, *Hoover, the Fishing President*, by Hal Elliott Wert. A thorough history of Rapidan Camp itself, *Herbert Hoover's Hideaway*, written in 1971 by Darwin Lambert and edited and revised in 2011, details the site selection, camp development, camp life, and other aspects of the Hoovers' time at Rapidan Camp. Lambert relied not only on existing records located at the park and at the Hoover Library in West Branch, Iowa, but also on interviews with Joel T. Boone, President Hoover's personal physician, who accompanied him on every trip to Rapidan Camp.

Cultural Resources Documentation

Rapidan Camp and its history, significance, and cultural resources have been documented in a number of National Park Service reports. In 1988 the site was documented for the National Historic Landmarks nomination, which summarized the history and significance of the camp and inventoried its extant structures. Other documents that address the history of Shenandoah National Park in general and Rapidan Camp specifically include a Historic Furnishings Report for the President's Cabin, the park's draft Administrative History written by Darwin Lambert in 1979, and a draft Historic Resource Study in 1997.[4] In 2008, Rapidan Camp was evaluated as part of the National Park Service Cultural Landscapes Inventory (CLI), which provided a detailed analysis of the landscape features and

characteristics.

COLLABORATION WITH UNIVERSITY OF TENNESSEE

In an effort to develop a comprehensive analysis of the existing conditions of the vegetation communities of Rapidan Camp and to ground the treatment recommendations in ecology and forestry science, the Olmsted Center has partnered with the University of Tennessee Institute of Agriculture, Department of Forestry, Wildlife, and Fisheries. Dr. Jennifer Franklin, Associate Professor, worked with a team of students to provide analysis of soils, canopy cover, forest density, seedling regeneration, and predominant plant species. This analysis was used to generate management considerations and recommendations for achieving the desired treatment goals. Treatment recommendations in this document were based in part on the guidance provided by the University of Tennessee team. Their findings are presented in Appendix B.

COMPUTER-AIDED FACILITY MANAGEMENT INITIATIVE

For the past four decades, the National Park Service has implemented the use of computer-aided facility management software to manage park infrastructure and track costs associated with their care. Accurate organization and timely updates to the National Park Service Facility Management Software System (FMSS) enables parks to prioritize projects and create funding requests that accurately reflect asset value and condition. FMSS hierarchy consists of sites (e.g. SHEN Central District), asset types (e.g. Maintained Landscape), locations (e.g. Rapidan Camp Developed Area Landscape), and assets (e.g. President's Cabin Trails).

Rapidan Camp's cultural landscape is tracked through a number of asset types, including roads, bridges, maintained landscapes, buildings, water systems and waste water systems. The majority of assets associated with the cultural landscape are tracked under the maintained landscape asset type. A maintained landscape typically includes exterior park areas that have been developed and improved to support operations or visitor activities. To be classified as a maintained landscape, a landscape must require regular, recurring maintenance and include built features.

Organization of FMSS data varies by park to reflect specific resources for which the park needs to track costs. At the time of writing, Rapidan Camp's maintained landscape is tracked with a single location, Rapidan Camp Developed Area Landscape (3820). Generally, Assets associated with Rapidan Camp's maintained landscape are maintained by a combination of cultural resources and park maintenance staff. Many of the Assets associated with Rapidan Camp are already entered in FMSS; however, additional Asset data may be required as landscape treatment projects are identified.

SUMMARY OF FINDINGS

The historical documentation, geospatial data, and field investigations, combined with consultations with park staff, volunteers, and subject experts have been synthesized into an analysis of the significance and integrity of the cultural landscape, the essential qualities that convey its integrity, and exiting or potential issues that impact its management. This report is organized into four chapters, beginning with a site history chronicling the development of Rapidan Camp, followed by documentation of the existing conditions in 2013, an analysis and evaluation of the integrity of the camp landscape with respect to the historic period of 1929 to 1933, and treatment recommendations for the management of the cultural landscape. Each chapter is supported by images, historic maps, period plans, and existing conditions and treatment plans.

Site History documents in narrative and graphic form the physical development and evolution of Rapidan Camp from prehistory to the present and includes images, historic maps, aerial photographs, and period plans. The site history focuses on the selection of the site, design and function of the camp, and its evolution during and after the period of significance, but also covers the use of the site before the establishment of Rapidan Camp, as well as recent preservation and management efforts. Existing Conditions documents the condition of the property and its resources in 2013 with photographs, narrative, and existing conditions maps. Analysis and Evaluation provides a concise discussion of the property's historic significance according to the National Register criteria, and an evaluation of the landscape characteristics and associated features that contribute to that significance.

Treatment outlines the framework for treatment including the relevant legislation and management policies that govern management of the property, treatment issues, general treatment approach, and an overall treatment philosophy. The treatment framework is then followed by specific recommended tasks to help preserve and enhance the historic character of the property.

SUMMARY OF SITE HISTORY

Soon after his victory in the presidential election of 1928, Herbert Hoover began coordinating the selection and development of a retreat location that would allow him to escape the heat and humidity of Washington D.C. as well as the pressures and personal demands of the presidency. Recognizing that periods spent away from Washington would need to be brief and that he would need to be able to return on short notice, Hoover stipulated that the retreat be no more than one hundred miles from the White House by road. In order to provide relief from the capital city's summer climate and ubiquitous mosquitos, the site needed to be

at an elevation of at least 2,500 feet. Finally, and perhaps most importantly, the site had to be on a quality trout stream, providing Hoover ample opportunity to indulge in his life-long passion for fishing.

After a careful search of the Virginia mountains, which involved his most trusted aides, state and local officials, the Secretary of the Interior, and Mr. and Mrs. Hoover, Hoover selected a remote location at the headwaters of the Rapidan River within the boundaries of the newly authorized Shenandoah National Park. Determined not to have the government pay for the camp, Hoover personally purchased 164 acres of land and leased additional area around the camp site. Hoover also paid for the materials and supplies for the camp, although he allowed the cost and labor of the construction of the camp to be assumed by the United States Marines, who justified the endeavor as training. Construction of the site began in the spring of 1929, and by that fall the camp was largely complete, with the thirteen buildings, trails, bridges, a constructed stream, and essential infrastructure.

Although the logistics of developing this rugged and remote upstream site proved difficult, construction of the camp proceeded rapidly. The Marines, led by Major Earl Long, were responsible for constructing the camp's buildings, water supply, sewage disposal, entrance road, and camp roads and trails. The first shelter constructed was a long platform with five canvas tents perched on a hillside west of where the main area of the camp would be built. Hoover stayed at Five Tents while the other camp buildings were constructed. Next was the President's Cabin, which overlooked the confluence of the Laurel and Mill Prongs and featured a living room, one bedroom, one bathroom, a screened sleeping porch, massive stone chimneys, and a large sitting porch overlooking the streams. The President's Cabin was remodeled during the historic period to enclose the sleeping porch as a second bedroom and add a second bathroom, as well as expand the south deck. Next was the Mess Hall where all meals were served, quarters up the slope for the Navy men (a chief steward and a dozen cooks and attendants), Town Hall for indoor conferences and recreation, and a small office or duty shack for Secret Service and Marines aiding in camp protection and maintenance. In early October 1929, the Prime Minister's Cabin and Ishbel's Cabin were built in advance of a visit by British Prime Minister Ramsay MacDonald and his daughter Ishbel. In the months that followed, additional cabins named The Slums, Trails End, and The Owl were sited amongst the trees and previously erected buildings. The five canvas tents of Five Tents were eventually replaced with a long frame cabin that approximated the original footprint of the tent platforms. The Creel cabin was the last of the buildings to be constructed at the camp during the Hoover occupancy.

Other improvements at the camp were related to use, circulation, and infrastructure. Gravel walkways in the core of the camp were edged with stones, and were connected to other trails and camp roads leading to scenic destinations in and around the site. Roads and trails led to stables and to the Marine Camp and the

Cabinet Camp, which were located nearby to support the President's Camp. The site also included a massive outdoor stone fireplace, a stone fountain, stone walls along the entrance road, a concrete-lined trout pool, and a winding constructed water channel named Hemlock Run, as well as numerous garden plantings. The channel, which was fed by water diverted through a sluice gate upstream on Laurel Prong, was defined by naturalistically arranged boulders and mortared stone retaining walls and crossed by a series of picturesque stone and wood footbridges. Between the President's Cabin and the Prime Minister's Cabin, existing rock outcrops and boulders were incorporated into the channel to form a small waterfall, called Hemlock Falls, which was often visible in the background of photographs of the Hoovers. Other camp features included a vehicular bridge over Mill Prong, numerous telephone and power lines, reservoirs, spring houses, water and sewage lines, and security lights.

Throughout the camp's development, the Hoovers were adamant about preserving the scenery and its rustic character. They insisted that only deadwood, such as the blighted chestnuts, could be used for cooking or heating, and that no living trees, coal, or oil could be used for such purposes. Mrs. Hoover was an avid gardener, and was responsible for many of the site's garden areas and flower boxes that brightened the cabins. Her wishes were outlined in a detailed set of directions that specified the use of plants native to the area or species that would thrive at this location. "The President is very fond of color in gardens, so where possible, *and appropriate to the species*, arrange flowering shrubs and flowers so as to give the mass effects of color".[5] The document also discouraged formal beds of plants or flowers, recommending that they instead remain untrimmed and be allowed to ramble off into the surroundings.

Despite the early beginnings as a retreat, Rapidan Camp soon became a kind of auxiliary White House, with the president conducting official business there. Planning sessions and policy debates soon became regular occurrences. In between meetings or in the evenings, recreational activities included fishing, pitching horseshoes, riding horses, or simply strolling the grounds or relaxing on one of the porches. The president enjoyed gathering boulders to build dams and often recruited guests to help, but his primary recreational pursuit, fishing, was typically done alone.

Herbert Hoover left the White House in early 1933 after losing the presidential election to Franklin D. Roosevelt. Hoover transferred his ownership of the 164-acre camp tract (along with his leaseholds on other lands) to the Commonwealth of Virginia for eventual inclusion in Shenandoah National Park. Hoover reiterated his hopes that the camp would be used by his successors or perhaps by the Boy Scouts.

Roosevelt visited the site in April 1933, but it was decided that the camp's terrain

would be too challenging for him. While several improvements were planned at the camp to accommodate Roosevelt and his cabinet in case he changed his mind, including updates to the cabins and construction of a swimming pool, none were implemented. In subsequent years, the use and future of the camp was uncertain. Various cabinet members continued to use the camp, including Secretary of Navy Claude Swanson, who stayed often between 1935 and 1939. Private organizations and individuals wanted to use it occasionally or permanently, but as long as any possibility remained that it could again be used by a sitting president, few projects went beyond the planning stages. In 1941, the park was directed to evaluate the condition of the camp's buildings and furniture for possible use by Department of Interior officials. Reporting that most of the buildings were in poor condition, the park requested appropriation to either repair the buildings or remove the most dilapidated buildings at the President's Camp and all of the structures at Marine Camp. The request was denied and another plan, to allow the park's concessionaire, Virginia Skyline Company, Inc., to repair and operate the camp as part of its visitor accommodation system, was introduced, but the events of World War II eventually halted this plan. Sometime during the war, the vehicular bridge over Mill Prong was replaced by a steel bridge, and in 1944 the Marine Camp was dismantled and the caretaker of the President's Camp was relocated to The Creel cabin. In 1946, the park again requested funds to repair or remove the camp's buildings. The Department of the Interior agreed something should be done, but felt former President Hoover should be consulted first. A letter to Hoover was drafted but never sent.

In March 1948, the National Capital Council of the Boy Scouts of America signed a twenty-year lease for the camp and assumed full responsibility for the site's maintenance and operation. Hoover fully supported the idea and contributed funds to improve the camp, but with the provision that it could be used again as a presidential retreat. Access to the camp was to be from Criglersville, not from Skyline Drive and Rapidan Road, which had a locked gate. The Boy Scout Council began several modifications to the buildings and grounds, which included the addition of pit toilets and barbecues and the removal of the deteriorated Five Tents. At this time, Rapidan Camp became known as Camp Hoover.

The Boy Scout camp was very popular, but by 1958 operational costs, recurrent washouts of the road, and further deterioration of the buildings became too burdensome and the camp closed. Faced once again with what to do with both the old Hoover-era buildings as well as the abandoned Boy Scout structures, the National Park Service, with Hoover's approval, decided to remove all of the buildings at the camp except for the President's Cabin, Prime Minister's Cabin, and The Creel. In 1960, twenty-four buildings and structures, more than half of them installed by the Boy Scouts, were either torn down or sold and removed. The grounds were cleared except for the three cabins, the outdoor fireplace, and the

stone fountain. [6]

From 1960 to 1963, the National Park Service performed rehabilitation work at Rapidan Camp, repairing the three buildings and making changes to the floor plans to accommodate lodgings for the president, cabinet members, and congressmen. The Creel still served as caretaker's residence. Also at this time, trails were rehabilitated and interpretive signage was installed for park visitors coming to the camp on foot or horseback. The camp was used frequently by the Nixon Administration from 1969 to 1974, but such uses became the subject of public criticism. In May 1979, Jimmy Carter and his family stayed at the camp, the first visit to Rapidan Camp by a sitting President in over forty-five years.

Use of the camp waned in the 1980s and 1990s. In 1996, privileges for governmental officials were formally discontinued because of the site's failing septic system. At this time, the park decided to restore the exterior and interior of the President's Cabin to a 1930 to 1931 period, the exterior of the Prime Minister Cabin (the interior to be used as exhibit space), and the exterior of The Creel (the interior to be used as seasonal park housing). Work on these projects occurred from 1996 to 2004. Between 1998 and 2004, additional landscape structures and features at the camp were addressed in various stabilization, reconstruction, and restoration projects, including the camp driveways, paths, Hemlock Run bridges and walls, stone fountain, exterior stone fireplace, and the trout pool.

In the winter of 1997, severe ice storms damaged trees in and around Rapidan Camp. Over 160 trees were damaged by Hurricane Isabel in 2003 and had to be removed, a process that had to be done by hand to due to the potential of disturbing archeological resources. The deep shade, towering trees, and open understory was transformed into a sunny opening in the forest, with scrubby vegetation quickly establishing itself in the clearing.

SUMMARY OF EXISTING CONDITIONS

Shenandoah National Park manages Rapidan Camp as an interpretive site, preserving the extant resources to reflect historic conditions. Three of the site's most important buildings, the President's Cabin, Prime Minister's Cabin, and The Creel, are extant, and their exteriors have been restored in recent years to reflect their appearance during the Hoover period. Visitors can tour the President's Cabin, its interior also restored, or relax on the one of the porches that overlook the confluence of Mill and Laurel Prongs. Restored and reconstructed stone-lined footpaths connect the cabins and wind past the massive outdoor stone fireplace, Mrs. Hoover's stone fountain, and a concrete-lined trout pool. Hemlock Run, a constructed water channel, flows through the heart of the camp and is crossed by mortared stone footbridges. A wooden footbridge over Mill Prong, recently

constructed of wooden timbers in a rustic style similar to the original, recalls the historic bridge that was the setting of many photographs of the Hoovers. Other paths and trails pass remnant foundation stones, stone steps, and old pipes hidden amongst the understory vegetation, reminders of former camp buildings and recreational activities. Historic stone walls and a stone bridge can also be found along the camp's original entrance road.

Once a shady hemlock glen, storms and pests have killed most of the large hemlocks and opened the canopy to allow light to reach the camp. Hardwood trees now dominate within and around the camp, with much of the camp itself characterized by small trees, thickets of saplings, and underbrush. During the summer, the camp has a lush green character, with dappled sunlight and the sound of rushing water permeating the site.

Rapidan Camp is located within the dense hardwood forests of the Blue Ridge Mountains, a two-mile hike from the Milam Gap parking area on Skyline Drive. Vehicular access is restricted to park service vehicles, and visitors must reach the camp by foot, horseback, or park tour bus. The President's Cabin is open during the summer season for guided tours, and the Prime Minister's Cabin, which houses an exhibit about the Hoovers and the camp, is open for self-guided tours during late spring, summer, and fall. The Creel is maintained as housing for a volunteer site caretaker during the summer/fall season. Aside from the interpretive exhibits in the cabins, the only visitor facility is a small comfort station with a pit toilet. Visitors may tour the outdoor portions of the camp, viewing the exteriors of the cabins and the other landscape features using the outdoor orientation map at any time during the year. The remote location, limited services, and wooded setting create a distinctly rustic and secluded character.

SUMMARY OF ANALYSIS AND EVALUATION

Rapidan Camp was designated a National Historic Landmark (NHL) in 1988 in recognition of its exceptional significance in our nation's history and simultaneously listed in the National Register of Historic Places. The site is significant for its association with Herbert and Lou Henry Hoover and for its association with Hoover's presidency. The period of significance begins in 1929 when construction of the camp began and ends in 1933 when Hoover left office and stopped using the camp. Both Herbert and Lou Henry Hoover were closely associated with the camp and were personally involved in choosing the site and designing the camp and its features. The camp was frequently used by the Hoovers during their time in office and was the site of important meetings both within the administration and with foreign leaders such as the Prime Minister of Great Britain. Although much work was accomplished under the hemlocks, the president came to Rapidan Camp to find some peace and clear his head. Short strolls through the woods

or a morning spent fishing was enough to recharge his strength and allow him to launch into his work with renewed energy.

Landscape characteristics and features from the period of significance remain at Rapidan Camp and are important elements of its historic character and unique identity. While the absence of the majority of the camp's cabins diminishes the site's ability to convey its original layout, many of the camp's design characteristics are evident today. The three remaining cabins reveal the rustic character and simple construction that was evident in the camp's structures, an aesthetic and functional ethos insisted upon by the Hoovers. These characteristics are also evident in the design and construction of the stone fireplace, fountain, footbridges, and other features; the naturalistic arrangement of the structures and circulation, and the minimal use of paved surfaces; the conspicuous presence of the streams, which helped cool the site in the summer and added the constant sound of rushing water; and the lush, dense green of the surrounding forests and the mottled gray of the lichen covered boulders and stone features found throughout the site. These characteristics, with the lack of historic intrusions in the landscape, aggregate to clearly convey the site's historic associations.

ENDNOTES

1 Darwin Lambert, *Herbert Hoover's Hideaway* (Luray, VA: Shenandoah Natural History Association, Inc., 1971), foreword.

2 Letter from Lou Henry Hoover to friend, 27 January 1929, copy in Shenandoah National Park Archives.

3 Lou Henry Hoover, "Flowers and Shrubs for the President's Camp," 1929, with Mrs. Hoover's emphasis, on file at Shenandoah National Park Archives.

4 Laurel A. Racine, *Historic Furnishings Report, Rapidan Camp: "The Brown House,"* National Park Service (unpublished report); Darwin Lambert, *Administrative History, Shenandoah National Park: 1924–1976* (draft), National Park Service (unpublished report); Robinson & Associates, Inc., *Shenandoah National Park, Historic Resources Study*, National Park Service (unpublished draft). All on file at Shenandoah National Park archives.

5 Lou Henry Hoover, "Flowers and Shrubs for the President's Camp."

6 Lambert, *Herbert Hoover's Hideaway*, 138.



Site History

In January of 1929, President-elect Herbert Hoover, his wife Lou Henry Hoover, and a small party of advisors and state officials rode through the hills and hollows of the Virginia Blue Ridge Mountains, exploring the terrain for what they called a "campsite." What they were in fact looking for was a suitable location for the future presidential retreat, where the president could escape from the uncomfortable summer climate of Washington D.C., as well as from the intense pressures and public scrutiny that had come to characterize the office of the presidency. Hoover could have easily insisted on a luxurious retreat with accommodations and amenities befitting the nation's highest office. Yet, campsite was an apt term, for the retreat the Hoovers had in mind was closer to the camps that Mrs. Hoover had become familiar with as president of the Girl Scouts, with platform tents, rustic cabins, and outdoor spaces tucked into the natural forest. The country that the Hoovers and their party explored that winter day, with its sparse population, dense second-growth forest, and lively mountain streams, all within a two-and-a-half-hour drive from the White House, suited their needs well. The site for their camp was chosen in a shady hemlock grove on a small level area between the forked headwaters of the Rapidan River.

The camp comprised thirteen cabins, including the president's cabin or "Brown House," guest quarters, a mess hall, a Town Hall meeting cabin, and camp staff quarters. The camp also included paths and trails, footbridges, a constructed stream that ran through the heart of the camp, and a grand stone outdoor fireplace with chimney. For the four years of Hoover's presidency, Rapidan Camp served as an important location for both work and pleasure. Hoover visited often to fish, take walks, entertain guests, or find a moment of relaxation. He also conducted business at the camp, holding cabinet meetings and hosting foreign dignitaries, including Ramsay MacDonald, the prime minister of Great Britain. Following his presidency, Hoover donated the camp and the land it was on, through the Commonwealth of Virginia, to Shenandoah National Park for the use of future presidents.

While no other president used Rapidan Camp the way Hoover did, the National Park Service operated the camp for public use, including hosting presidential cabinet members in the 1930s and 1940s, with occasional use by dignitaries through the 1980s, leasing the camp to the Boy Scouts of America the 1950s, and allowing hikers to tour the outdoor areas of the camp. Today, the camp is care-

fully preserved to interpret its history and its part in the presidency of Herbert Hoover. Three of the cabins remain, including the President's Cabin, which has been meticulously restored to period conditions using historic and reproduction furnishings. Other extant historic features include footbridges, paths, building foundations, a stone fountain, and a stone outdoor fireplace. And a fact that might have pleased Hoover most of all, trout still dart through the pools and riffles of the streams as they flow through camp.

NATIVE AMERICAN USE: 9000 BCE–17TH CENTURY

The upland forests of the Virginia Blue Ridge Mountains and their surrounding hills and valleys have supported human occupation for thousands of years. Initial habitation of the region took place around 11,000 years ago. The colder climate at the end of the Pleistocene epoch supported boreal forest and spruce parkland in the lower elevations and alpine tundra in the highest elevations, making the mountains unsuitable for sustained habitation. The land did, however, offer diverse, if diffuse, resources that were exploited by the highly mobile foragers. [1]

As the region warmed and the forests shifted to hardwood, they supported a host of new plant foods and small mammals that allowed a more intensive use of the upland areas. The infrequent and scattered use gave way to more focused foraging and hunting. This more intensive use of the higher altitudes was supported by small seasonal camps that were peripheral to the larger base camps on the lower flatlands and river banks to the east. While the rich riverine environments offered fish and shellfish during the spring and summer, the mountainous areas were favored in the fall when the chestnuts, hickory nuts, and other forest foods could be harvested. Small bands moved through the hollows and passes of the Blue Ridge Mountains gathering these foods and hunting deer and small game. The smaller mountain base camps were also used for processing resources, including stone tool production, plant and nut processing, and hide working. [2]

Numerous habitation sites have been located on the ridgeline and along the small rivers on the eastern slope of the Virginia Blue Ridge Mountains. These sites were occupied periodically and repeatedly beginning around 4,500 years ago. Many of these sites were clustered in and around the Big Meadows area, an important locale for resource gathering and processing, as well as for social and trade interactions between groups. Big Meadows offered a varied landscape that included broad open meadow, forest, and wetland, providing a diverse array of game, nuts, and plant foods. It also represented a notable landmark that drew groups from far-flung areas. Archeological evidence suggests frequent and overlapping small encampments occupied by groups from the Shenandoah Valley to the west and the Piedmont[3] area to the east, as well as groups from beyond the region. [4]

Artifacts located within Rapidan Camp area indicate that it was the site of a small base camp that was occupied periodically during the period between 4,500 and 400 years ago, with the heaviest occupation in the last 2,000 years of this range. These artifacts, including projectile points, stone tools, stone flakes, and ceramic sherds, indicate that the occupants of the site engaged in a variety of tool manufacturing and resource processing activities. The quarry sources for the stone material, located on both sides of the ridge, indicate that the Rapidan site was used as a stopover point in the regular movement of groups across the Blue Ridge.[5]

EUROPEAN SETTLEMENT AND DEVELOPMENT: 1607–1924

By the time of European contact in the early seventeenth century, the occupants of the upland Piedmont areas of Virginia were identified as the Monacan, who occupied the James River Valley, and the Manahoac, who lived in the Rappahannock River Valley. These groups, closely related to each other, were culturally distinct from the large population of the Powhatan confederated tribes that lived in the Tidewater region to the east. The terrain that separated the lowlands of Virginia from the Blue Ridge Mountains presented a substantial obstacle to European explorers, so that while the colonists at Jamestown had extensive contact with the Powhatan Indians, contact with, and therefore knowledge about, the Monacan and Manahoac Indians was limited. Captain John Smith, leader of the Virginia Colony in its early years, explored the lowlands of the Chesapeake Bay area, but



Figure 1.1. Detail from a map of Virginia by Captain John Smith showing the foothill area of the Blue Ridge Mountains (north to the right), 1624. The Rapidan River is in the top center of the detail, above the label "Mannahoacks." (Library of Congress, (LOC), full citation provided in the List of Figures)

he relied on Native American informants for his descriptions of the upland areas.[6]

It would be more than sixty years before the first trip over the Blue Ridge by a European explorer was recorded. A German immigrant named Dr. John Lederer was commissioned by Sir William Berkeley, colonial governor of Virginia, to make three expeditions to explore the western frontier of the colony. The first, in the spring of 1669, took Lederer and three Indian guides up the York River and across the Rapidan River. Lederer described the area as uneven and covered with brush, with numerous springs emanating from the mountainsides. He also described encountering great herds of deer, howling wolves, bears, beavers, otters, a bobcat, and grey foxes. [7]

On the eighteenth of March, he made a final push up the mountain ridge:

> . . .I climbed up the Rocks, which were so incumbred with bushes and brambles that the ascent proved very difficult: besides the first precipice was so steep, that if I lookt down, I was immediately taken with a swimming in my head; though afterwards the way was more easie. The height of this Mountain was very extraordinary: for notwithstanding I set out with the first appearance of light, it was late in the evening before I gained the top.[8]

From there, Lederer described seeing the Atlantic Ocean to the east and even greater mountains to the north and west.

By Lederer's time, the populations of American Indians in the Piedmont had been greatly reduced by disease introduced by earlier Spanish explorers and by pressures from European settlers and Indian tribes to the east. Lederer described many of the villages abandoned and the fields overgrown.[9]

In 1716, Alexander Spotswood, Lieutenant Governor of the Colony of Virginia, led an expedition across the Blue Ridge Mountains to encourage settlement and extend the boundaries of the colony. The crossing place was likely Swift Run Gap. The land Spotswood claimed was soon bought up by investors, but disputes over ownership led to court cases that went unresolved well into the early nineteenth century.

Most of the first European settlers were English immigrants, followed by a large number of Germans and Scotch-Irish by the mid-eighteenth century.[10] Settlers moved from the Tidewater area to the Piedmont region, and from Pennsylvania to the Shenandoah Valley. As the better farming land was taken, new settlers moved into the mountain hollows where they developed a life reliant on hunting, farming, grazing, and timbering that led to extensive clearing of the land.[11] Industrial use also developed in some areas from 1845 to 1850, such as the Mt. Vernon Iron Furnace and the Stony Man Mountain Tract, where copper was mined and charcoal produced for smelting. [12]

In 1830, the first recreational use of the area occurred in what is now the park's South District. A resort called Black Rock Springs Hotel touted seven mineral springs with curative powers.[13] In 1894, George Freeman Pollock created a popular resort initially called Stony Man Camp and later renamed Skyland, in what would become the park's Central District. Skyland was a resort destination and summer residence for middle and upper middle class citizens primarily from Baltimore, Washington, Richmond, and Philadelphia. Pollock strongly supported the establishment of a national park in the Blue Ridge Mountains and would later play a key role in this effort.[14]

Other land uses included cattle grazing, especially from 1830 to 1845, and lumbering that provided material for railroad expansion and for rebuilding after the Civil War. Tanneries, a significant industry in the region from the time of settlement through the Civil War, extracted tannin for leather processing from chestnut bark.[15]

In the nineteenth and early twentieth centuries, the site of Rapidan Camp was used primarily for small-scale agriculture and timber harvesting, primarily by the Wayland family. Immediately prior to the Hoover occupancy, the chief land use in the area was apparently recreational. The fishing rights were held by the Rapidan Fishing Club, and the river was lined with rough trails for their use.

CREATION OF SHENANDOAH NATIONAL PARK: 1924–1928

As the country's first national parks were created in the West during the late nineteenth century, there was a push to establish a large national park in the eastern United States. The focus of these early efforts, which began around the turn of the twentieth century, were the scenic areas of the Appalachian Mountains in Virginia and Tennessee. Congressmen from these states met to discuss the new park, and even drafted a bill, but nothing came of their work.

The effort was revived in 1923, when National Park Service Director Stephen Mather asked the U.S. Secretary of the Interior Hubert Work to investigate the possibility of a Southern Appalachian National Park. In 1924, Work assembled a five-member Southern Appalachian National Park Committee (SANPC) to study the issues regarding establishment of the park, to be located in Virginia's Blue Ridge Mountains. The Committee distributed a questionnaire to gain public input into suggested sites. George Pollock, the owner of Skyland, and several other area businessmen filled out the questionnaire in support of the establishment of a park that ran along the spine of the Blue Ridge, centered on Skyland. The boosters were unabashedly enthusiastic in describing the area's merits. Pollock and his colleagues gushed about the "numerous mountain peaks over 4,000 feet high, a stream of water running for 8 miles through the district with such magnificent

scenery that it rivals in beauty the famous Watkins Glen, many hundred beautiful trout pools, some of them 6 to 8 feet deep, [and] over twenty beautiful waterfalls, seven of which approximate 100 feet in height between high cliffs."[16] He also described the forests, which were filled with hemlock, spruce, oak, ash, poplar, and chestnut, and a "veritable spring fairyland" of flowers:

> As to the floral and plant life, the location in the temperate zone is one that gives a succession of blossoms from early spring to late fall; there is never a time from the breaking of spring to the coming of winter that there is not a profusion of blossoms in great variety; the gorgeous purple trillium, which grows sparsely farther north, covers the glades in great masses. The succession of wild azalea, locust, and laurel, gives the visitor three weeks of spring in a single day. The great mass of laurel bloom on the mountainsides is unsurpassed by that of any other section of the United States.[17]

Pollock aggressively pursued the park idea, organizing local business groups and forming his own Northern Virginia Park Association. The group, in alliance with the booster group Shenandoah Valley Inc., lobbied the SANPC to promote the park, and with the help of Pollock's enthusiasm and persuasive manner, convinced the committee of the merits of the proposal.[18]

In February 1925, Congress passed legislation allocating $20,000 for a survey and evaluation of proposed parks, including Shenandoah. When congress authorized Shenandoah NP on May 22, 1926 without funds for land purchases, it stipulated that the Commonwealth of Virginia must purchase the land and present it to the federal government for such purpose. It would take ten more years for the park lands to be acquired. Obstacles involved lawsuits resulting from land condemnation for the park, resettlement requirements for former residents, and the lack of funding.[19] To obtain the land, Virginia Governor Harry F. Byrd established the Commission on Conservation and Development, headed by William Carson, Byrd's former campaign manager. Carson was an untiring advocate of Shenandoah NP and the eventual construction of a scenic drive, now called Skyline Drive, along the crest of the Blue Ridge.[20]

CHESTNUT BLIGHT

Around the time that the land for Shenandoah National Park was being cobbled together, the forests that had been so enthusiastically described by Pollock were beginning to be impacted by an infestation that would dramatically alter their character. The infestation, a fungal blight that was working its way down the east coast from the New York area, would eventually kill nearly every chestnut tree between Maine and Georgia.

In 1905, Hermann W. Merkel, the chief forester of the New York Zoological Park, wrote a paper for the park's annual report, sounding the alarm about a new fungal blight that was killing the American chestnut trees in the area. Within a year and a



Figure 1.2. Historic photograph of chestnut trees killed by the chestnut blight , circa 1920s. (University of Chicago Library)

half of its discovery, the fungus had infected nearly every tree in the park, killing large branches in less than a month and entire trees in a few months . Merkel's prophetic observations foretold the decimation of the American chestnut population, not only in the New York area, but throughout its natural range, from New England to southern Appalachia:

> During the past year an epidemic of a fungus disease has occurred throughout the parks of this Borough, which, but for the fact that it was confined to a single species of tree, might have overshadowed in deadliness and rapid spread all the other enemies of tree life.
>
> This disease was first noticed in the New York Zoological Park, in a few scattered cases which occurred during the summer of 1904. Since that time, however, it has spread to such an extent that to-day it is no exaggeration to say that 98 per cent of all the chestnut trees in the parks of this Borough are infected. The spread of this disease is so sudden that unless some radical measures are taken, or a natural enemy of this fungus develops, it is safe to predict that not a live specimen of the American Chestnut (*Castanea dentata*) will be found two years hence in the neighborhood of the Zoological Park.[21]

The fungus, identified as *Cryphonectria parasitica,* attacks the bark and cambium of healthy twigs, branches, and limbs of the tree, quickly encircling the limb and killing the tissue. As the infected branch dies, the fungus produces pin-head-sized spore bearers, which are carried by wind and rain to other branches and nearby trees. The rapid mortality of the trees and short reproduction cycle of the fungus make it particularly virulent, able to quickly destroy large populations of trees. The root systems of the trees remain viable, sending up shoots that grow as small understory trees before eventually succumbing to the blight. This understory provides a continuous host for the fungus and perpetuates the impacts on the forest.



Figure 1.3. Photo of a girl holding a tool called a bark spud and chestnut trees stripped of their bark, 1916. In the late nineteenth and early twentieth centuries, chestnut bark was an important source of tannins for tanning leather. Felled trees were stripped of bark and often left on the forest floor. (Ohio State University)



Figure 1.4. Opening of Skyline Drive, 1932. Extensive stands of dead chestnut trees and young conifers cover the hillsides in the background. (SHEN)

Merkel's 1905 paper is one of the first times the chestnut blight was recognized in the United States. It is believed that the fungus entered the country around the turn of the twentieth century on nursery stock from Asia. From its initial infestations in New York the blight spread quickly throughout the northeast, so that by the 1920s it had reached the forests of the Virginia Appalachians and was killing the chestnut populations there.

Prior to the arrival of the blight, the chestnut tree was one of the most economically important trees of the Appalachian states. Chestnuts dominated the hardwood forests of the Blue Ridge Mountains, comprising as much as fifty percent of the trees in some areas. The large trees grew to a height of over one hundred feet and could have a trunk diameter of over ten feet. Mature trees produced long unbranched trunks with reddish-brown wood that was straight-grained and high in tannins, making it strong, durable, and resistant to rot, warping, and shrinking. Its properties and abundance made it the ideal building material for outdoor structures, including posts, railroad ties, fences, barn siding, and other farmstead features. Its attractive wood was also used for furniture, caskets, and barrels. The high levels of vegetable tannins made it a fundamental resource in the leather industry, and the chestnut fruit was an important food source for humans, livestock, and wildlife. Families roasted and ate the nuts or collected them by the bushel to sell, and farmers fed them to pigs, horses, cattle, and sheep. In addition to the American chestnut's economic value, it was a large, stately tree valued for its ornamental and shade properties. It was planted in towns and on estates across the east coast, and its abundance in the forests contributed strongly to their character.

By the 1920s, this transformation began to impact the area that was slated to

become Shenandoah National Park significantly. As the trees began dying, the character of the forests changed dramatically. The durable trees typically stood for many years after dying, creating large stands of bare and stark white "ghost trees" where once there was dense shady forests. In 1925, in an editorial in support of the national park, one official noted, "this magnificent area. . .is now on the brink of ruin. By this I mean that the chestnut blight has taken hold of our Blue Ridge Mountains, and no man nor body of men that now exist in the State of Virginia can cope with this menace. In two or three years, these mountains (unless the National Park is established) will be covered with the dead chestnut trees." The dire prediction came true, as Lou Henry Hoover, on visiting the area in 1929, commented, "There are innumerable enormous dead chestnuts standing all over the place, so that it must have been a very different place after the foliage was out a dozen years ago."[22] By 1932, when the Skyline Drive was being constructed, photographs of the area showed many dead chestnuts with open areas of grass and brush.

PRESIDENT'S CAMP: 1928–1933

In 1928, Herbert Hoover defeated Al Smith to become the 31st president of the United States. The victory marked the apex of a career of both phenomenal business success and selfless public service, a rise from America's pioneer Midwest to the nation's highest office. Born a blacksmith's son and orphaned before he was ten, Hoover would eventually amass great wealth and power and use both to help those less fortunate. He was also an ardent supporter of business, believing that close cooperation between government and business was the key to long-term economic growth. He traveled the world, living in far-flung places that included China, Australia, and South Africa, and participated in humanitarian efforts in China during the Boxer Revolution and in Europe during and after World War I. As president, Hoover would need the synthesis of all of these experiences to help him through what would prove to be a dark and difficult four years.

Hoover would also need something else: frequent communion with the forest and rivers, and ample time on the water with rod in hand. Having spent his childhood roaming the Iowa and Oregon countrysides hunting, camping, and fishing, Hoover relied on his connection to the outdoors for rest, perspective, and clarity of mind. One of his first tasks as president-elect was to ensure that during his term he would have regular access to these benefits. In the hills of Shenandoah, a rustic camp on the Rapidan River would provide that respite, and in Hoover's words, the "retouch of the simpler life of the frontier from which every American springs."[23]

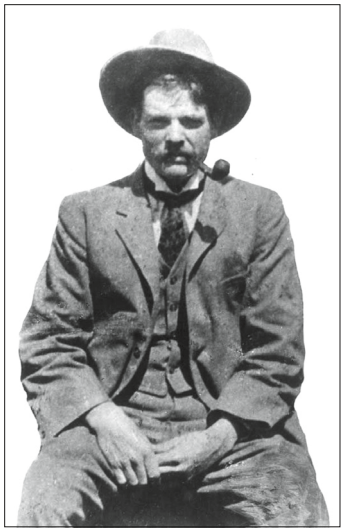


Figure 1.5. Hoover working as a mining engineer, circa 1900. (Herbert Hoover Presidential Library)



Figure 1.6. Hoover, around the time he left for China, circa 1899. (Herbert Hoover Presidential Library)

HERBERT HOOVER

Hoover was born in West Branch, a small town in eastern Iowa, of Quaker parents in 1874. His youth was defined by religion, hard work, and hours of unsupervised "instruction" courtesy of the Iowa countryside. Bertie, as he was called as a child, ran with a small pack of siblings and cousins, exploring the woods and streams, camping, hunting, and fishing. They swam in swimming holes in the summer and sledded the hills in the winter, hunted agates and fossils along the railroad grades, gathered walnuts and hickory nuts, and generally wandered as far as their legs would take them. Later, Hoover would recall this early education in the outdoors: "I prefer to think of Iowa as I saw it through the eyes of a ten-year-old boy—and the eyes of all ten-year-old boys are or should be filled with the wonders of Iowa's streams and woods, of the mystery of growing crops. His days should be filled with adventure and great undertakings, with participation in good and comforting things."[24]

For Hoover, no pursuit rivaled fishing. Either with his brother Tad, his closest companion, or just as often alone, Hoover spent countless hours on the streams and fishing holes trying to bring in the "big one." Their tackle comprised a willow pole, butcher string line, cork bobber, and a penny hook, which he said "came ten for a dime, but the dime was hard to get."[25] Bait was whatever they could find to wriggle on the end of the hook: night crawlers, grubs, crickets, cicadas, grasshop-



Figure 1.7. Herbert Hoover with Horace Albright fishing in Yellowstone National Park, circa late 1920s. (LOC)

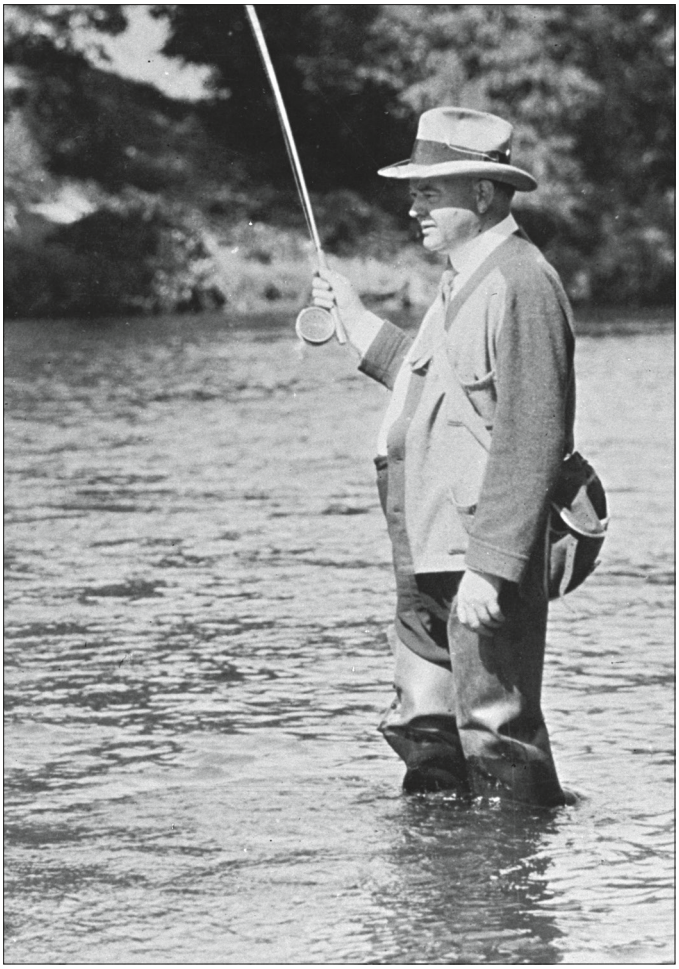


Figure 1.8. Hoover fishing in Yellowstone National Park, 1929. (LOC)

pers, mayflies, or minnows. With patience, skill, and a spit on the bait for luck, they would fill a stringer with sunfish, catfish, and suckers. When the boys had caught enough, they gathered firewood and built a small fire, cleaned their fish, and cooked them on willow sticks over the fire. Later in life, having traveled extensively and eaten the finest cuisine, he would still claim that "no royal gourmet has ever provided me with game of such wondrous flavor as fish or birds cooked over a small boy's campfire."[26]

When Hoover was six his Father died of rheumatic fever, and his mother followed him three years later, succumbing to typhoid. Hoover was an orphan by the age of nine. After a year of bouncing between relatives in Iowa, he went to live in Oregon with his Uncle John Minthorn, a frontier doctor. There, he continued his outdoor education, but the move to Oregon constituted a graduation to a land where both the rivers and the fish were bigger, faster, and harder to handle. During his teen years, Hoover fished the mighty Rogue and McKenzie Rivers in southwestern Oregon from agile drift boats, landing two-foot-long steelhead, salmon, and trout with a fly rod.

In 1891, Hoover boarded a train for Palo Alto, California to become the youngest member of the first class of Stanford University, where he studied geology. In his fourth year at Stanford he met fellow geology student Lou Henry, whom he understatedly called a "very nice young lady." As the two got acquainted in geology lab, they found that they had a great deal in common. Lou Henry grew up only seventy miles from Hoover's hometown of West Branch in Waterloo, Iowa. Also like Hoover, she was raised largely outdoors, learning from her father to hunt, fish, hike, camp, ride, and shoot. When once asked who would marry a woman geologist, she replied, "I want a man who loves the mountains, the rocks, and the ocean like my father does." Strong, confident, kind, and whip-smart, she was every bit the match for Hoover. After Hoover graduated, he worked for three years while Lou finished school, saving money so they could be married. While working as a gold-mining engineer in Australia, and just before taking an assignment in China, Hoover proposed to Lou Henry via telegram. Married in 1899, the two would be a strong team for forty-five years.

For the next fifteen years, Herbert Hoover worked in the global mining industry, living and working in the United States, Australia, China, London, and South Africa. From a salary of two thousand dollars a year during the first summer after



Figure 1.9. Lou Henry Hoover at a Girl Scouts picnic in 1918. (LOC)

school, Hoover proved himself time and again through his aptitude and hard work. A succession of positions with increasing salaries and timely investments made him a wealthy man, and by 1914 he was worth several million dollars. During this time, Hoover worked ceaselessly and traveled often and extensively, with Lou, and eventually their two sons, traveling with him.

The relentless pace eventually took its toll on both his body and spirit, and he soon became disillusioned with the mining business and the pursuit of wealth in general. He toyed with buying a newspaper and contacted the Taft administration to explore possible roles in public service, but nothing came of either. With the outbreak of World War I in 1914, while the Hoovers were living in London, Herbert jumped at the opportunity to contribute to the war effort. When the war started, hundreds of thousands of Americans were stranded in Europe and Great Britain, with thousands fleeing across the English Channel into England daily. Hoover led a committee of prominent Americans in London to help repatriate the refugees, organizing five hundred volunteers in the collection and distribution of money, food, clothing, and steamship tickets to return 120,000 Americans home.

In the years between WWI and his presidency, Hoover was an ardent statesman and humanitarian, fighting tirelessly to bring food relief to Germans and Russians gravely affected by the war. Using American money to feed the populations of the defeated enemy countries was unpopular with both Congress and the American people. Hoover fought resistance at home and corruption in the beneficiary countries to bring relief to the people in what he saw as a moral obligation. As he put it, "We do not kick a man in the stomach after we have licked him… We have not been fighting women and children and we are not beginning now… our vision must stretch over the next hundred years, and we must write now into history such acts as will stand creditably in the minds of our grandchildren." After Congress failed to provide sufficient funds, Hoover went to the American people and convinced them to donate millions of dollars for relief in Germany and Russia.

In 1920, Hoover made a tentative run for the presidency, putting his name on the primary ballot in California and narrowly losing to Senator Hiram Johnson. Having lost what was considered his home state, Hoover was not a likely contender for

the national nomination, and instead campaigned for Warren G. Harding, who, upon election, rewarded him with an appointment as Secretary of Commerce. Eight years later, he would run again, and this time he would succeed, defeating Al Smith to be the thirty-first president.

A CAMP ON THE RAPIDAN

Soon after his victory over Al Smith in the November 1928 presidential election, Herbert Hoover recognized that he would occasionally need a retreat from the pressures of Washington, D.C.[27]

Site Selection

Hoover instructed an aide, Lawrence Richey, to seek out trout streams within 100 miles of Washington that were at elevations around 2,500 feet, which would provide cooler conditions in the summers and be less likely to have mosquitoes.[28] President Hoover and First Lady Lou Henry Hoover were also hoping such a retreat would allow them to immerse in nature. Having traveled and lived abroad extensively after their years at Stanford University, the Hoovers were used to remote and primitive locations. In a letter from January 1929, Mrs. Hoover articulated such a place. "My husband's idea was to have a camp down on one of the tree–covered flats beside a stream or at the junction between two streams. He likes to be near enough to hear the water murmuring. A spot might be found where part of the camp could be down there and part of it a hundred or so feet higher on one of the broad benches giving a distant view…"[29] The letter went on to describe the camp's building requirements, quarters, offices, guest rooms, dining room, and even the presence of stone fireplaces.

The mountains of northern Virginia provided many suitable sites for the type of camp Hoover was looking for. Close to Washington D.C., but wild and rugged and sparsely populated, the Blue Ridge Mountains provided the right balance of access and seclusion. Richey recognized this and quickly focused his search on the area. When local boosters heard that the new president was considering establishing a retreat in their backyard, they spared no expense to woo Hoover in hopes that his interest in the region would spark investment and development. William Carson, chairman of the Virginia State Conservation and Development Commission and advocate for the creation of Shenandoah National Park, moved quickly to find a location that met the criteria. He and Richey were of the same mind and were searching in the same area.

Hoover visited the area a number of times to inspect possible sites, including an initial visit in January 1929 with Mrs. Hoover, Richey, and others. While the January trip did not include the final site on the Rapidan, it did cover similar terrain in



Figure 1.10. Herbert Hoover giving his address at Madison County Day in 1929. (LOC)

the area, demonstrating its obvious virtues. Mrs. Hoover described what they saw:

> We looked over some miles of a fair fishing stream with picturesque wooded foregrounds and not bad high hills,– or very low mountainous,– background. A goodly number of possible camp sites presented themselves, all of value chiefly because they are such a short distance from Washington,– not quite two and a half hours on a good motor road.
>
> At the end of that time, we were met by a Shenandoah Park official [Carson] who knows the entire neighborhood for a hundred miles around. He told us that a dozen miles farther South, but on another road and an equal driving distance from Washington, was a stream infinitely better for fishing and infinitely more picturesque than the one we saw, with 18 miles of uninhabited length to choose a site from.[30]

The last stream mentioned was the Rapidan River, and Carson, convinced it was the ideal place for the camp, pushed ahead to secure the location. In February 1929, Carson acquired in his own name the fishing rights for 264 acres along a stretch of the Rapidan River, which had been held by the Rapidan Fishing Club, and began stocking the stream. Carson secured an appropriation made jointly by the Commonwealth of Virginia and Madison County to build an access road into the Rapidan basin from the east, off of the state highway near Criglersville. In a letter to Hoover, Carson wrote, "When you are satisfied with the stream, and pick a suitable location for a camp along it, I will have the camp built".[31] By late March, the Madison County Eagle reported the access road was under construction and that electric line installation had begun.[32]

In April, the Hoovers, Secretary of the Interior Ray Lyman Wilbur, Richey, Carson, and others explored Carson's lands on horseback, along rough trails that had been cut by the Rapidan Fishing Club. Hoover liked the area and the sounds of the water along the river, and when he came upon the somewhat level land where the

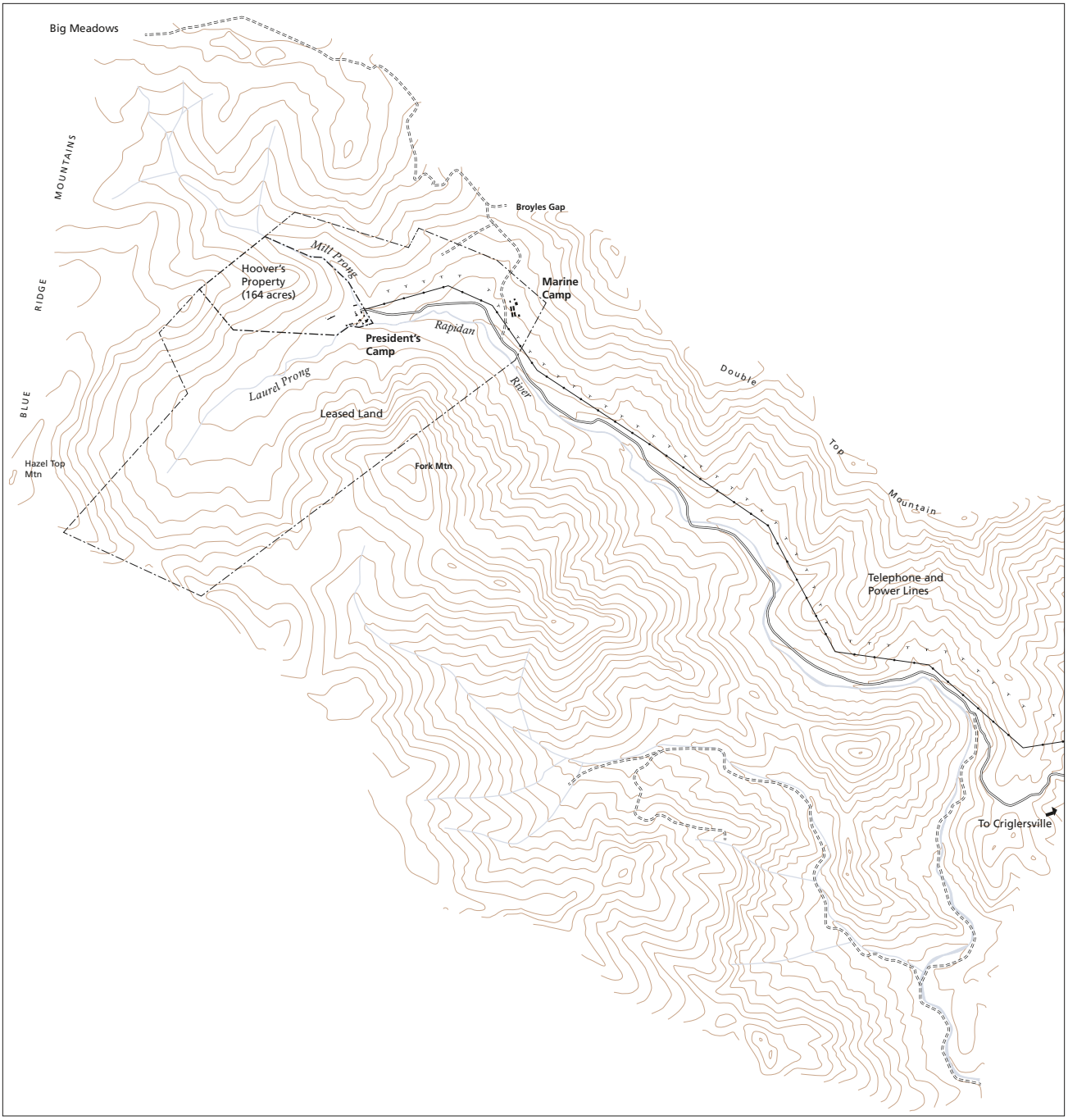


Figure 1.11. Area map of Rapidan during the first phase of construction in 1929. Rapidan Camp and the Marine Camp were largely in place, utilities had been installed, and the road from Criglersville had been improved. The new road to Skyline Drive and Big Meadows had not yet been constructed. (OCLP based on 1929 USGS map)



Figure 1.12. (Top) A photo taken from the fire tower at the top of Fork Mountain in 1936 shows the Rapidan Camp area, including the President's Camp, Marine Camp, and Big Meadows. (SHEN)



Figure 1.13. (Right) The road from Criglersville to Rapidan Camp being constructed in 1929. The photograph shows the agricultural character of parts of the area at the time. (LOC)



Figure 1.14. Tent cabins at Rapidan Camp, circa 1929. Early tent cabins at Rapidan Camp were constructed on wood platforms with wood half-walls. The roof and upper portion of the walls were constructed of wood frames covered in canvas. The canvas could be rolled up on the sides, maximizing ventilation and the connection with the outdoors. (LOC)

Mill and Laurel Prongs joined to form the Rapidan River, he said, "That's where I want my camp."[33] Hoover purchased 164 acres of land around this site that had been in the Wayland family for over 100 years.

Initial Camp Development

The 164-acre tract was assessed as having 22 acres of cove hardwoods, 116 acres of slopes, and 26 acres of grazing lands. It was noted that the land had been cut over "many years ago."[34] The grazing area had "patches of good bluegrass sod, but large areas [were] covered by pine and other brush, and there is considerable blackberry," indicating a recent lack of grazing activity.

The logistics of this remote upstream site proved to be very difficult, with rocky and steep ridges and hollows, dense forests, and tangled understory that had grown in areas opened up from previous tree cutting.[35] Nonetheless, develop-



Figure 1.15. Historic photograph showing the five tents that preceded the Five Tents cabin, 1929. The photograph was taken during a tour of the camp on "Madison County Day", August 17, 1929. (LOC)



Figure 1.16. Historic photograph showing the Five Tents cabin, circa early 1930s. The building that replaced the original five tents was a 120-by-30-foot wood frame structure with a large stone fireplace. The front of the building appears to have been landscaped with native plants (SHEN).



Figure 1.17. Historic photo of Town Hall taken during a press tour of the camp in August 1929 before the camp was complete. Marines can be seen on the porch of the cabin constructing the stone chimney. (LOC)



Figure 1.18. A view of the President's Cabin from Mill Prong taken in August 1929. The wooden bridge on which the men are standing was a temporary bridge that was later replaced with a rustic bridge made of rough tree branches. (LOC)

ment of the camp proceeded rapidly. An architect friend of the Hoovers, James Y. Rippin, wrote a letter in which he specified the camp facilities that would be required by the Hoovers, which corresponded to the ideas in Mrs. Hoover's January letter. Mrs. Hoover was familiar with Mr. Rippin's work for the Girl Scouts of America organization, in which she held various leadership roles from 1917 until her death in 1944. The letter called for ten "tents" all placed on wooden frames

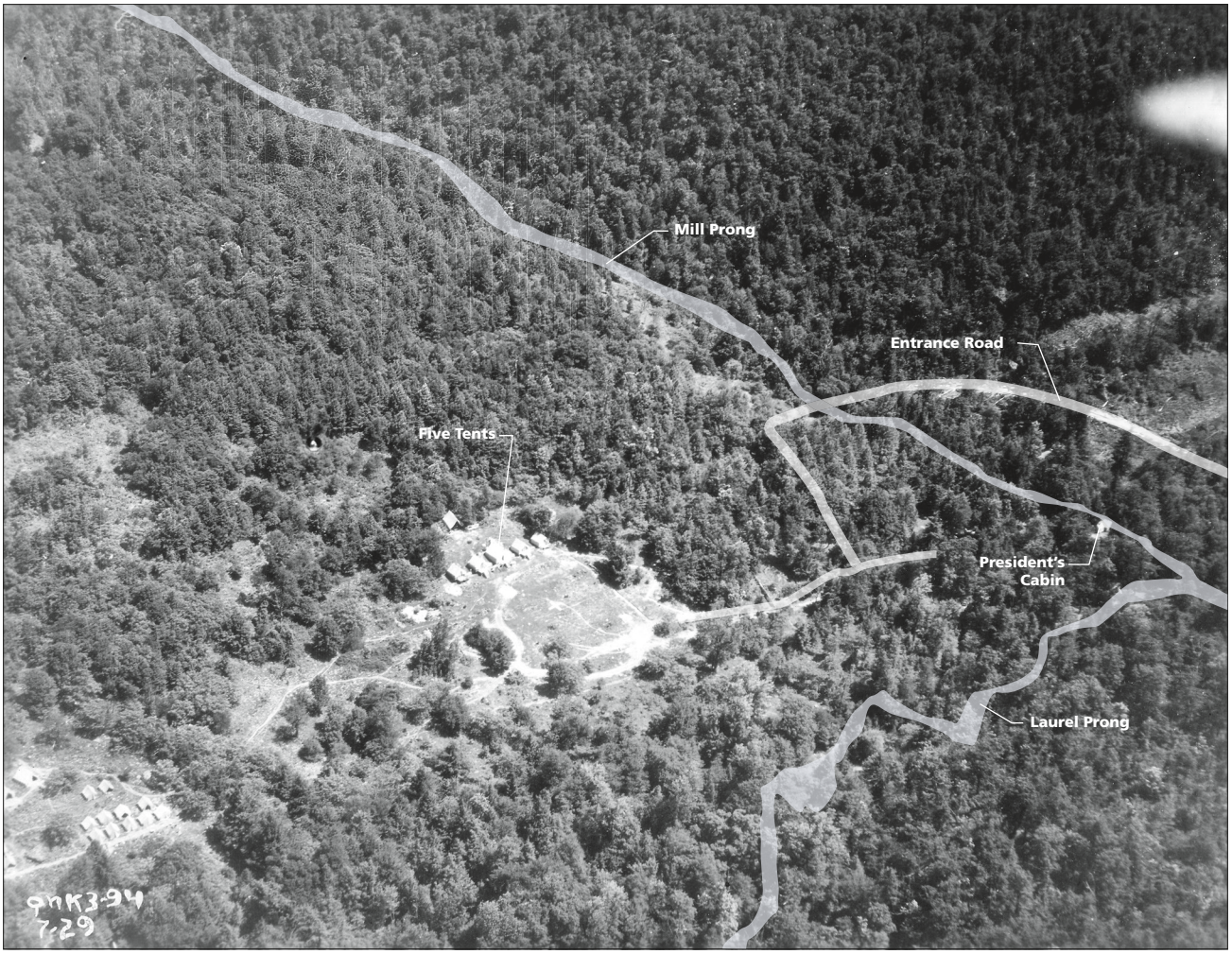


Figure 1.19. Aerial view of Rapidan Camp under construction in July 1929, annotated to show features. The image clearly shows the five tents that would become the Five Tents cabin in the center of the image and a portion of the temporary construction camp on the left. Other features visible in the photograph include the President's Cabin and the entrance road on the right side of the photograph. (NARA)

with the floor elevated a foot above the ground and board sidewalls rising five feet, as well as an all-frame dining room and kitchen. Two of the buildings used by the Hoovers would have fieldstone chimneys and fireplaces.[36] A detachment of the U.S. Marine Corps, led by Major Earl Long, was responsible for constructing the camp's buildings, water supply, sewage disposal, entrance road, and camp roads, trails and paths.

Construction began in the spring of 1929. Several rows of tent cabins were placed in a clearing on the hillside to the northwest of the camp site to house the Marines who were constructing the camp. These were temporary quarters and were mostly removed before the camp was occupied that fall. Once begun, work proceeded at a frenetic pace, with scores of Marines working on various simultaneous projects, including roads, buildings, and utilities. The state coordinated the improvements to the road from Criglersville, while the Marines were responsible for all work within the camp boundaries. In May, the *Madison County Eagle* described work on the road, including blasting, grading, and the construction of bridges and culverts. Telephone poles, an essential utility for the president, were being erected over the hillsides, and the copper wires shining in the sun up to three miles away.



Figure 1.20. Aerial view of Rapidan Camp under construction in July 1929. The rows of tents in the upper left of the image are temporary quarters for Marines constructing the camp and were removed before the camp was occupied in the fall of that year. The row of five tents on the right were eventually replaced by the Five Tents cabin. Below the five tents is an open area with a cross target for air dropping materials and mail. (NARA)

The first building constructed at the camp was called Five Tents, a 120-by-30-foot structure with canvas sides later replaced by wood siding.[37] It was located on a hillside somewhat west of where the main area of the camp would be built. *The Eagle* reported that Hoover slept in a raised Army tent on May 24, 1929, which was probably Five Tents as it was away from the construction area. The second building constructed was the President's Cabin, also known as the Brown House in reference to the White House in Washington, and later simply called The President. This building overlooked the junction of the Laurel and Mill Prongs and featured a sixty-by-twenty-foot living room, one bedroom, one bathroom, sitting room, a screened sleeping porch, two massive stone chimneys, and a large sitting porch overlooking the streams.[38] Next was the Mess Hall where all meals were served, quarters up the slope for the Navy men (a chief steward and a dozen Filipino cooks and attendants from the decommissioned Presidential yacht), Town Hall for indoor conferences and recreation, and a small Office or duty shack for Secret Service and Marines aiding in camp protection and emergency maintenance.[39]

In addition to the various buildings, other improvements were made at the camp related to use, circulation, and infrastructure. According to *The Eagle* on May 24,



Figure 1.21. Historic photograph showing the outdoor fireplace with fire burning. Large logs are arranged around the fireplace for seating and extra firewood is stacked to the left. Constructed features such as the fire place were integrated into the natural rock outcrops of the site. (Herbert Hoover Presidential Library)

1929: "[the] grounds have been cleaned up and leveled in places and the natural floral display made orderly and more pleasing. Walkways have been bordered with rocks which lay helter-skelter on the preserve. Other rocks have been erected in conical piles from which native flowers send forth their fragrance…"

The newspaper also reported the camp featured a flagstaff (location unknown), a massive open-air fireplace and chimney, a horseshoe pit, and a pool created by a dam that Hoover helped build, which may have been one of several trout pools built at various locations along Mill and Laurel Prongs or a concrete-lined pool built near the President's Cabin. By May, telephone lines reached the camp, and by June electric power was established. There were two water systems, one chlorinated for drinking and cooking originating in a covered spring, and one not chlorinated for baths, showers, and fire protection from an open stream. According to *The Eagle*, ten six-hundred-gallon tanks were brought in to store mountain spring water.[40]

Throughout this period of development, Carson was hoping to build a more luxurious facility for the President. Although Congress appropriated $48,000 for the camp, and the Commonwealth of Virginia offered $100,000, Hoover declined both offers and instead chose to buy the land on which the camp was built. Hoover purchased 164 acres and leased an additional 2,000 acres around the camp.[41] He also paid $15,000 for building materials and supplies including food, but construction and transportation costs were incurred by the Marines, who justified the expense as part of training exercises. In August 1929, Hoover told Carson that he wished the camp to become part of Shenandoah National Park after he left office and be



Figure 1.22. Marine Camp tents and cabins, circa 1930. (LOC)

available for his successors as a weekend camp or for the park to use.[42]

By the fall of 1929, many of the camp's buildings and much of its infrastructure had been constructed. Despite the early beginnings as a retreat, Rapidan Camp soon became a kind of auxiliary White House, with the President conducting official business there. Planning sessions and policy debates soon became regular occurrences. In early October 1929, Hoover brought British Prime Minister Ramsay MacDonald to the camp to discuss naval disarmament. In advance of this visit, the Prime Minister's Cabin and Ishbel's Cabin, named for MacDonald's daughter who also came on the trip, were built.[43] In the months that followed, additional guest cabins were built amongst the other buildings of the camp, though at a less frenzied pace. These included The Slums, Trails End, and The Owl. The Creel cabin was the last of the buildings to be constructed at the camp during the Hoover occupancy. The earliest known plan showing the camp's buildings exists from 1931.

Cabinet Camp, Marine Camp, and Stables

In addition to the President's Camp, the Marines also built a Cabinet Camp for Hoover Administration officials. The site was located about two miles southeast and downstream of the President's Camp, and featured six buildings, water pipes,



Figure 1.23. President's Physician Joel T. Boone and Hoover's Aide Lawrence Richey putting together a jigsaw puzzle at Rapidan Camp, circa 1929. (SHEN)

and a roadway.[44] It was connected to the President's Camp via the entrance road as well as a secondary road and trail, later named the Marine Corps Road and the River Trail respectively.

The Marines also built their own camp, located about a mile east of the President's Camp and directly connected by the entrance road. The Marine Camp was initially composed primarily of tents with the exception of the mess hall and a few other structures, but the tents were replaced with barracks in the 1930s.[45] The number of men approached five hundred during construction of the President's Camp and the roads in 1929, but was later reduced to a hundred and fifty to two hundred when the President was in residence and around a dozen in the winter. Located along the entrance road and about half way between the President's Camp and the Marine Camp were stables.

Camp Life and Subsequent Development

Recreational activities at Rapidan Camp included fishing, pitching horseshoes, and riding horses. The Marines, along with men hired by Hoover, blazed hiking and bridle trails from the camp to nearby waterfalls, peaks, and other scenic areas.[46] Mrs. Hoover enjoyed taking guests to a clearing in front of Five Tents to enjoy the distant views and watch the moon rise. Other times it was enough to simply walk around, as the Hoovers often did hand in hand, or relax on one of the many porches. Boulder-gathering and dam-building to create trout pools in the streams was one activity Hoover enjoyed doing with other guests, whereas fishing he preferred to do alone.[47] The President generally did not hike except as required



Figure 1.24. Mr. and Mrs. Hoover standing at the Hemlock Run waterfall, circa 1930. Also visible in the photograph are the Prime Minister's cabin and one of the stone footbridges. (Herbert Hoover Presidential Library)

to fish. He also did not often ride horseback, although he did enjoy taking drives as roads in the area were improved.

Throughout the camp's development, the Hoovers were adamant in preserving the scenery and its rustic presence. Historian Darwin Lambert writes that, "[t]he camp had a spirit or atmosphere conducive to tender concern for both humanity and nature…The effect of the camp spread through the Hoover Administration into other conservation matters…"[48] The Hoovers, for example, insisted that only deadwood, such as the blighted chestnuts, could be used for cooking and heat, and that no living trees, coal, or oil could be used for such purposes. The Marines were directed not to remove any trees in the area unless authorized, and one particularly large hemlock next to the President's Cabin was specifically retained and left growing through the porch floor.[49]

In addition to having a geology degree from Stanford, Mrs. Hoover was an avid



Figure 1.25. The President's Cabin, circa 1931. Ornamental plantings in the camp included shrubs, ferns, and flowers planted along the paths and around the cabins, as well as potted plants on the porches. (Herbert Hoover Presidential Library)

gardener, and was responsible for the flower boxes that brightened the cabins. Throughout the grounds she made naturalistic flower pots of rocks and logs. A seven page document of directions, called "Flowers and Shrubs for the President's Camp," outlined her wishes: new plantings were to be identical to those growing within twenty-five miles of the camp, or hardy species that might be cultivated but similar to the natives, and all plants should not seem out of place among the woodsy setting. "The President is very fond of color in gardens, so where possible, and appropriate to the species arrange flowering shrubs and flowers so as to give the mass effects of color.[50]

The document also discouraged formal beds of plants or flowers, recommending that they instead ramble off into the surroundings. Plants were not to be carefully trimmed, beds were not to be outlined, and flowers were to be planted along the creek edge and overhang the water. Mrs. Hoover also desired an area of flowers at a little distance from the camp that could be used for cutting in order to preserve flowers growing within the camp itself. Ferns or other plants were to be taken only from little hidden places, and not from along creeks, trails, open meadows, or other areas that would be frequented by the Hoover's or camp guests. Mrs. Hoover

also noted that mountain laurel (*Kalmia latifolia*) was abundant, but hoped that absent local plants such as rhododendron (*Rhododendron* sp.), honeysuckle (*Lonicera* sp.), dogwood(*Cornus canadensis*), huckleberry (*Gaylussacia* sp.), and Judas tree (*Cercis siliquastrum*) could be brought in from nearby. The document also included a long list of plants that she favored.[51]

Several water features were built at the President's Camp, including a two-thousand-foot-long water channel called Hemlock Run. The channel was built in 1929 by the Marines and fed by water diverted through a sluice gate upstream on Laurel Prong. The upstream portion of the channel meandered through the forest and was loosely defined by randomly-arranged boulders, but portions farther downstream in the heart of the camp were lined with stone retaining walls and crossed with stone and wood footbridges. Where the channel passed between the President's Cabin and the Prime Minister's Cabin, existing rock outcrops and boulders were incorporated into the channel to form a small waterfall, called Hemlock Run Falls. The falls were often visible in the background of photographs of the Hoovers. Next to the falls was a small concrete-lined pool for holding freshly caught trout for dinner. Built in 1930, it was watered via pipes from Hemlock Run.

At the center of the camp, Mrs. Hoover supervised the construction of a stone fountain, which was round with steps rising toward a narrow apex where water cascaded down the round fountain terraces to fill several small pools in the ground below the fountain. Paul Abernathy, in charge of camp maintenance, built the fountain with natural stones mortared with concrete. Water for the fountain was piped with a gravity-fed system from Mill Prong above the camp. Mrs. Hoover insisted that both vegetation and rocks be replaced after the pipe was installed.[52]

Other features at the camp included a camp fire area, logs made into seats and benches, and outdoor lights, which were a necessary security measure. To reduce the appearance of artificiality, and perhaps to draw bugs away from the camp, the lights were located high in the trees. Other security measures included eleven different sentry posts in and around camp, with seven posted along the access road and entrance road when the President was arriving or leaving. On Fork Mountain to the southeast of the camp, a fire tower was erected by the Marines and the state and manned during dry times. Airplanes supplemented fire prevention efforts on hazy days. The tower also provided the Hoovers and their guests excellent views of the Blue Ridge area.[53]

RAPIDAN ROAD AND SKYLINE DRIVE

Having successfully convinced President Hoover to establish his retreat within the boundaries of Shenandoah National Park, William Carson continued to promote the concept of the national park and a road along its ridgeline. Aware of the

implications for the future of the park if such a road was built, Carson commented to Hoover that a usable road was needed to provide convenient and safe access to Rapidan Camp and to connect it with Skyland. Such a connection was also consistent with the Secret Service rules that did not allow the President to always take the same route to and from places. Not surprisingly, the idea of a road was also supported by Skyland's founder, George Pollock. Informal routes between the resort and camp already existed in some form from newsmen in a hurry to get to the camp.[54]

Hoover reacted favorably to the idea of such a road, emphasizing its benefit to the "traveling public," and appears to have originally endorsed the project in early October 1929. However, the collapse of the American stock market several weeks later intervened and the project was temporarily shelved. Hoover maintained his interest in the proposed park, apparently giving National Park Service Director Horace Albright special instructions (on various viewpoints and possible uses for the abundance of chestnut wood) while accompanying him on horseback to inspect the proposed park.

The onset of the Great Depression coincided with what was considered to be the worst drought in the history of Virginia. The drought led to crop failure in the apple orchards of the Blue Ridge region, hurting the region's farmers and greatly reducing local employment in harvesting and packing. Declining economic conditions in the region spurred Carson to make an appeal for relief funding to get construction started on the road from Thornton Gap to Rapidan Camp. By the autumn of 1930, Carson promoted a plan to accomplish the twin objectives of putting jobless men to work and making the area accessible to the public by building a road on the ridge. This plan grew in importance as a source of employment of the people of the northern Blue Ridge. Employment was urgently needed, and President Hoover agreed to provide money from drought relief funds to build the road, if Congress approved the measure. United States Senator Carter Glass of Virginia, at the urging of Carson and Albright, introduced a bill to make drought relief funds available for building roads in the national parks. Upon passage of the bill, Hoover immediately allocated money to build the road from Front Royal to Jarman Gap, nearly the entire length of Shenandoah National Park. This initial allocation of $1,570,479 was subsequently denied, however, when Hoover issued a general order of economy because of the national financial crisis.

Meanwhile, Carson continued to pressure Senator Glass and federal authorities until he succeeded in obtaining enough money to build a thirty-four-mile section of road from Thornton Gap to Swift Run Gap. This was an extension of the originally planned twenty-mile segment connecting Thornton Gap on Lee Highway (Route 211) to Skyland and Rapidan Camp. Local newspaper editors would later urge readers to pressure state and federal authorities to extend the road south to Waynesboro, and north to Front Royal. Finally with appropriations made available



Figure 1.26. Five Tents, late 1930s or early 1940s. The level of maintenance of the cabins at Rapidan Camp declined in the years following Hoover's departure, demonstrated by the dense, rangy vegetation in front of Five Tents (SHEN).

for road construction in the national parks by the Emergency Public Works Act, the Bureau of Public Roads, in cooperation with the National Park Service, began initial work on what would be named Skyline Drive in the summer of 1931.

The middle section, or Central District, of Skyline Drive was constructed first because it was situated between Route 211 (Thornton Gap) and recently completed Route 33 (Swift Run Gap), and it would provide access to Rapidan Camp. This new access road, called Rapidan Road, was built as part of Skyline Drive project that stretched more than twenty miles from Big Meadows to Swift Run Gap. The two-lane, 6.3-mile gravel road bed featured switchbacks through steep wooded areas, culverts, and several runs of stone retaining wall. As soon as the road was graded enough to be passable, Hoover began exploring by car some of the areas that Mrs. Hoover and guests had already explored on horses. The Rapidan Road was not paved, but Skyline Drive was, opening to traffic on September 15, 1934.

POST-HOOVER USE: 1933–1948

It had always been Hoover's intention to leave Rapidan Camp in public ownership for the use of future presidents. Hoover articulated this in 1929 in a letter to William Carson: "I desire that the camp shall ultimately become the property of Shenandoah National Park so that at the expiration of my term of office, they may hold it for those of my successors for a week-end camp, or, if future Presidents do not wish to avail themselves of it, it is at the disposal of the park itself."[55] Making good on that promise in 1933, Hoover deeded the 164-acre camp to the park, through the Commonwealth of Virginia, William Carson trustee, along with the 1.58-acre tract of the Mountain School and leasehold rights to nearby lands. Shenandoah National Park officially took receipt of the deed in December 1935. After an exhausting presidency and a hard-fought and ultimately unsuccessful reelection campaign, Hoover unceremoniously relinquished the one place that

offered him joy and comfort during that time.

President Franklin D. Roosevelt made his first and only visit to Rapidan Camp in April 1933, shortly after taking office. Although the Marine contingent that remained to oversee the site had installed ramps at all camp buildings so that Roosevelt would have easier access, it became clear during the visit that the camp's terrain would be unsuitable for Roosevelt to negotiate in a wheelchair. During the visit, however, Roosevelt agreed to reinstate the funds necessary to complete Skyline Drive (upon becoming president, he had issued a general order impounding all government funds). Roosevelt's New Deal legislation ensured the completion of the park road as a joint project of the National Park Service and the Bureau of Public Roads.

In May, the Commonwealth of Virginia, the National Park Service, and Major Long of the Marines promoted plans to build a swimming pool between Hemlock Run and Laurel Prong for Roosevelt's use. Major Long favored a conventional rectangular pool with vertical concrete sides, as this would best satisfy the president's needs. Horace Albright, Director of the National Park Service, promoted a more naturalistic "ole swimmin' hole" designed with rock ledges. The naturalistic approach was originally put forth by National Park Service architect Charles E. Peterson, who felt the naturalistic design would fit the rustic surroundings better, and that the construction would rely on local materials and would require less concrete and steel to be brought into the site.[56] The project would still have required an oil-burning plant capable of raising 100,000 gallons of water twenty five degrees in twelve hours, a costly consideration. William Carson at the time was Chairman of the State Commission on Conservation and Development, the agency in charge of the site which would have had to pay for the construction. The matter was dropped in June by Mr. Carson, who cited cost concerns.[57]

During the summer of 1933, it was still anticipated that Roosevelt would make use of the camp, at least occasionally. Preparations were made to accommodate his visits, including clean-up, repairs, and the proposed swimming pool. Over the next few years, the National Park Service struggled with the mandate of keeping the camp in a state of ready in case Roosevelt should decide to visit, all the while maintaining the remote and mostly empty camp. In 1934, the National Park Service received instructions to prepare plans to improve the camp's buildings so that "each cabin will be a complete unit for cooking, dining, and sleeping." Site plans and drawings were completed, but the projects were not implemented.[58] Although Roosevelt never returned, Mrs. Roosevelt came to Rapidan Camp several times, as did other federal officials in subsequent years. By the spring of 1935, it became apparent that Roosevelt would not be using the camp, and the National Park Service began to develop protocols for the use of the camp by cabinet members and their guests. When the camp was not in use by the cabinet, visits would be granted to individuals making written request for a permit. Visitors were restricted to visit

and inspect the camp, but not to use the buildings, camp on the premises, or fish.

Organizations and individuals frequently sought permission to use the camp. In 1935, Secretary of the Interior Harold Ickes authorized Secretary of the Navy Claude A. Swanson to use the camp "for an indefinite period." Swanson, a former Governor of Virginia and U.S. Senator, was very fond of Rapidan Camp and visited it with his wife for extended periods during the summers between 1935 and 1939. During this period there was some coordination between the National Park Service and the Navy Department for the maintenance of the camp. In July 1939, Swanson died at the Slums cabin, the Navy withdrew its property and support, and the National Park Service assumed direct control of the site and assigned a caretaker who lived at the Marine Camp.

In 1941, when a plan surfaced for Interior Department officials and members of Congress to use the camp, the park's superintendent, Edward Freeland, was instructed to evaluate the condition of the camp's buildings and furniture. Freeland reported that most of the buildings were not in the best condition. Hearing no response on the plan, the superintendent asked for an appropriation in 1942 to either repair the buildings, or remove the most dilapidated buildings at the President's Camp and all of the Marine Camp. This request was denied and another plan was offered to allow the park's concessionaire, the Virginia Sky-Line Company, to repair and operate the camp as part of its visitor accommodation. This work began, but the Secretary of the Interior then reversed the decision because of limited resources and rationing during World War II. Around this time, the vehicular bridge over Mill Prong was replaced by a steel bridge.

In 1944, the Marine Camp was demolished and the caretaker of the President's Camp was relocated to the Creel cabin. By 1946, the President's Camp had deteriorated considerably, and the National Park Service was struggling to maintain it. Maintenance required a year-around caretaker, a water system for protection against fire, plus routine repair and maintenance. The site had received very little use since 1941 aside from visitors to the exterior areas. The superintendent suggested razing the structures and restoring the area to natural state. The Department of the Interior agreed the National Park Service had no legal obligation to keep the buildings, but felt former President Hoover should be consulted. A letter to Hoover regarding the matter was drafted but not sent. It was again urged that some use of the camp be found, including use by members of Congress or by the Boy or Girl Scouts, ideas originally proposed by Hoover himself.

BOY SCOUTS OF AMERICA: 1948–1958

While several groups expressed interest in using Rapidan Camp, the National Capital Council of the Boy Scouts of America felt they had an advantage. Hoover

had expressed more than once a fondness for the Boy Scouts, saying that the experiences that scouting provided "portals to adventure and constructive joy."[59] The council approached Hoover directly, who offered support and assistance in the negotiations with the Department of the Interior. Though a lease with the Boy Scouts was somewhat counter to the National Park Service policy of not permitting exclusive use of park lands by a single entity, the Secretary of the Interior felt the use by the Boy Scouts was consistent with Hoover's wishes for the future use of the camp. The National Park Service was eager to relieve themselves of the burden of maintaining the remote camp and pushed for a deal with the Boy Scouts, which was achieved in 1948, when the National Capital Council signed a twenty-year lease for the camp and assumed full responsibility for the site's maintenance and operation. The Boy Scouts renamed the camp "Camp Hoover."

Camp Hoover revealed its maintenance challenges soon after the Boy Scouts moved in. In 1949, in an episode reminiscent of the travails that plagued the initial construction of the camp, torrential rains swelled the streams, washing out a bridge and portions of the road two miles from camp. The road and bridge were repaired, but the camp continued to require large amounts of work and funds to maintain the aging structures. The phone system, at that time still serviced by three and a half miles of cable running over the ground, needed to be updated. The rustic camp cabins required considerable alterations to accommodate camping by the Boy Scouts and needed constant upkeep to correct damage from the punishing elements. Flooding and erosion remained a constant threat, and meeting fire safety standards was difficult and expensive.

Nonetheless, the camp remained a popular facility for the scouts, and they undertook the work as they were able. In addition to repairs and maintenance, the Boy Scouts made a number of modifications and additions to the camp to meet their needs. A Shenandoah National Park ranger report from March 1949 noted tent sites at the old Five Tents, one halfway up the road to the camp boundary, and another at the boundary fence, and several new toilet structures. The ranger also observed seven tent frames, rock fireplaces, and a standard pit toilet had been built on the hill behind the old Mess Hall, and he noted with some dismay that several trees had been felled. Other work he noted included "porches removed, partitions changed, stoves and cooking utensils in all the lower cabins including President, Prime Minister and Town Hall. Toilet similar to one at tent site between Slums and Ishbel. Lower boards and rotted sills had been replaced. (Chimney screens needed.) Some small work on power lines and phone line."[60]

The highlight of the Boy Scout years was a visit in 1954 by President Hoover, his first in over twenty years. Hoover, accompanied by Lawrence Richey, was the guest of honor at a barbecue dinner, served outdoors around the large stone fireplace. In attendance were a number of Boy Scout executives and leaders, as well as the superintendent of Shenandoah National Park. Hoover delighted in recalling

his time at Rapidan, entertaining the scouts with stories, camp tours, and camping and fishing tips. Before leaving, Hoover broke away from the group to wandered alone along the stream and the old trails, reminiscing about his days there.[61]

The Boy Scouts used Camp Hoover for ten years. Over the decade, the continued substantial effort to maintain the camp strained the Boy Scouts' resources. Termites had infested the cabins, and erosion issues on the entrance road were persistent. The health department determined the water system was contaminated, requiring costly repairs and upgrades. Meanwhile, attendance at the camp never met expectations, a situation attributed to the remote location and the lack of a lake for watersports. In 1958, the Boy Scouts withdrew from Rapidan, leaving it once again under the direct management of the National Park Service.

PRESERVATION AND INTERPRETATION: 1958–PRESENT

As the Boy Scouts withdrew and Shenandoah National Park resumed operations of Rapidan Camp, the responsibility of maintaining the camp was once again the park's. The basic challenges were the same that had plagued the camp since Hoover left in 1933: primitive infrastructure, lightweight construction, harsh elements, and remote location. The individual issues were a long list of familiar problems that were costly and persistent. The thirty-year-old cabins were in poor condition and needed major renovations to continue to accommodate visitation. Frequent contamination of the water supply required boiling, and the septic system for the President's Cabin was leaking pollutants into the river. Ice and wind storms felled branches that blocked the entrance roads, and heavy rains damaged roads, bridges, and other structures. While the park was committed to honoring Hoover's wishes to preserve the camp for presidential and cabinet use, they also understood that the scale of the maintenance efforts made the camp unsustainable.

This time, the park consulted Hoover himself for advice on how to proceed. As he had in 1928, Hoover turned to his trusted assistants and long-time friends Lawrence Richey and Joel Boone to represent him in deciding on a management approach. Richey and Boone had spent nearly as much time at Rapidan as Hoover had and shared with him a deep respect and fondness for the camp. Yet by this time, it was clear that perpetual maintenance of the camp as it had been was untenable, and in consultation with the park Richey and Boone came to the difficult recommendation to remove all but three of the remaining cabins and focus available resources on preserving those.

In 1960, twenty-four buildings, more than half of them added during the Boy Scouts period, were sold, dismantled, and removed from the site. The three remaining cabins were the President's Cabin, the Prime Minister's Cabin, and the

Creel, the cabin where Richey and Boone typically stayed while at camp. The winning bid for the salvaged material was $331, an indication of the poor condition of most of the wood. The cabin sites were cleared and returned to natural conditions, while rehabilitation efforts were focused on the remaining cabins.

From 1960 to 1963, the National Park Service undertook a concerted rehabilitation effort to improve the condition of the remaining cabins and return them to historic appearance inside and out. Some of the original furniture was found, renovated and placed in the President's Cabin and Prime Minister's Cabin. Original pieces that were returned to the camp included pine-posted beds, wicker chairs, a couch, and a mahogany secretary. In addition to the effort to restore the cabins' historic appearance, the park made changes to the floor plans to accommodate potential visits by the president, his cabinet, and congressmen, for which the President's Cabin and the Prime Minister's Cabin were still reserved. The Creel was repaired but not restored and continued to serve as a caretaker's residence. Trails were rehabilitated as well, and interpretive signs were installed for park visitors coming to the camp on foot or horseback. A wooden map was erected to show the layout of the camp.

During the Nixon administration from 1969 to 1974, the camp was used often. White House staff requested that The Creel be winterized to allow for cold winter trips. It was, although the original structure was heavily damaged in the process. Changes were also made to the President's Cabin and the Prime Minister's Cabin, such as the addition of a kitchen to the former, to better accommodate the guests who made regular use of the camp. Such frequent uses, however, engendered public criticism and necessitated a public defense. Nixon never personally visited the camp, but in 1979, Jimmy Carter became the first sitting president to visit the camp since Franklin Roosevelt visited in 1933.

Use of the camp decreased in the 1980s and 1990s. In 1996, VIP privileges for governmental officials at the camp were formally discontinued. The main reason was that a routine water test revealed that septic system serving the President's Cabin and Prime Minister's Cabin was failing, providing the potential for contamination of the Rapidan River. New water and sanitary systems to the three cabins would have required substantial land clearing. This information, along with evidence of American Indian artifacts at the site, prompted the park to abandon the project and cease any residential use of the camp until another solution could be found. At this time, the park undertook renewed efforts to restore and interpret the cabins and the camp. The President's Cabin was meticulously restored using original, period pieces, and reproduction furniture and carefully replicating scenes in historic photographs. The Prime Minister's Cabin was converted to exhibit space, while The Creel continued to serve as seasonal housing for a volunteer caretaker. Extensive work on the landscape included repairs and improvements to the trails, bridges, stream channels, and other structures. During this time, the park began

using original names to refer to the camp and its structures; the President's Cabin was referred to as the Brown house, and the camp went back to Rapidan Camp rather than Camp Hoover, which it had been named since the Boy Scout period.

In the winter of 1997, severe ice storms heavily damage many trees in and around Rapidan Camp. At the same time, many of the area's hemlocks and oaks were in decline or dying from various diseases. In 2003, Hurricane Isabel damaged even more trees and shrubs and washed out bridges at Rapidan Camp. The sluice gate at the head of the Hemlock Run was severely damaged, which substantially decreased the flow of the run, and the footbridge over Mill Prong was destroyed. The footbridge was replaced in 2007, but the sluice gate was not repaired.

As a result of these events and their subsequent cleanup, the canopy over the site was greatly reduced and the amount of sunlight reaching the forest floor was increased. This change had a dramatic impact, both on the historic character and the ecology of the site. The sunlight triggered vigorous sprouting of shrubs and young trees from damaged trunks and from seed. The park managed the emerging vegetation by suppressing some of the sprouts while retaining a number of them to eventually form a closed canopy again, recognizing that the field vegetation that would inevitably emerge would in time die out as it fell under the shade of the developing tree canopy. Where existing shade remained or where areas were completely open, new shrubs, perennials, and forbs would be planted consistent with historic photographs, Mrs. Hoover's preferred plant lists, and introduced species still present at the site.

The transformation was accelerated by an infestation of the remaining hemlock trees with the hemlock woolly adelgid (*Adelges tsugae*), a small aphid-like insect that feeds on the sap from the trees' twigs and branches. In a scenario tragically reminiscent of the chestnut blight a century before, the hemlock woolly adelgid was inadvertently brought to the United States from Asia and quickly established itself in the native hemlocks. The two eastern species, the eastern hemlock (*Tsuga canadensis*) and the Carolina hemlock (*T. caroliniana*), are particularly susceptible, and the pest readily spread throughout much of the trees' native range. The hemlock trees at Rapidan Camp first became infested with the adelgids in the late 1990s, and within a few years the tiny insects had killed hundreds of centuries-old trees. Many of the trees remained standing dead for a number of years before being cut down or falling and becoming a tangle of massive trunks in and around the camp. While the park quickly removed the trees that died within the camp core, numerous dead and fallen trees remained along the periphery of the camp and in the forest surrounding it. Tree trunks close to the stream channels were periodically picked up by flood events and became destructive debris pushed along by the rushing water.

In 1998, a study was conducted on the vegetation within the central area of

Rapidan Camp in an attempt to determine how it may have been planted during the Hoover period.[62] Reed Engle, the park's former Cultural Resource Manager, explained the process in a revised epilogue for Darwin Lambert's book, *Herbert Hoover's Hideaway*. The strategy to rehabilitate the landscape involved allowing natural succession of the forest with assistance from park staff. Many of the removed trees, except for the hemlocks, would re-sprout from their own roots. New trees, shrubs, and ground cover would also sprout up in the newly opened areas, forming a dense green understory. Over time, selective trees would be allowed to grow, while undesirable trees and shrubs would be removed or allowed to die as the canopy closed overhead. In the meantime, new shrubs, perennials, and forbs would be planted in remaining areas of shade, consistent with historic photographs, descriptions, and species observed within the camp and in the surrounding forest. This process began in 2000 and continues today.

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33 Ibid.,19.

34 Madison County Land Records, located in the Shenandoah National Park Archives, SHEN 21203.

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36 Ibid., 20.

37 Ibid., 29.

38 Ibid. The President's Cabin was later expanded to include a second bedroom and bathroom by enclosing the sleeping porch.

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54 Ibid., 55.

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Cultural Landscape Report

Rapidan Camp
Shenandoah National Park

1932 Period Plan

National Park Service
Olmsted Center for Landscape Preservation
www.nps.gov/oclp

SOURCES

1. 2005 Aerial photo (from park) (check on date)
2. The President's Camp, Sketch by U.S. Marines, Aug 27, 1930
3. USGS/U.S. Marine Corp, 1930
4. The President's Camp, Sketch by U.S. Marines, June 15, 1931
5. Rapidan Camp utilities map, untitled, c. 1935
6. Rapidan Camp Existing Development, Part of the Master Plan, May 1, 1954

DRAWN BY

John Hammond, OCLP
Adobe Illustrator CS6, 2014

LEGEND

- Deciduous Trees
- Hemlock Trees
- Buildings
- Decks
- Roads and Paths
- Rocks and Boulders
- Rivers and Streams
- Contours

NOTES

1. All features shown in approximate scale and locations.
2. Location of trees recorded on1935 utility map

NORTH

0 100 200 FEET

Drawing 1

Road to Skyline Drive and Big Meadows

Mill Prong

Big Rock Falls

Mail Drop Site

Marine Camp

President's Camp

Rapidan

Garage

River

Stables

Cabinet Camp

Laurel Prong

Fork Mountain

Cultural Landscape Report

Rapidan Camp
Shenandoah National Park

Rapidan Area
1932 Period Plan

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Adobe Illustrator CS6, 2014

LEGEND

- Deciduous Trees
- Roads
- Buildings
- Power Lines
- Telephone Lines
- Contours

NOTES

1. All features shown in approximate scale and locations.

NORTH

0 720 840 FEET

Drawing 2



Existing Conditions

Today, Rapidan Camp contains three of the original thirteen cabins, as well as trails, paths, stone footbridges, a stone fountain, outdoor stone fireplace, a constructed water channel, and a number of smaller features, archeological resources, and traces of the former camp. The camp is tucked into the hardwood forest, with the dense forest vegetation and the streams dominating the site's character. The camp serves as an interpretive site commemorating Herbert Hoover's time at the camp, with exhibits, interpretive displays, restored cabins, and preserved features throughout the camp. The camp also provides passive enjoyment of the natural landscape such as hiking, picnicking, and fishing. The outdoor areas of the camp are open year round to hike-in visitors and has minimal developed services.

This chapter describes the existing conditions of the landscape characteristics and features at Rapidan Camp. The existing conditions are documented with narrative descriptions, site photographs, and maps.

CONTEXT AND SETTING

Rapidan Camp is located within Shenandoah National Park on the eastern slope of the Blue Ridge Mountains. The remote location, limited services, and wooded setting create a distinctly rustic and secluded character. The camp is enclosed by the dense, green forest, and the only sounds are those of the wind, streams, and birds. Visitation at Rapidan Camp is generally light, and it is not uncommon that a small group of hikers will have the camp to themselves for the duration of their visit.

Rapidan Camp is managed primarily as an interpretive site associated with Herbert Hoover and his time at the camp. The President's Cabin has been restored to period conditions and is open for guided tours between Memorial Day and mid-October. The Prime Minister's Cabin contains self-guided interpretive exhibits. The outdoor areas of the camp provide opportunities for passive recreation year round, and hikers may explore the cabin exteriors and the camp's other features. There are no overnight facilities at Rapidan, and camping is prohibited within a half-mile of the camp.

The site may be accessed from within the park via Rapidan Fire Road, a six-mile

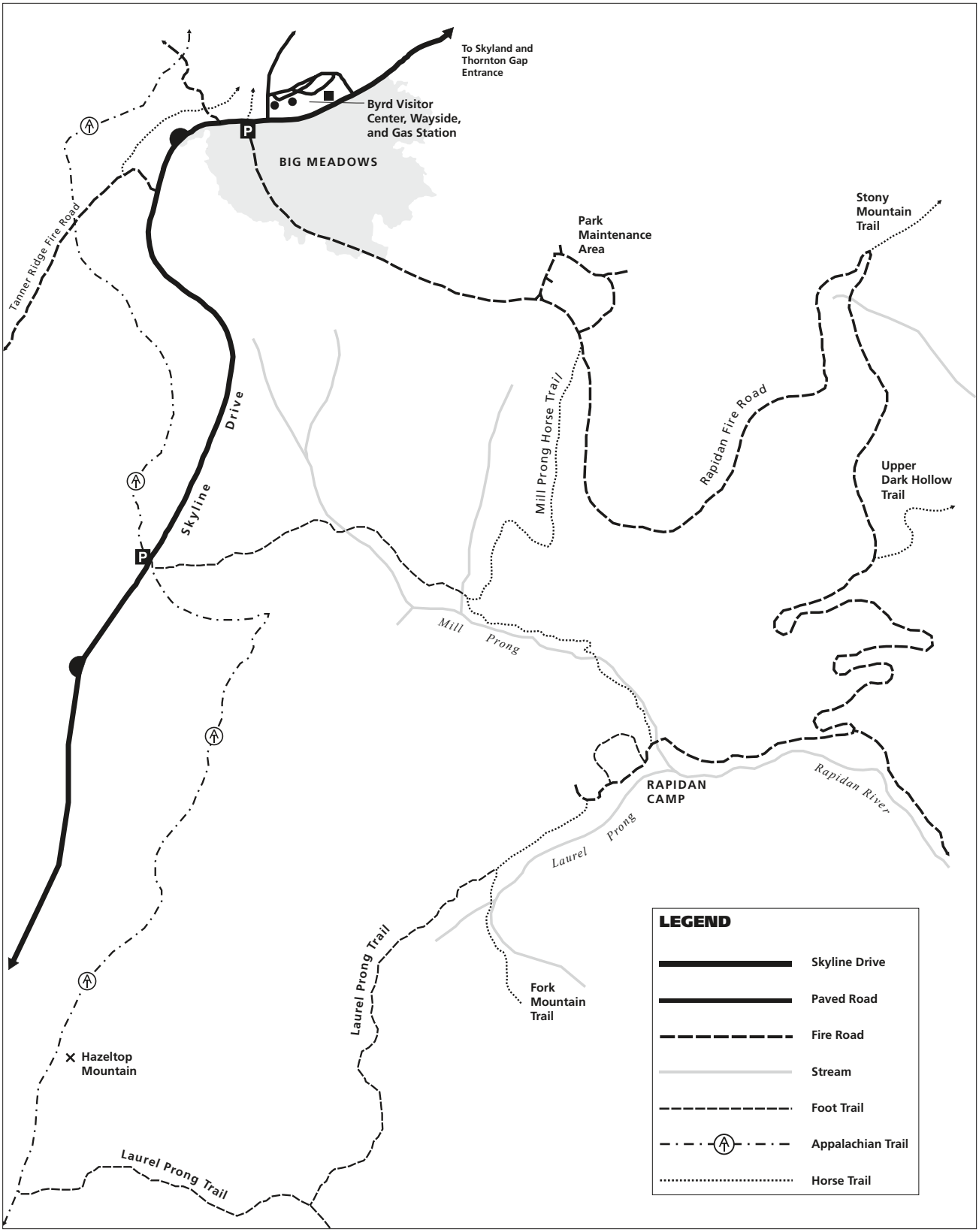


Figure 2.1. Diagram showing the location of Rapidan Camp in relation to Big Meadows, Skyline Drive, and the roads and trails in the area. (NPS map, adapted by OCLP)

gravel road from Skyline Drive at Big Meadows, or by a second road that follows the Rapidan River to the camp from the park boundary to the southeast, a distance of about a mile. Both roads are closed to visitor vehicular travel and are accessible only to authorized service vehicles, equestrians, and hikers. The camp and its surrounding areas are also accessible by a network of foot trails. Most visitors reach the camp via a four-mile round-trip hiking trail from Milam Gap.

Big Meadows is the primary contact point for visitors to Rapidan Camp. The multi-use developed area contains a wayside station, visitor center, restaurants, lodge, cabins, and campground, as well as park service facilities. Information about Rapidan Camp, including maps, current conditions, tour information, and hours of operations for the exhibits, is available to visitors in the Byrd Visitor Center.

Visitor vehicular access to Big Meadows is provided by Skyline Drive, the primary road within Shenandoah National Park. The two-lane scenic highway snakes the entire length of the park for 105 miles along the crest of the Blue Ridge Mountains. Access to Skyline Drive is limited to four park entrances, two of which provide the closest access to Big Meadows: the Thornton Gap entrance, twenty miles to the north, and the Swift Run Gap entrance, fourteen miles to the south. The highway offers visitors panoramic views of the Blue Ridge Mountains, Shenandoah Valley, and the numerous side valleys along the ridge, and provides access to most of the park's developed areas, campgrounds, trailheads, and overlooks.

LANDSCAPE CHARACTERISTICS

Landscape characteristics are the broad patterns, systems, and feature categories that compose the landscape and determine how people interact with it. The landscape characteristics present at Rapidan Camp are natural systems and features, spatial organization, vegetation, circulation, constructed water features, buildings and structures, small-scale features, and views and vistas.

NATURAL SYSTEMS AND FEATURES

Rapidan Camp is located in one of the narrow V-shaped stream valleys that branch off the main ridge of the Blue Ridge Mountains, referred to in the region as a hollow. The steep slopes of the valley concentrate rainwater in numerous small creeks, which converge into ever larger streams that tumble over stones and between boulders, cutting deeper into the mountainside. Periodic heavy rains wash down sediment and debris, which collect in stream confluences and flatter areas. Rapidan Camp is located on a relatively level accretion of sediment and rock between Mill Prong and Laurel Prong, the two small streams that join to form the



Figure 2.2. Current view of the Blue Ridge Mountains in the vicinity of Rapidan Camp from Skyline Drive. (OCLP)

Figure 2.3. Typical hardwood forests in the area around Rapidan Camp feature a wide variety of tree species and lush undergrowth anywhere sunlight reaches the forest floor. The forests provide valuable habitat for animals, including bobcats, raccoons, skunks squirrels, deer, groundhogs, bears, and cottontail rabbits. (OCLP)



Rapidan River.

The site of the camp slopes gradually down toward the southeast between the forks. Elevation of the main portion of the camp ranges from about 2,475 feet at the stream confluence to about 2,560 at the site of Five Tents. Just outside of the camp site, the land slopes steeply up in nearly every direction. The land is very rocky, with numerous large boulders up to ten feet or more across strewn throughout the camp, with the largest concentration of these in the stream beds.

The landscape around the camp is characterized by steep, rocky slopes covered in second-growth hardwood forests. The forests are composed of a large number of tree species, including red oak (*Quercus rubra*), tulip poplar (*Liriodendron tulipifera*), American basswood (*Tilia americana*), American beech (*Fagus grandifolia*), and sugar maple (*Acer saccharum*). Beneath the canopy, a layer of young trees, understory shrubs, wildflowers, grasses, sedges, and ferns create a lush, green character during the summer months. The elevation of Rapidan Camp keeps the climate mild in the summer, while the surrounding ridges protect it from the harshest winter weather.

Much of the character of Rapidan Camp is defined by the streams that run through the site. Mill Prong flows from north to south along the eastern edge of the camp, while Laurel Prong borders the camp to the south, joining Mill Prong in the southeast corner of the camp to form the Rapidan River. The small streams average only a few feet wide



Figure 2.4. View of Laurel Prong looking upstream from a point near the confluence. The water level of the stream is typical of late-summer conditions. (OCLP)

and a few inches deep during low flow and alternate between riffles and small falls and shallow pools. During major flood events, the flow of the streams can quickly swell to a torrent, pushing debris, rocks, and tree trunks ahead of the flood waters. These events can be profoundly transformative, eroding and scouring the stream bed and banks, felling trees, and destroying structures.

The cold clear water of Rapidan River and its tributaries provides excellent habitat for native brook trout. The colorful fish were among the trout species that drew Hoover to the Rapidan River, which at the time also included stocked rainbow and brown trout.[1] The stocked rainbow and brown trout did not persist in the watershed, and due to careful management by the Virginia Department of Game and Inland Fisheries and the National Park Service, a healthy population of native brook trout remains. Once common throughout the eastern United States, streams and rivers that support significant brook trout populations are rare today. The fish require specific environmental conditions to thrive, including clean, cold, well-oxygenated water and a varied stream bed of stones and gravel. Brook trout populations are readily impacted by disturbances to the watershed, including logging, farming, and development. Due to their sensitivity to stream conditions, brook trout are considered an indicator species for water quality and overall habitat health.

Brook trout are present in significant numbers throughout the upper Rapidan River watershed, including Mill Prong and Laurel Prong. Brook trout from fingerling size up to seven or eight inches can be seen swimming in the stream pools in and around Rapidan Camp. Shenandoah National Park allows catch-and-release fishing with artificial flies or lures within the park and within Rapidan Camp, and the Rapidan River is a destination for fly fishermen throughout the region.

SPATIAL ORGANIZATION

The two streams at Rapidan Camp serve as the camp's primary organizing features. Mill Prong flows from northwest to southeast, forming the eastern edge of the camp, while Laurel Prong flows roughly west to east along the camp's south edge, joining Mill Prong at the southwest corner of the camp. Hemlock Run, the constructed water channel that splits from Laurel Prong well west of the camp, winds through the heart of Rapidan Camp, rejoining Laurel Prong just upstream

from its confluence with Mill Prong.

The majority of Rapidan Camp's extant features are situated on the triangular bench between Mill Prong and Laurel Prong. Of the thirteen cabins that were originally located in the camp, three remain, along with roads, paths, bridges, and other features. The arrangement of these features was originally based on the natural features of the site, such as streams, slopes, boulders, and trees. The cabins are located along the streams and oriented to maximize the views and sounds of the water. The President's Cabin, the focal point of the camp, is located at the confluence of the two streams, and its broad porch faces the southeast, overlooking their tumbling waters where they join to form the Rapidan River. To the northwest of the President's Cabin is the Creel, which overlooks Mill Prong. The Prime Minister's Cabin is to the southwest of the President's Cabin between Laurel Prong and Hemlock Run.

Between the three cabins, a network of footpaths curve and wind through the landscape following what were once direct transits between cabins and other functional areas of the camp, such as the Town Hall and Mess Hall. This center triangle between the cabins retains a number of historic features, as well as rem-

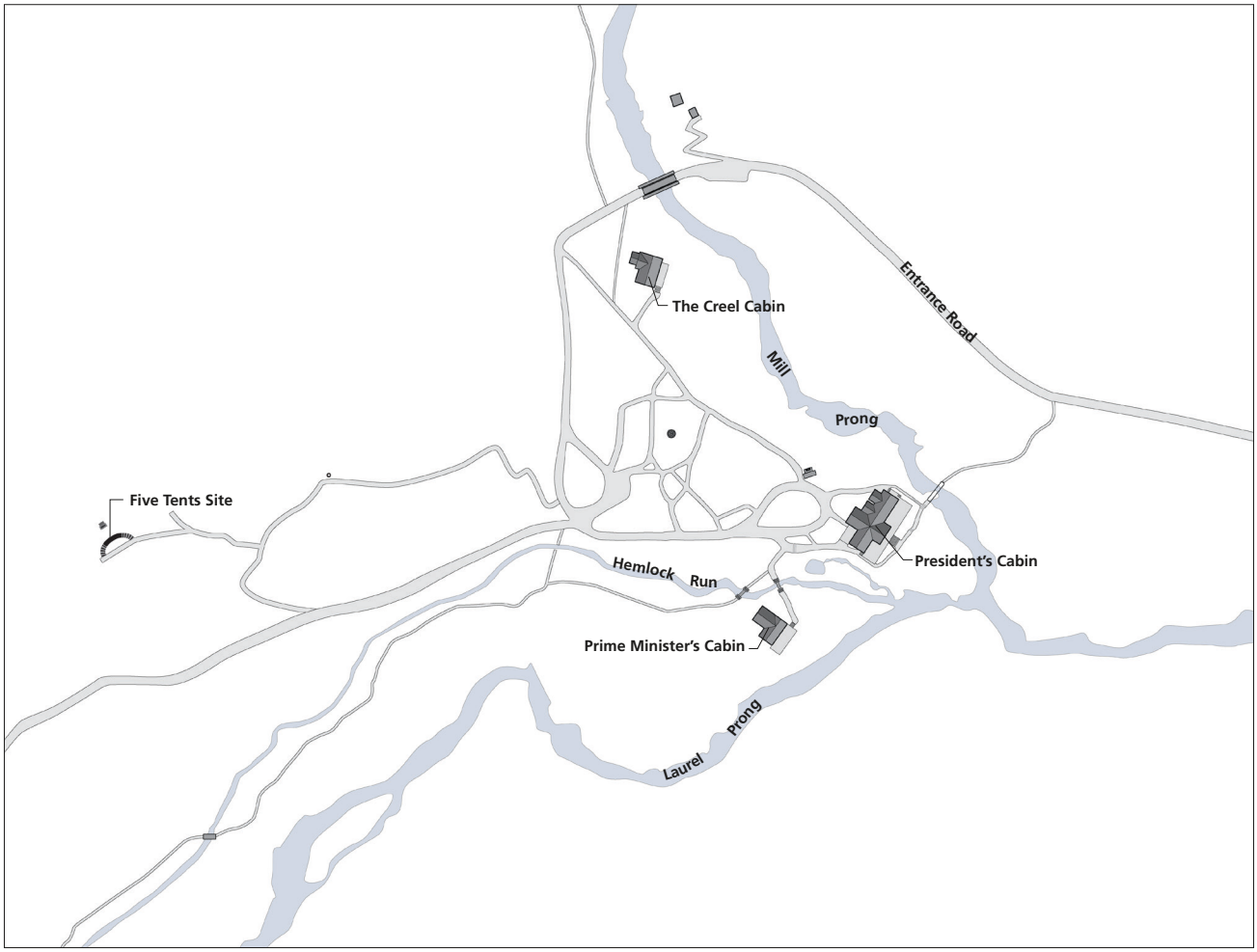


Figure 2.5. Diagram showing the spatial organization of the primary extant buildings and circulation with respect to the natural waterways. For full existing conditions map, see Drawings 3 and 4. (OCLP)

nants and traces of lost features. Extant features in this area include the outdoor fireplace and stone fountain, elements that were once a part of the social core of the camp. This area also contains the building sites of the Mess Hall, Town Hall, and the Owl guest cabin, structures that were removed in 1960.

A number of features are organized along Hemlock Run, a showpiece of the historic camp. The short segment between the President's Cabin and the Prime Minister's Cabin alone contains two stone footbridges and the stone footings of a third bridge, as well as the large flat stone that forms Hemlock Run Falls and the concrete-lined trout pool. The cabin sites for Ishbel's Cabin, The Slums, and Trail's End string out to the west of the Prime Minister's Cabin on the south side of Hemlock Run, while the cabin site of the Town Hall is on the north side of the channel. A trail follows Hemlock Run to the site of Laurel Dam west of the camp, with several stream crossings, both remnant and extant.

Hemlock Run originates on Laurel Prong approximately 1,500 feet upstream from the camp, where the remnants of the dam and sluice gate, damaged by flood waters in 2003, are still present. The dam is the southwestern extremity of Rapidan Camp.

Directly west of the core of the camp is the site of Five Tents. Originally a wooden platform with five canvas tents on it before being replaced with a cabin in 1929, it was the first structure at Rapidan Camp and was the furthest from the camp center. A switchback trail with stone steps provides access to the site, which today contains the stone fireplace and stone steps marking the location of the former cabin.

The road from Big Meadows approaches the camp from the east before crossing Mill Prong at the steel bridge and entering the camp from the north. The entrance road terminates in a loop on the western edge of the core triangular area. At the loop, the road joins a circulation drive that itself terminates in a loop in front of the President's Cabin. The spring house access road leads out of camp toward the west.

VEGETATION

Rapidan Camp, once a shady glen of towering hemlocks, is much more open today after a dramatic reduction of canopy trees over the past decade and a half. This sudden opening of the canopy has created conditions consistent with a disturbed clearing in a forest, with numerous seedlings of pioneer species and an increase in grasses and shrubs. Large oaks and other hardwoods still stand as a reminder of the former character of the camp, but these are now surrounded by young trees and clear areas.

The composition of vegetation species in the camp is determined largely by the surrounding forest. Oaks (*Quercus* spp.) are common, as are maples (*Acer* spp.), beeches (*Fagus grandifolia*), birches (*Betula* spp.), and other hardwoods. Many of these are small trees and saplings, with numerous seedlings serving as a component of the ground cover. Tulip poplar trees are abundant in the camp, with many areas covered with dense groups of these saplings. The ground throughout the camp is covered with a diverse mix of grasses, ferns, and herbaceous species, both native and exotic. In an effort to reestablish the tree canopy in the camp, the park in 2004 and 2005 planted white pine seedlings in several places in the center of camp, an area hardest hit by the loss of the hemlocks. These seedlings initially did not compete well with the fast growing shrubs and were soon overcome. In 2009 a concerted effort was made to clear the shrubs and selective trees throughout the camp to allow the white pines and other canopy producing trees to thrive.

The hemlocks that were once such a strong presence in the camp have nearly all been killed by the hemlock woolly adelgid. The small, aphid-like insect, native to Asia, was first discovered in Richmond, Virginia in 1952, and since then it has spread into natural forest stands throughout the Mid-Atlantic states, becoming one of the region's most serious forest insect problems. Today infestations extend throughout the Appalachians from Georgia to Maine. The insect is easily dispersed by birds and wind or infested horticultural material, and all ages of hemlocks from seedlings to old growth are vulnerable to the pest. The hemlock woolly adelgid feeds at the base of the tree's needles, often killing the tree in three to five years. [2]

The hemlock woolly adelgid was first noted in Shenandoah National Park in 1988, quickly spreading through the park's many old-growth hemlock stands.[3] The insect reached Rapidan Camp in the late 1990s, and within a few years it had killed many of the stately hemlocks that once shaded the site. Few hemlocks remain in



Figure 2.6. After many of the canopy trees were killed by storms and pests, lush forest floor vegetation and tree seedlings have covered much of the area of Rapidan Camp. (OCLP)



Figure 2.7. Close-up of a hemlock branch infested with hemlock woolly adelgids. (Courtesy of Alan Cressler)



Figure 2.8. White pine saplings, planted to reestablish the canopy, grow within the core of the camp. Also visible in the photograph are large hardwoods and remnant hemlocks that have so far survived the hemlock woolly adelgid infestation. (OCLP)

the site today, and those that do are primarily saplings and young trees. While control of large-scale infestations is difficult, targeted control with systemic insecticide has shown significant success in improving the health of individual tree species. The park has treated some of the remaining hemlock trees within Rapidan Camp with the systemic insecticide Merit (imidacloprid). These trees appear to have responded well to the treatment, with the visible infestations decreasing and the health and vigor of the trees improving. The hemlock woolly adelgid infestation, however, remains in the forest at large and could re-infest the Rapidan trees in the future if treatment is discontinued.



Figure 2.9. View looking west showing the steps near the site of the Town Hall (behind the large boulder in the center of the photograph). Also visible in the photograph are the hose cabinet, fire hydrant, and interpretive sign (see Small-scale Features). (OCLP)

CIRCULATION

Circulation at Rapidan Camp is served by a network of roads, trails, and footpaths. After many of the cabins were removed in 1960, the circulation features of the camp were abandoned and deteriorated to the point they were no longer discernible by 1995. Rehabilitation since then has reestablished the circulation system in a configuration similar to historic conditions.

Gravel drives provide access for service vehicles to the camp and double as pedestrian and horse circulation. These include the entrance road, which extends from the junction with the road from Big Meadows to the steel bridge over Mill Prong, the circulation drive, which extends from the steel bridge into the camp and includes the two circulation loops, and the spring house access drive that leads out of camp to the west. The triangular area in the core of the camp is crisscrossed with smaller footpaths that form an interconnected web of circulation, providing access to all of the cabins, streams, trails, and camp features. The paths are surfaced with crushed stone on top of Gravelpave paving structure to help curb erosion, are bordered with stones, and vary in width from narrow footpaths of about three feet wide to service drives of about twelve feet wide. The trails feature numerous flights of stone steps as they negotiate the gently sloping terrain. While some vegetation can be seen growing in the paths, they are generally in good condition.

From the core of camp, several foot and horse trails take visitors to nearby features and into the area beyond the camp. The trail to Five Tents features numerous stone steps as it climbs the steep slope through the forest to the cabin site. Other foot trails include one that follows Hemlock Run from the Prime Minister's Cabin to the dam on Laurel Prong, a trail that follows Mill Prong north out of camp to Big Rock Falls, and a trail that extends westward from the President's Cabin, connecting with the entrance road.

CONSTRUCTED WATER FEATURES

The natural mountain streams that flow through Rapidan Camp form the basis for a system of constructed or modified water features designed to enhance the aesthetic value of the water as well as to provide habitat for trout. These constructed water features include Hemlock Run, constructed waterfalls, dams, trout pools, and reservoirs.

Hemlock Run is a narrow water channel, only three to six feet wide in most places and varies in depth from less than one foot to about two feet. The channel extends approximately 1,600 feet from the remnants of a loose stone dam and sluice gate on Laurel Prong upstream from the camp. It runs along the north side of Laurel Prong through the heart of camp before rejoining the stream just upstream from the confluence with Mill Prong. For much of its length, it is little more than a ditch designed to bring water into the camp. As it passes through the heart of camp, however, the channel was developed to maximize its aesthetic value. A 200-foot section of the channel is lined with mortared stone, with sections further upstream reinforced with un-mortared stone. Four stone footbridges remain of what was once eight channel crossings. The channel was directed over a large, flat rock just east of the President's Cabin to create a waterfall and pool called Hemlock Run Falls. The combination of the stone footbridges, channel walls, and waterfall create a picturesque stream channel.

Hemlock Run originates at a the remnants of a stone and gravel dam on Laurel Prong, with the flow of water into the channel controlled with a sluice gate. The sluice gate comprises two concrete blocks that flank the entrance to the channel with slots for a removable gate, which is currently missing. The remnants of the stone dam that once directed the water into the channel of Hemlock Run today



Figure 2.10. View looking west showing one of the stone footbridges over Hemlock Run. (OCLP)

comprises loose piled stones. Deterioration of the dam over time and damage during flood events has reduced its function, so that today only a small pool backs up behind the dam remnants, and during low flow levels, no water reaches the mouth of Hemlock Run. During these periods, Hemlock Run is fed by a seep or spring half way down the channel, that provides a small amount of water to flow through the channel. The reduced flow has diminished the aesthetic effect of Hemlock Run and allowed plants to grow in the bed of the channel in many places.

Located near Hemlock Run Falls and adjacent to the President's Cabin is a round concrete-lined trout pool. The circular bowl-shaped pool was lined with stones and fed by a pair of cast iron pipes located below Hemlock Run Falls. Buried for much of the post-historic period, the pool was recently excavated and currently holds a pool of stagnant water. Other less formal trout pools within the Mill Prong streambed still remain north of the camp. These were created by Hoover himself, often with the help of guests, by placing stones across the channel to form a small dam.

A round stone fountain, designed by Lou Henry Hoover, remains in the center of camp. The mortared stone structure is comprised of four circular tiers that step up to a narrow apex where the water once emanated. The fountain no longer functions from its gravity-fed line and it is unknown what condition the supply pipe is in, but the fountain was operated recently by connecting it to the camp's water supply via a hose. The ornamental rock channel and pools that once conveyed the water away from the fountain remains, but they are obscured by vegetation and debris and are barely discernible.

BUILDINGS AND STRUCTURES

Rapidan Camp contains a number of historic buildings and structures, including its three historic cabins, the stone fireplace and fountain, four stone footbridges over Hemlock Run, vehicular bridges, retaining walls, and a number of smaller utility structures. In addition, there are several non-contributing structures that have been constructed since the historic period.

The three cabins are all simple one-story wood-frame structures of rustic character. They are constructed of heavy timber framing with pine board German siding. Designed to blend into the landscape and minimize the separation between inside and outside, the cabins feature exposed wall framing and rafters with no insulation. The buildings all have broad porches and numerous windows and wood panels that could be let down to open the cabins further.

The President's Cabin is the largest of the cabins, measuring approximately seventy-two feet long and thirty-seven feet wide. Two massive stone fireplaces anchor the two sitting areas of the cabin, which also features two bedrooms, two

bathrooms, an enclosed sun porch, and open decks in the front and rear. The cabin was restored to period conditions and furnished with a combination of original, period, and reproduction furniture based on historic photos from 1930 and 1931. Post-historic alterations, such as the conversion of one of the bathrooms into a kitchen, have been reversed, so that today the cabin closely resembles historic conditions. The cabin serves as a museum and is open for guided tours from Memorial Day through early fall.

The Prime Minister's Cabin is L-shaped, measuring approximately thirty-two feet by twenty-seven feet. The Prime Minister's Cabin has also been restored, and the post-historic alterations reversed, but unlike the President's Cabin, it has not been furnished with period furniture. Instead, the cabin contains interpretive exhibits and museum pieces. The third extant cabin is The Creel Cabin. The L-shaped



Figure 2.11. View looking south showing the President's Cabin. (OCLP)



Figure 2.12. View looking northwest showing the steps and fireplace at the Five Tents Site. (OCLP)

cabin is thirty-one feet by thirty-one feet and features two rooms and a bathroom. A stone fireplace anchors one end of the cabin. Post-historic alterations to the Creel Cabin, including the addition of insulation and wall and ceiling paneling, were later reversed. The Creel is used as living quarters for seasonal volunteer caretakers.

Ten of the original thirteen cabins were dismantled in 1960 and all visible traces of the structures removed or left to revert to a natural state. Today, the locations of these buildings are only discernible with the aid of interpretive materials, historic photographs, and maps. The exception is the site of Five Tents, which retains the stone fireplace and semi-circular stone steps that led to the front of the building.

Several stone structures remain in the camp, including the large stone fireplace near the President's Cabin, four stone bridges across Hemlock Run, the circular water fountain, and steps along the footpaths. A rustic wooden footbridge that crosses Mill Prong at the President's Cabin was reconstructed in 2007 to replace one that was destroyed by floodwaters in 2003. The new bridge is based on the design of the historic bridge, but is constructed of much more substantial timbers.

Post-historic structures include two sheds, and a comfort station. One of the sheds is located near The Creel, and the other shed and comfort station, constructed in 2008, are located along the entrance road, just east of the steel bridge. An unidentified stone structure that may have been a barbecue pit for the Boy Scouts is located on the entrance road outside of camp. A simple steel bridge constructed of pre-fabricated structural elements spans Mill Prong.

SMALL-SCALE FEATURES

Few of the many small-scale features that once added function and ornament to Rapidan Camp remain. A granite mounting block that once assisted horseback riders in mounting their horses can still be found within the underbrush at the base of the Five Tents trail. Two of the light fixtures that once lit the trail to Five Tents are still mounted high in the trees there. All of the other lighting features have been lost. A culvert provides a crossing point across Hemlock Run west of the camp. A number of utility features of unknown origin can be found in the camp, including a pump head and pipes.

Numerous post-historic features related to fire safety, visitor navigation, and interpretation are present in the camp. These include a marker consisting of a bronze plaque mounted on a stone commemorating the designation of Rapidan Camp as a National Historic Landmark installed in 1988. Other interpretive features include interpretive panels with information about the camp, a map showing historic conditions, and several small metal signs with photographs and text mounted on metal posts.

VIEWS AND VISTAS

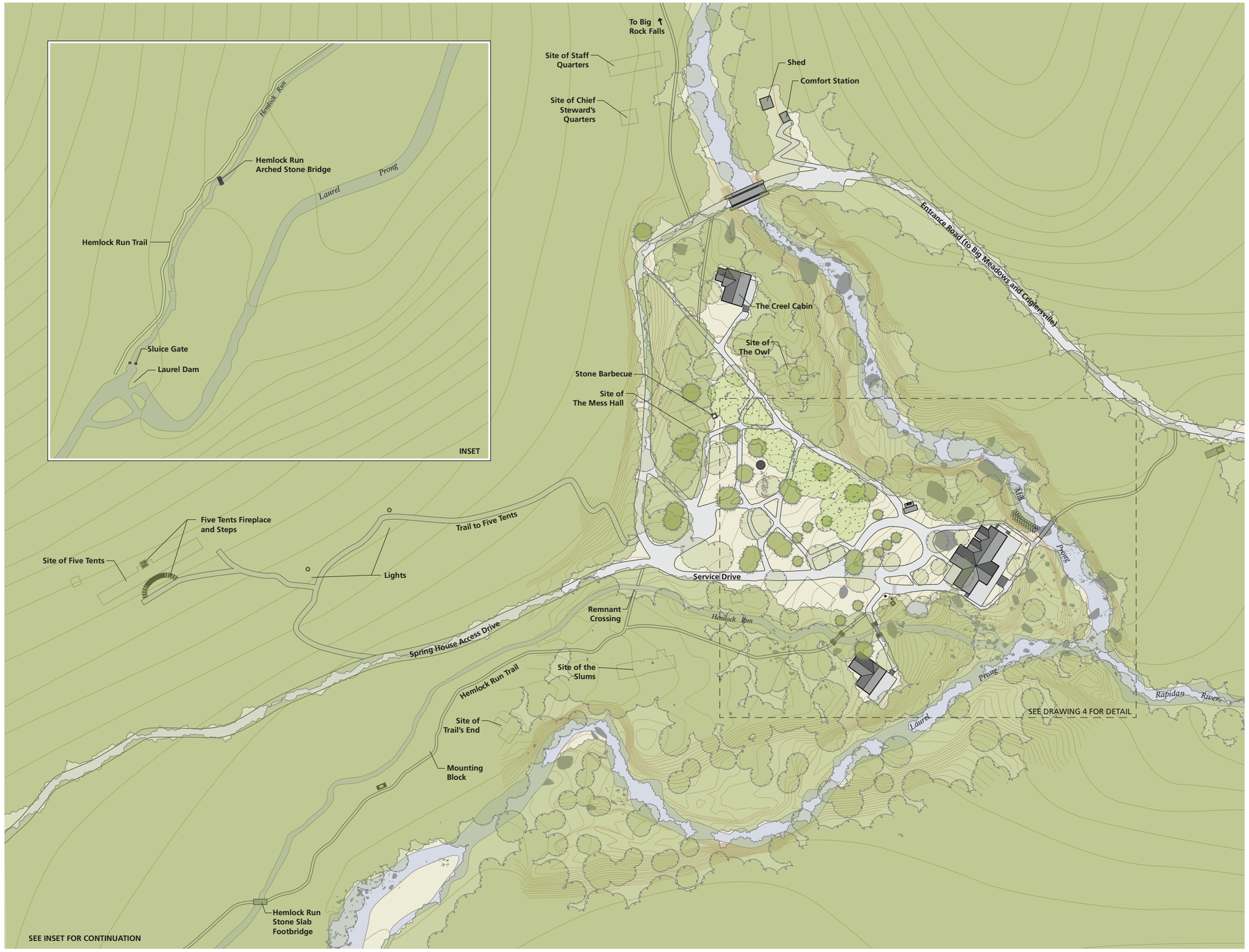
The dense surrounding forest at Rapidan Camp obscures most of the distant views from the camp. The exception is a partial view to the south of the top of Fork Mountain, which can be seen from the President's Cabin porch, as well as areas north of the President's Cabin along Mill Prong. Many of the views of features within the camp are obscured by the undergrowth vegetation that has grown up in recent years, including significant views along Hemlock Run. Notable views from within the camp include a view of the President's Cabin from the opposite side of the wooden footbridge across Mill Pond and views up and down the stream beds from the various footbridges. There are no views from the Five Tents site, a place that was once open and afforded the best views of distant mountains.

ENDNOTES

1 Darwin Lambert, *Herbert Hoover's Hideaway* (Luray, VA: Shenandoah Natural History Association, Inc., 1971), 15. Lambert, citing a March 22 article in the *Madison County Eagle*, states that "Madison guides declared the stream to be already 'full of brook, brown and rainbow trout,' having been well managed by the Rapidan Fishing Club...."

2 Jesse Webster, "Management of Hemlock Woolly Adelgid in Great Smoky Mountains National Park," presented at the Fifth Symposium on Hemlock Woolly Adelgid in the Eastern United States, 2010.

3 Mary Willeford Bair, "Eastern hemlock (Tsuga canadensis) Mortality in Shenandoah National Park," presented at the Hemlock Woolly Adelgid in the Eastern United States Symposium, 2002.



Cultural Landscape Report

Rapidan Camp
Shenandoah National Park

Existing Conditions

National Park Service
Olmsted Center for Landscape Preservation
www.nps.gov/oclp

SOURCES

1. 2005 Aerial photo (from park) (check on date)
2. The President's Camp, Sketch by U.S. Marines, Aug 27, 1930
3. USGS/U.S. Marine Corp, 1930
4. The President's Camp, Sketch by U.S. Marines, June 15, 1931
5. Rapidan Camp utilities map, untitled, c. 1935
6. Rapidan Camp Existing Development, Part of the Master Plan, May 1, 1954

DRAWN BY

John Hammond, OCLP
Adobe Illustrator CS6, 2014

LEGEND

- Deciduous Trees
- Hemlock Trees
- Dense Understory
- Young Tulip Poplars
- Former Cabin Sites
- Buildings
- Decks
- Roads and Paths
- Rocks and Boulders
- Rivers and Streams
- Contours

NOTES

1. All features shown in approximate scale and locations.

NORTH

0 100 200 FEET

Drawing 3

Cultural Landscape Report

Rapidan Camp
Shenandoah National Park

Existing Conditions Detail

National Park Service
Olmsted Center for Landscape Preservation
www.nps.gov/oclp

SOURCES

1. 2005 Aerial photo (from park) (check on date)
2. The President's Camp, Sketch by U.S. Marines, Aug 27, 1930
3. USGS/U.S. Marine Corp, 1930
4. The President's Camp, Sketch by U.S. Marines, June 15, 1931
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John Hammond, OCLP
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LEGEND

- Deciduous Trees
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- Contours

NOTES

1. All features shown in approximate scale and locations.

NORTH

0 33 66 FEET

Drawing 4



Analysis and Evaluation

This chapter provides a summary of the historical significance of Rapidan Camp and provides an evaluation of the integrity of the landscape. The chapter also identifies the features and patterns present in the landscape that contribute to the site's historic character and documents how those features and patterns have changed over time. The chapter begins with an evaluation of the historical significance of the landscape according to the *National Register Criteria for the Evaluation of Historic Properties*. Included in the evaluation is a summary of existing National Register documentation, a statement of significance, and an evaluation of the historical integrity of Rapidan Camp according to the seven aspects defined by the National Register. The chapter then presents an analysis of the historic character of the landscape according to the National Park Service methodology that organizes the landscape into landscape characteristics and their associated features. Character-defining landscape characteristics for Rapidan Camp include natural systems and features, spatial organization, vegetation, circulation, constructed water features, buildings and structures, small-scale features, and views and vistas. Historic and existing conditions of extant features are compared to assess historic character and change over time. Each feature is evaluated to determine whether it contributes to the historic character of the landscape.

NATIONAL REGISTER EVALUATION

The National Park Service evaluates the historical significance of properties through a process of identification and evaluation defined by the National Register of Historic Places program. In order to be eligible for the National Register, a property must be significant in our nation's history and retain the essential physical qualities sufficient to convey that significance. According to the National Register, historical significance may be present in buildings, sites, districts, structures, or objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association. A property can be found to have significance on a national, state, or local level, but must meet one or more of the following criteria in order to be considered eligible for the National Register:

A. Association with events that have made a significant contribution to the broad patterns of history;

B. Association with the lives of persons significant in our past;

C. Retention of distinctive characteristics of a type, period, or method of construction, or the work of a master, or that possess high artistic value, or that represents a significant and distinguishable entity whose components may lack individual distinction; or

D. Has yielded or may be likely to yield information in prehistory or history.

A small percentage of historic properties are deemed of sufficient national significance to be designated National Historic Landmarks. These designations, made by the Secretary of the Interior, recognize historic properties of exceptional value in illustrating or interpreting the heritage of the United States in history, architecture, archeology, engineering, and culture. While the criteria for the National Historic Landmarks program are similar to the National Register, qualification as a National Historic Landmark represents a higher standard of significance than the National Register. Upon designation, National Historic Landmarks are listed in the National Register if not already listed.

SUMMARY OF EXISTING NATIONAL REGISTER DOCUMENTATION

On June 7, 1988, Rapidan Camp (as Camp Hoover) was designated a National Historic Landmark (NHL). The documentation does not specify an area of significance, but instead lists a historic context, "VII-H, Political and Military Affairs, The Great Depression and the New Deal, 1929–1941." Specific NHL criteria are not noted in the documentation, but Herbert Clark Hoover is identified as a significant person. The period of significance was listed as 1865 to 1939. Explanation of these dates is not given, though in 1939 access to the site from Criglersville was discontinued. In consultation with the NHL office in Washington D.C. during July 2008, it was determined that the dates listed in the nomination were in error and that the period of significance extends from 1929 to 1933, the period during which Rapidan Camp served as President Hoover's retreat.

Contributing resources are described and mapped in the NHL documentation and include three buildings—the President's Cabin, the Prime Minister's Cabin, and the Creel—as well as numerous structures and other landscape features. Non-contributing resources are also described, including foundations of Hoover-era and Boy-Scout-era buildings and structures that were removed around 1960.

In 2008, Rapidan Camp was evaluated as part of the National Park Service Cultural Landscapes Inventory (CLI), which provided a detailed analysis of the landscape features and characteristics. The CLI documentation updated and supplemented the National Register and NHL documentation, receiving a consensus determination of concurrence from the Virginia State Historic Preservation Officer in 2009.





Figures 3.1 and 3.2. Herbert Hoover (top) and Lou Henry Hoover (bottom) circa 1929. (LOC)

STATEMENT OF SIGNIFICANCE

Rapidan Camp is nationally significant for its association with Herbert Hoover and Lou Henry Hoover, and for its association with Hoover's presidency and the political and economic events that characterized the period. Based on the National Historic Landmark documentation, the site meets Criterion 1(association with events or broad national patterns) and Criterion 2 (associated with the lives of significant people). These NHL criteria correspond to the National Register of Historic Places Criteria A and B respectively. The period of significance for Rapidan Camp begins with the construction of camp buildings in 1929 and ends in 1933 when President Hoover left office and deeded the property to the Commonwealth of Virginia for eventual incorporation into Shenandoah National Park.

Association with Herbert Hoover and Lou Henry Hoover

The connection Herbert Hoover had with Rapidan Camp was deep and personal. Hoover determined soon after his election in 1928 that he was going to need a place to retreat to from the pressures of the presidency and the uncomfortable summer climate of Washington D.C. Selection of the site and construction of the camp were of high priority in the months before and immediately after his inauguration. He delegated the task of selecting a site to his most trusted advisor and friend, Lawrence Richey, who scoured the hills and mountains around the capital searching for a site that met Hoover's exacting criteria. Hoover himself, along with Mrs. Hoover, advisors, and officials, drove the winding roads, and when the roads ended, mounted horses to personally explore the forested slopes. The place he sought was described by Mrs. Hoover in a letter written that winter. "My husband's idea was to have a camp down on one of the tree-covered flats beside a stream or at the junction between two streams," she wrote. "He likes to be near enough to hear the water murmuring. A spot might be found where part of the camp would be down there and part of it a hundred or so feet higher on one of the broad benches giving a distant view."[1]

The site that was ultimately chosen met Hoover's needs superbly, offering seclusion, an idyllic natural setting, and excellent trout fishing. While the trout streams that flow through Rapidan Camp provided an occasional diversion for the President, Hoover said in his Madison County Courthouse speech that he considered fishing as "an excuse to return to the woods and streams with their retouch of the simpler life of the frontier from which every American springs."[2] Hoover wrote and spoke often of the benefits of frequent association with nature, and was himself a lifelong fisherman and outdoorsman. His boyhood consisted of countless hours exploring the woods and rivers unsupervised. He carried this connection to the outdoor life into adulthood and his public service. Time spent outside was for Hoover a source of physical and spiritual renewal, simultaneously empowering and keeping him humble. "The contemplation of the eternal flow of the stream,

the stretch of forest and mountain, all reduce our egotism, soothe our troubles, and shame our wickedness," Hoover wrote in 1930.[3]

Rapidan Camp offered the president rest and renewal and allowed him to work more effectively. "I never saw him play cards at the camp, or work on jigsaw puzzles which were popular there, or pitch horseshoes," Hoover's personal physician Admiral Joel T. Boone recalled. "The time he actually spent fishing was small. . . After brief fishing or sometimes a nap or a walk in the invigorating air he would plunge with a new energy into urgent work. . .He might recess a policy conference, go off fishing for a short while, then get going again with the conference, usually having worked out some key problem . . . The loveliness of the place captivated people, though they had their different ways of enjoying it. Sometimes the President would sit quietly for many minutes, smoking his pipe, listening to the stream or fire."[4]

Hoover visited the camp frequently during his presidency, using it for both rest and business. In 1933 when he left office, and with it, Rapidan Camp, it was not without considerable regret. Yet, as was his intention from the beginning, he left the camp to Shenandoah National Park to be managed as a retreat for the new and future presidents. More than twenty years later, when the camp was being used by the Boy Scouts of America, Hoover returned for a visit to Rapidan Camp at a barbecue that was held in his honor. He spent much of the day sitting beneath the hemlocks or strolling along the streams, reminiscing with the scouts about his days there. Hoover remembered Rapidan Camp fondly throughout his life and remained involved in decisions regarding its management.

Lou Henry Hoover shared with her husband his deep affection for Rapidan Camp. She was involved from the beginning in the selection of the site, and she had perhaps even more to say than Mr. Hoover on the issue of the camp's design. In winter 1929, Mrs. Hoover wrote to a friend explaining her vision for the camp, which she based both on Mr. Hoover's wishes and on her own experience with camps while she was president of the Girl Scouts of the United States of America. The description was long and detailed, covering the design of the cabins, their function and arrangement, and the operation of the camp.[5]

After the camp was constructed, Mrs. Hoover took great care in overseeing the beautifying touches. In 1929, she wrote a two-page plan for plantings in the camp, specifying a preference for native plants, flowers, and shrubs that were found within a twenty-five-mile radius of the camp. She also described how these plants would be planted in the camp, forbidding formal beds in favor of naturalistic masses of color that "ramble off into the surroundings." The plan included at least seven separate lists of flowers, shrubs, and trees that were found in the vicinity and would be appropriate to plant.[6] Mrs. Hoover also designed a four-tiered stone fountain in the center of camp fed by water piped from the stream. The round

fountain overflowed from top to bottom and then into a rock-lined course carefully planted with forest flowers. Mrs. Hoover's efforts in the camp were described in the October 7, 1929, edition of *The Washington Herald*: "[The rock garden is] Mrs. Hoover's pride and joy ... She has spent much time restoring the land to its original leafy state, bringing rare shrubs, vines, ferns and flowers from the White House."[7]

While the president typically preferred solitary strolls and fishing excursions when he was not working, Mrs. Hoover served as host and social director of the camp. The first lady was personally involved in coordinating the day-to-day life at camp, seeing to the comfort and entertainment of the guests. She placed a sign in each cabin instructing guests about the workings of the camp, from how to raise and lower the shutters and how to get hot water for baths to when and where meals were served. Typical of her charm and humor, and indicative of the casual atmosphere of the camp, Mrs. Hoover instructed, "when cold at night, after all of the blankets and eiders are exhausted, put on your camelshair dressing gown, wrap your head in a sweater, and throw your fur coat over everything."[8]

Free from the official demands that occupied much of her husband's time, Mrs. Hoover ranged further from camp, exploring the area on foot and on horseback. These excursions often included guests of the camp or other special guests, such as when she led a group of Girl Scouts over the Blue Ridge into the Shenandoah Valley, taking care to choose a route on which the horses would not have to travel on hard-surface roads.[9] Mrs. Hoover was fascinated with local culture, geography, and nature, and Mr. and Mrs. Hoover were both personally concerned with the residents in the area that the couple considered neighbors. Discovering the lack of education available to the children of the region, Hoover used his political leverage, the ever-attentive press, and his own funds to establish a mountain school near Rapidan Camp.[10]

Association with Hoover's Presidency

Although Rapidan Camp surrounded Herbert Hoover with opportunities to forsake the demands of his office, he often brought along his work and, at times, his White House associates for weekend working vacations at the camp. "I have discovered that even the work of government can be improved by leisurely discussions of its problems out under the trees where no bells or callers jar one's thoughts," he said in greeting his new mountain neighbors in an August 17, 1929, speech at the Madison County, Virginia, Courthouse.[11]

Throughout the Hoover Administration, Rapidan Camp was the backdrop for policy debates and political strategy sessions. A story in the June 12, 1932, edition of *The New York Times* claims that the specifics of the Republican tariff bill of 1930 were developed at Rapidan Camp.[12] During the summer of 1931, as he worked

toward a balanced federal budget, Herbert Hoover summoned each of his department heads, one by one, to a series of weekend conferences at the camp. World attention was focused on the camp in October 1929 when British Prime Minister Ramsay MacDonald and his daughter, Ishbel, spent a week at Rapidan Camp in cabins built specifically for their use. During their stay, Herbert Hoover and Ramsay MacDonald held discussions of naval disarmament during which, it was said, they dismantled the navies of the world while perched at opposite ends of a fallen tree trunk.[13]

Ramsay MacDonald was only one of many distinguished visitors to the camp during the Hoover Administration. The guest register for Rapidan Camp during the Hoover Administration reads like a "Who's Who" of the era, including such notables as Thomas A. Edison and Winston Churchill. Colonel Charles Lindbergh and his wife, Ann Morrow Lindbergh, were frequent guests of the Hoovers. Charles Lindbergh, like Herbert Hoover, enjoyed trout fishing, and was frequently the winner of the camp's horseshoe pitching contests. He was also among the guests who, according to humorist and columnist Will Rogers, were recruited on occasion by Herbert Hoover to stack rocks along Mill Prong to form pools as habitats for trout.[14]

The Hoovers' decision to build Rapidan Camp has also been credited with initiating the construction of the previously proposed Skyline Drive. Horace Albright, the National Park Service director during the Hoover Administration, recalls an early morning 1930 horseback ride with the Hoovers that brought the group to the summit near Big Meadows. "The President motioned me to come up alongside of him," Horace Albright recalled. "He told me that these mountains were just made for a highway, and 'I think that everybody ought to have a chance to get the views from here. I think they're the greatest in the world, and I've been nearly everywhere in the world.'"[15] The President suggested work begin as soon as possible and told Horace Albright to have impoverished local farmers use their own tools to build the road, rather than relying on crews of outsiders using heavy equipment.[16]

Historian Darwin Lambert, in a 1979 essay entitled "The Rapidan Facet of Herbert Hoover," extends Rapidan Camp's significance and impact to an expansion of conservation efforts during the Hoover Administration. "The camp had a spirit or atmosphere conducive to tender concern for both humanity and nature— in quite a few individuals, as in Hoover and his wife, for the people-earth combination in a sense now often called ecological," he wrote. "The effect of the camp spread through the Hoover Administration into other conservation matters, working its charm toward saving the scenic values of Niagara Falls (treaty with Canada approved by the Senate in 1930); toward tighter control of oil leases on public lands and more efficient use of water for power, irrigation and navigation; toward reduction of overgrazing on western ranges and reclamation of wasteland; toward

planning the great St. Lawrence waterway (treaty with Canada signed in 1932); toward protecting U.S. forests (more than 2 million acres added to the national system); toward launching the Hoover Dam project on the Colorado River; and toward bringing a forty percent increase in the national park system, including addition of Carlsbad Caverns, Canyon de Chelly, Death Valley, and the Great Smoky Mountains (linked with Shenandoah, which was brought within reach, though not officially established, during Hoover's term)."[17]

As the Great Depression gripped the nation, Herbert Hoover received much of its blame, a situation that weighed on him heavily. As economic conditions in the country deteriorated, some of Hoover's detractors pointed to Rapidan Camp as a symbol of his detachment and inability to identify with the common American's plight. Political cartoons frequently depicted Hoover fishing, often at Rapidan, lampooning his powerlessness to improve the economy. Hoover continued to use Rapidan Camp nonetheless, dependent more than ever on its restorative power. As Admiral Boone put it, "President Hoover was like a new man when he reached camp. He was often very tired when we left Washington. Being a person of the most stern conscience, he never spared himself, and when the Depression was added on top of all the other problems, he worked even longer hours and slept less. But his fatigue would start leaving him after he had crossed the Potomac."[18]

EVALUATION OF LANDSCAPE INTEGRITY

Rapidan Camp retains sufficient integrity to convey its significance as the site of Herbert Hoover's presidential retreat. Extant resources include three buildings—the President's Cabin, Prime Minister's Cabin, and The Creel. The exteriors of these cabins have been restored to historic conditions, as have the interiors of the President's Cabin and the Prime Minister's Cabin. Many of the site's historic roads, trails, and stone-lined paths have also been restored, as have the massive outdoor stone fireplace, a concrete-lined trout pool, and Mrs. Hoover's stone fountain. Hemlock Run, a water channel spanned by mortared stone footbridges, winds its way through the site, its walls and bridges also restored. A wood footbridge crosses Mill Prong, similar in construction to the historic bridge that was the setting of many photographs of the Hoovers. Other paths and trails encounter remnant foundation piers, stone steps, and old pipes that lie hidden amongst the understory vegetation, reminders of former camp buildings and camp life.

Location

President Hoover selected the site of Rapidan Camp at the headwaters of the Rapidan River in early 1929, not only because of the excellent trout fishing but also because the mountain stream location was in close proximity to Washington D.C. Visitors can still experience this secluded retreat and rush of water from

the camp's remaining buildings or along the restored paths, trails, and roads that meander through the landscape.

Design

Rapidan Camp was built by the U.S. Marine Corps and developed in accordance with the requirements and wishes of Mr. and Mrs. Hoover, who shared a very specific vision for the design of the camp. Mr. Hoover was heavily influenced by his boyhood in Iowa and Oregon, camping in the forests and fishing in the streams and rivers. He wanted the design and layout of the cabins to reflect the fact that it was a camp and not a summer White House. The cabins were to be rustic and minimal, with an informal layout that responded to the natural landscape. Mrs. Hoover had even more specific ideas about the camp's design, drawing on her experience as president of the Girl Scouts. She stipulated both the design and materials of the cabins, which were to be barely more than tent platforms, with canvas sides that rolled up to provide ample amounts of fresh air. Mrs. Hoover went further, describing functional spaces, circulation, and camp vegetation. The camp that was constructed in 1929 closely conformed to these guidelines. The wood-frame buildings were built simply and practically for three-season use, and exhibited an unornamented utilitarian style. Features such as the outdoor fireplace, fountain, and footbridges incorporated native stones so they would blend in with the surroundings, and attached porches and wood footbridges featured rough-cut railings and handrails. Massive boulders in the stream channels and throughout the camp were retained and integrated into the design. Mature trees and shrubs were retained wherever possible, and new plantings were either native species or carefully selected so that they would thrive in this location.

Mr. Hoover had a more personal role in modifying the water channels and pools. For Hoover, Rapidan Camp's chief virtue was the outstanding trout fishing afforded by the river and its two tributaries. Not only did these waters provide fishing at his doorstep, they offered their scenic value and soothing sound. At Hoover's urging, the Marines constructed Hemlock Run and a concrete-lined trout pool to enhance these qualities and bring them closer to the center of the camp. Hoover made further modifications to the natural watercourses by building small stone dams that created pools along both Laurel and Mill Prongs.

Today, the absence of the majority of the camp's cabins significantly diminishes the site's ability to convey its original layout. After the cabins were removed in 1960, the cabin sites were allowed to revert to natural conditions, making them nearly impossible to discern today. Nonetheless, many of the camp's design characteristics, especially those insisted upon by the Hoovers, are evident today. These characteristics include the rustic design of the remaining cabins, fireplaces, bridges, and other structures. The stone-lined Hemlock Run and many of the

trout pools built by Hoover himself remain as well. Moreover, the sensitivity of the design to the natural features, topography, and vegetation that reflects the Hoovers' aesthetic values is clearly conveyed by the landscape today.

Setting

Although Hoover stipulated in 1928 that the site of his retreat camp be close to Washington D.C. for easy access, it was important that it be secluded and have a feeling of remote wilderness. The sparsely populated hills of the Blue Ridge Mountains fit these requirements, providing a balance of accessibility and seclusion. Mrs. Hoover described the area after a tour in early 1929, "the country we saw was mostly gently sloping mountain land rising 2500 or 3000 feet, with some picturesque bold outlines. . . Excepting where occasional benches have been cleared for corn or a few old orchards by the primitive mountain folk, the slopes are very well wooded with a youngish growth."[19] Mountain residents, not yet displaced by the formation of Shenandoah National Park, had utilized the foothills for crops to a limited extent. Swaths of forest had also been cleared periodically for timber, prompting the "youngish growth" comment, and many of the forest areas had been significantly affected by the chestnut blight. These forest disturbances, however, impacted a limited area overall, and the character of the surrounding slopes was overwhelmingly that of dense, undeveloped forest.

Today Rapidan Camp is set within Shenandoah National Park and is surrounded for miles on all sides by protected forest area. This has prevented development or clearing of the forest, preserving, and in the case of former agricultural fields, increasing its dense nature. Access roads are narrow, unpaved, and closely hemmed by trees, further enhancing the camp's remote character. As a result, the surrounding forests, rivers, and mountainous terrain remain much as they were during the historic period.

Materials

The natural materials used in the construction of Rapidan Camp were an essential part of the rustic design aesthetic. The cabins were constructed of unfinished planks, rough-cut railings, and un-milled posts that mimicked the natural forms of the surrounding forest. The camp featured copious amounts of natural stone in the constructed features, including the cabin fireplaces and chimneys, outdoor fireplace, footbridges, steps, and fountain. Stones also lined many of the paths and trails, and stone bridges, culverts, and retaining walls lined the entrance road. Vegetation within the camp was limited to native species found in the surrounding landscape or introduced species that closely resembled native plants. These materials strongly contributed to the rustic character of the camp and enhanced its harmony with the natural landscape.

Many of the historic materials are present today in the extant features at Rapidan Camp. Stone features that were repaired or reconstructed after the historic period were repaired using predominantly original stones. In the restoration of the remaining cabins, careful attention was paid to matching new material to historic conditions. Although the large hemlocks have died and have been removed, a few of the large hardwood trees present during the historic period remain. The loss of significant features in the camp, notably the ten cabins that were removed and the large hemlocks that once shaded the camp, diminishes the overall integrity of the site, in part through the loss of the historic material. The remaining materials, however, retain the essential characteristics strongly reflect the camp's simple, rustic aesthetic.

Workmanship

The workmanship of the camp's cabins and features, completed primarily by the U.S. Marine Corps in 1929, was intentionally simple and rustic, but meticulous nonetheless. All structures were hand-built on site, and their lack of polish and ornament made the construction techniques and handmade qualities evident.

Today, the original workmanship is evident in the extant features, due in large part to the park's careful restoration efforts in the 1960s and again in the 1990s and 2000s. Construction techniques and the skill of the original craftsmen are conveyed through the mortared stone fireplaces and bridges, the carefully placed stone steps, and the exposed materials and joinery of the remaining cabins.

Feeling

The feeling of Rapidan Camp during the historic period was a product of the natural setting combined with the rustic aesthetic of the camp's design and materials. Prominent qualities that contributed to the camp's feeling included the deep shade of the towering hemlocks and the open understory beneath; the proximity of the river and streams and Hemlock Run, which helped cool the site in the summer and added the constant sound of rushing water; the lush, dense green of the surrounding forests; the mottled gray of the lichen covered boulders and stone features; the naturalistic arrangement of native plants throughout the camp; and the simple weathered construction of the cabins and other features.

Today, the feeling of Rapidan Camp differs from historic conditions primarily due to the loss of the cabins and the change in the camp's hemlock canopy. The loss of the cabins reduces the scale of the camp, diminishing the perception of its original extents and the relationships of its various elements. The loss of the hemlocks has particularly altered the feeling of the camp, transforming the deep shady site with high canopy and open understory to a sunny clearing, choked in some places with young trees, scrubby shrubs, and tall grass. Many of the other qualities of the

original camp, however, remain, including its remote location, the surrounding forest, and the ever-present water. Overall, the changes in feeling are substantial, but the essential qualities of the natural landscape and the extant features remain in sufficient ways to convey a sense of what life at the camp may have been like.

Association

The significant association of Rapidan Camp is with Herbert Hoover and his presidency, but the camp is significant not only because Hoover spent time here, but because it also revealed much about the man and his values. Hoover revered the virtues of a simple existence and frequent and close communion with the natural world. These values were manifest in the location, design, and use of Rapidan Camp.

The combination of the aspects of the extant features at Rapidan clearly convey Mr. and Mrs. Hoover's vision for their camp in the mountains. The careful restoration of the cabins, using the extensive documentation and incorporating original, period, and reproduction furniture, strengthens the association with the Hoovers and the time they spent at the camp.

ANALYSIS OF LANDSCAPE CHARACTERISTICS AND FEATURES

The physical integrity of Rapidan Camp is evaluated by comparing landscape characteristics and features present during the period of significance (1929 to 1933) with current conditions. The camp is situated at the confluence of the Mill Prong and Laurel Prong, which meet to form the Rapidan River. The rushing water in these streams continues to evoke the qualities that attracted the Hoovers to this site. The streams, along with the level topography and rock formations, influenced the layout of the camp's buildings and structures, circulation features, and plantings. Three of the camp's original thirteen buildings constructed by the U.S. Marine Corps, the President's Cabin (The Brown House), Prime Minister's Cabin, and The Creel, remain today, and their exterior have been restored in recent years. Mrs. Hoover's stone fountain, the outdoor stone fireplace, and the concrete-lined trout pool also remain, as does Hemlock Run, a constructed stone-lined water channel that flows through the heart of the site. Mortared stone footbridges span the channel, while a reconstructed rustic wood footbridge crosses Mill Prong. Remnant vegetation may also be found in camp, including a number of large mountain laurels that likely date the to the historic period. A network of stone-lined footpaths, trails, and roads wind through the camp, and remnant foundation piers, stone steps, and old pipes associated with former camp features lie hidden in the understory vegetation. Historic stone walls and a stone bridge can also be

found along the camp's original entrance road.

The site has undergone significant changes since the Hoover occupancy. In 1960, ten of the camp's thirteen buildings were removed due to their deteriorated condition, as were many of the structures built at the site by the Boy Scouts in the late 1940s through late 1950s. Since the mid-1990s, much of the camp's tree canopy has succumbed to severe ice storms, gypsy moth infestation, and the hemlock woolly adelgid that has decimated the stately hemlock trees. The loss of the tree canopy has increased the amount of sunlight reaching the floor of the camp, encouraging the growth of understory vegetation. The thinner overhead canopy has opened up views of the surrounding mountains, but the understory growth now limit views within the camp and have slowed efforts to restore plantings installed throughout the grounds by Mrs. Hoover. Despite these changes, however, Rapidan Camp still retains sufficient integrity to convey its development and use as Herbert Hoover's presidential retreat. This is due to the park's extensive and ongoing restoration and reconstruction projects throughout the site. There are a few other features that remain from the post-historic Boy Scout period, but they do not detract from the historic scene. Non-historic features include a vault toilet, two sheds, concrete curbs, a gate, signage, and utility-related features.

NATURAL SYSTEMS AND FEATURES

Natural systems and features were the most influential characteristic at Rapidan Camp, almost wholly determining the site selection and camp arrangement and defining the character of the camp. The natural topography, mountain streams, massive boulders, dense forest cover, and native vegetation created an idyllic wilderness retreat for the president. Natural systems have also had significant transformative effects, hampering attempts to maintain the site and the cabins and causing sudden changes in the camp's character. Relevant natural systems and features at Rapidan Camp include natural topography, geology, hydrography, and vegetation, as well as periodic storm events, erosion, tree pests and diseases, and natural forest succession.

Historic Conditions

The site for Rapidan Camp was chosen on a mostly level terrace between the Mill Prong and Laurel Prong where they converged to form the Rapidan River. Repeated flood events at the river confluence had built up an alluvial bench composed of unsorted deposits that ranged from sand and gravel to bus-sized boulders. This bench provided the ideal building site for the size of camp required by the president, his guests, staff, and security. While the site sloped gently to the southeast toward the confluence point, the area around the terrace climbed steeply in almost all directions, creating a bowl that obscured any distant views and increased the

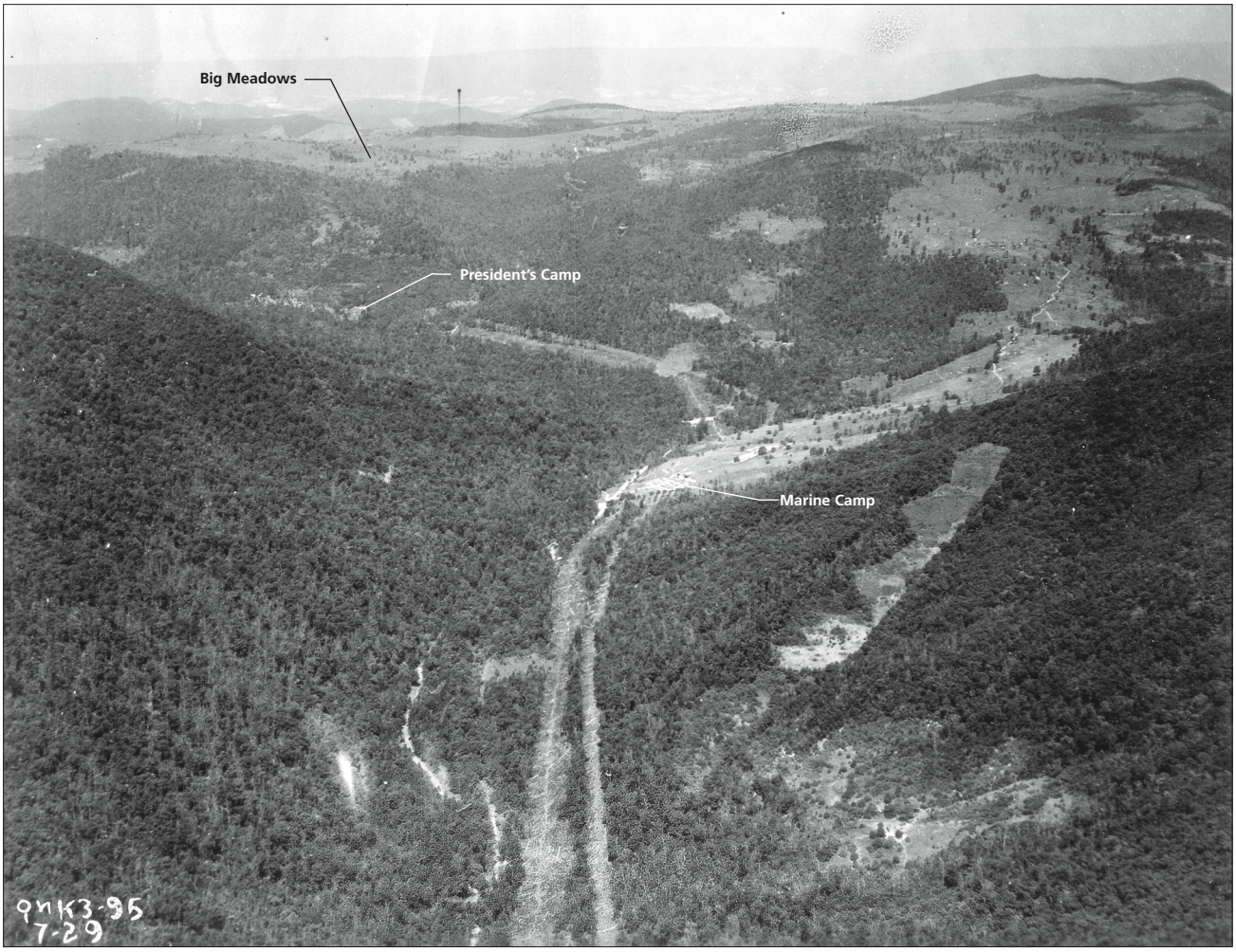


Figure 3.3. Aerial view of Rapidan Camp under construction in July 1929. Marine camp is in the foreground and the President's Camp is visible in the upper left. Also visible are the roads and utility lines that service the camps. The image shows the more open character of some of the surrounding areas at the time the camp was built. (U.S. Army Air Corps Airscapes)

sense of seclusion of the site. Views could readily be accessed by short hikes or horseback rides to any of the nearby ridges or mountaintops, including Fork Mountain, Doubletop Mountain, Hazeltop, and Hawksbill.

By the early twentieth century, the slopes of the Blue Ridge Mountains were far from old-growth wilderness. Although sparsely populated, the area had been exploited by settlers, farmers, and timber harvesters for more than a century. Mountain farmers had cleared fields on the level areas for corn and other crops. Mrs. Hoover described the forest as "youngish" growth, which indicated recent logging activity. "Excepting where occasional benches have been cleared for corn or a few old orchards by the primitive mountain folk, the slopes are very well-wooded with a youngish growth. There are innumerable enormous dead chestnuts standing all over the place, so that it must have been a very different place after the foliage was out a dozen years ago. . . There were a few long-leaved pines scattered throughout the general deciduous growth and quite a good deal of hemlock, but mostly it was of young oaks, maples, sycamores, and tulip poplars—and probably many more I could not recognize with their leaves off." Mrs. Hoover also noted, in addition to chestnuts that had been killed by the chestnut blight, many of the chestnuts had

been felled earlier, stripped of their bark for use in leather tanning, and left in the forest, a practice she considered "perfectly wicked." Vegetation she noted in the forest included hemlocks, hickory, walnut, pine, yew, gums, tulip poplars, maples, and oaks, as well as numerous shrub species.

The chestnut blight had rapidly worked its way through the area in the 1920s, decimating the native forests. Prior to the blight, chestnuts comprised as much as half of the trees in the forests of Virginia's Blue Ridge Mountains, and in some stands, they made up the nearly the entire canopy. The blight quickly killed the trees, leaving their sturdy white trunks in ghostly stands. The blight had dramatically altered the character of much of the forest from dense shade to open and scrubby. Rapidan Camp, however, was set in a dense hemlock stand and had not been directly impacted by the chestnut blight. The site was deeply shaded with towering hemlocks and an open understory, giving the impression of primeval forest. Mr. and Mrs. Hoover were adamant about fitting the camp into the forest with minimal clearing of trees, preserving as much of its original character as possible. Whatever understory vegetation had been killed or removed during construction was reinstated after the camp was complete. Mrs. Hoover was directly involved in this effort, specifying what plants should be planted in the camp and how they should be arranged, favoring native plants gathered from the forests around the camp.

The streams that framed the camp were central elements in the character of Rapidan Camp. One of Hoover's original criteria for selection of the site included that it must accommodate his life-long passion for fishing. The Rapidan River was known in the region for its quality trout fishing and was stocked through a combination of state and private efforts. Upon learning that Hoover was considering establishing his camp in the area, Virginia state officials obtained fishing rights on the river covering ten thousand acres in the hope of convincing the new president to make his camp there. Once the site was selected, the river continued to be stocked to ensure that the president would not often have to trudge back to camp empty-handed.

Fishing was Hoover's preferred form of relaxation and retreat, and he partook frequently when he could. As Admiral Boone remembered, " I never saw him happier than when he was on the Rapidan. He could hardly wait to leave the car. He would go put on his rubber boots and hurry out to fish, seldom taking time to change from whatever he had been wearing…" Despite his love for the activity, however, Boone said that the time he actually spent fishing was small, and he adhered strictly to the fishing season, which ended July 1. When not fishing, Hoover took walks along the streams or collected rocks to build dams, creating small trout pools.

Post-historic and Existing Conditions

While the natural systems and features at Rapidan Camp added to its charm and provided the natural, secluded character, they were also a powerful force of change in the landscape. Erosion, rot, termites, and general deterioration ate away at the structures and features in the camp and made maintenance a constant struggle. This struggle was exacerbated by the remote location, rugged terrain, and seasonal use. In addition to the gradual deterioration, singular events, such as storms and floods, caused sudden, large-scale changes, frequently damaging buildings, felling trees, washing out roads, and eroding the stream banks.

The difficulties in maintaining the camp during periods of infrequent use became evident very soon after Hoover left office. By the late 1930s, National Park Service officials noted deterioration in the condition of the structures. Photos taken at this time show shrubs and vegetation growing up around the foundations of the cabins. Ten years later, the park recommending razing the buildings and returning the site to natural conditions. Although the buildings were not removed at that time, the efforts to maintain the buildings continued throughout the years that the Boy Scouts used the camp and beyond. In 1960 it was determined that the limited maintenance resources were best focused on three of the cabins, and the remaining cabins were removed.

While natural events such as storms and floods caused damage to features throughout the decades following Hoover's departure, the impacts of these were generally manageable and the overall character of the camp remained relatively stable. Beginning in the 1990s, however, a series of events brought significant changes to Rapidan Camp. Severe storms damaged many of the trees in and around camp, including an ice storm in 1997, and Hurricane Isabel in 2003, which necessitated the removal of more than 160 trees.

In the late 1990s and early 2000s the camp and its surrounding area was infested by the hemlock woolly adelgid, which devastated the stately hemlocks at Rapidan Camp and removed what shade and forest cover had remained after the ice storms. The hemlock woolly adelgid (*Adelges tsugae*), a small aphid-like insect, had been spreading through the eastern forests of the United States for about forty years and had finally reached Rapidan. The insects infest eastern and Carolina hemlocks (*Tsuga canadensis* and *T. caroliniana*), sucking the sap from the branches at the base of the needles. The insects overwinter as mature females, and begin to lay eggs in March. The eggs hatch as nymphs, called crawlers, around mid-April, which settle in a new location to begin feeding, remaining in place for the rest of their life. The adelgids form a white waxy coating that has a cottony appearance and gives them their name. Severe infestations can kill mature trees in three to five years.

Today, only a handful of the original hemlock trees remain at Rapidan Camp. The loss of the trees has opened the once dense canopy over the camp and altered its character from a deep shady glen to a sunny clearing with scattered large trees. The increase in sunlight has significantly changed growing conditions in the understory and opened up spaces that have been since taken over by plants such as blackberry, poison ivy, and tulip poplar seedlings. Periodic floods have caused damage to the stream channels, bridges, trout pools, and other in-stream features. In 2003, Hurricane Isabel damaged trees and washed out the wooden bridge near the President's Cabin. The sluice gate at the head of Hemlock Run that fed water into the watercourse was also damaged, substantially decreasing the flow through the channel. The bridge was replaced, but the sluice gate has not been repaired.

Evaluation: contributing

The character of Rapidan Camp today, as it was during the Hoover period, is defined largely by the natural systems and features of the site and surroundings. Within the camp, the natural topography, ubiquitous gray rocks and boulders, and the ever-present sound of rushing water convey to visitors the qualities that made Rapidan so special to the Hoovers. This character is reinforced by the wooded setting, rugged terrain, and nearby mountaintops of the surrounding area. Specific natural features that contribute to the historic character include Mill and Laurel Prongs and their confluence that forms the Rapidan River, the many large-scale boulders that are found in the camp, and Big Rock Falls, located upstream from the camp on Mill Prong.

The loss of the hemlocks and other canopy trees, as well as the general change in vegetation within the camp, has substantially altered the character of Rapidan Camp, and this has diminished its overall integrity. The change in vegetation, however, is the only significant change in the natural systems and features of the camp, and the remaining elements of the characteristic continue to contribute to the historic character of Rapidan Camp.

Laurel Prong

Historic and Existing Condition

Laurel Prong is a characteristic small mountain stream running roughly west to east in a shallow ravine along the southern edge of camp. The channel is composed of rocks and boulders that range in size from less than a foot across to several feet across, with a bed of sand and gravel. The stream averages only a few feet wide and a few inches deep during normal flow and alternates between riffles and small falls and shallow pools. The channel is bordered by dense vegetation, including thickets of shrubs along the banks and a tree canopy overhead. The stream contains cold, well-oxygenated water and provides quality habitat for brook trout

and other stream organisms. Although the stream is naturally in a state of constant change, the overall structure, character, and ecological attributes have not changed since the historic period.

Like all of the streams around Rapidan Camp, Laurel Prong was used during the historic period by Hoover and others for fishing. Hoover often built small dams of stacked stone across the channel, creating pools to attract trout. On Laurel Prong any of the small dams that were on the channel have been washed away, their locations are not known. Laurel Prong also provided the water source for Hemlock Run, which was fed by the small sand and stone Laurel Dam. Today, Laurel Dam remains, although it is not known how closely it resembles the dam that was there during the historic period.

Evaluation: contributing

Mill Prong

Historic and Existing Conditions

Mill Prong, which runs northwest to southeast along the eastern edge of camp, is similar to Laurel Prong in size, structure, and character. Because of its proximity to the President's Cabin and the timber bridge that crosses the channel to the east of the cabin, Mill Prong is a slightly more prominent feature in camp. Several photos from the historic period show the Mill Prong channel and its stacked stone dams and trout pools. Today, some of these dams are discernible as concentrations of stones across the channel.

Evaluation: contributing



Figure 3.4. View of Laurel Prong looking east from Laurel Dam showing large woody debris across the channel. (OCLP)



Figure 3.5. View of Mill Prong looking north from the confluence with Laurel Prong, showing the character of the streams at Rapidan Camp. (OCLP)



Figure 3.6. The Rapidan River south of Rapidan Camp during Hurricane Isabel in 2003 showing extreme water volumes during a flood event. (Courtesy of Brian Franz)

Rapidan River

Historic and Existing Conditions

Laurel Prong and Mill Prong join at the southeast corner of camp to form Rapidan River, which flows away from camp to the southeast. The river is significantly larger than the two streams that feed it, and it increases in size as it flows away from camp. Although outside of the developed portion of the camp, Rapidan River was easily accessible and would have provided substantially better fishing than the two smaller streams. It is likely that Hoover spent much of his time fishing on the reaches of the Rapidan River just below camp. It is not known what alterations to



Figure 3.7. View of Big Rock Falls. (Courtesy of Amy Henschen)

the stream channel were made during the historic period.

Evaluation: contributing

Big Rock Falls

Historic and Existing Conditions

Big Rock Falls is a natural feature on Mill Prong a third of a mile northwest of camp composed of a large, smooth rock that creates a cascade of water into a pool. The falls and pool are larger than any others along Mill Prong and were a noted hiking destination for visitors of the camp.

Evaluation: contributing

SPATIAL ORGANIZATION

Rapidan Camp was organized informally around the natural features of the site. Cabins were functionally sited, placed for both seclusion and access to public areas, which were centrally located. The structures and functional spaces in camp were connected by a web of footpaths and meandering trails. Although three of the cabins remain, and much of the circulation system has been restored since the historic period, the loss of the bulk of the camp's structures has diminished the site's ability to convey its original organization.

Historic Conditions

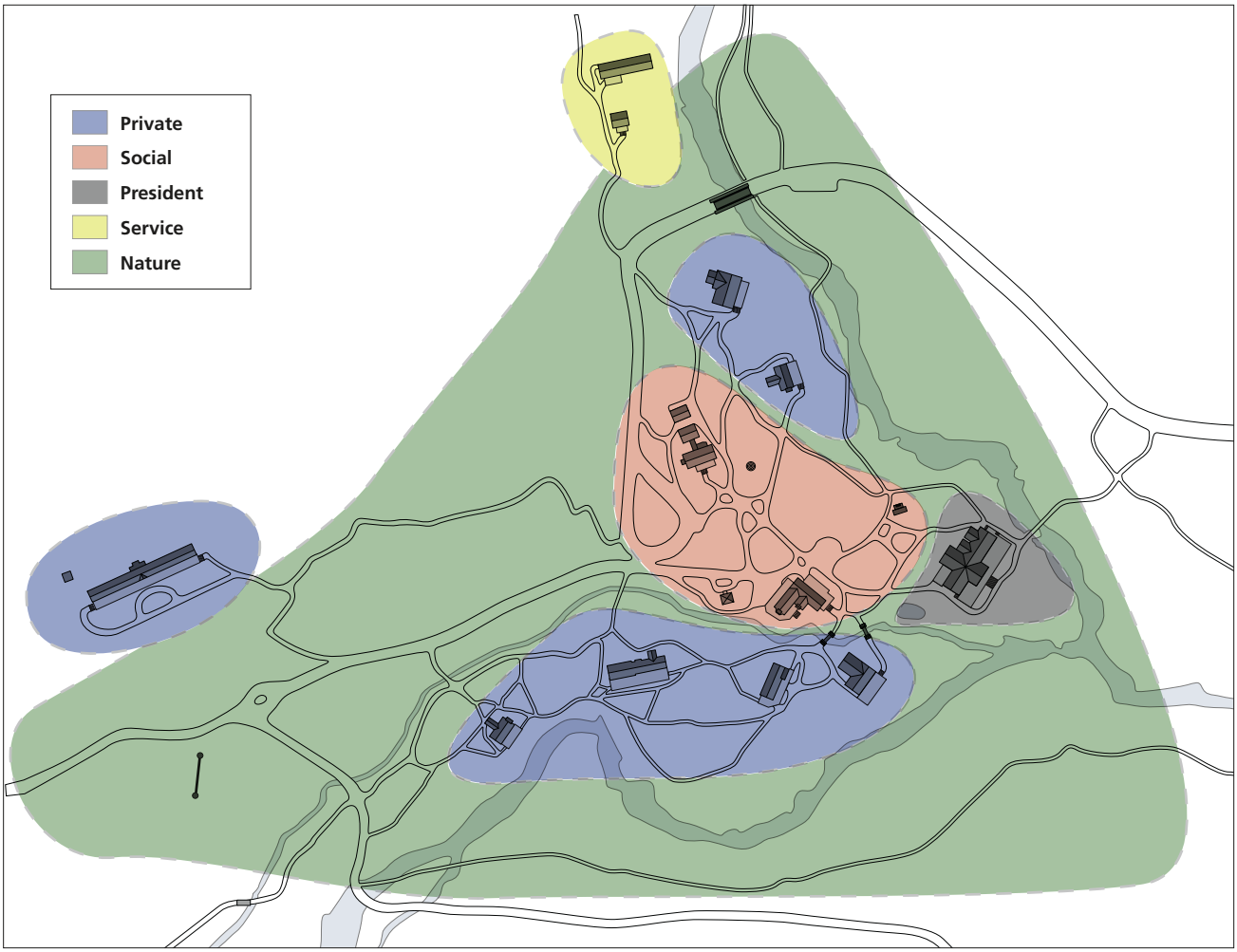
The primary organizing features at Rapidan Camp were the topography and the

two streams that converged to form Rapidan River. The two streams and their alluvial deposits formed a triangular area of relatively level ground between them. Mill Prong flowed roughly northwest to southeast, while Laurel Prong flowed west to east, with the two streams converging at the southeastern-most point in the camp. On the outside of the streams the land climbed steeply, confining the majority of the camp's construction to the area between the streams.

The arrangement of the cabins, circulation, and other features at Rapidan Camp was deliberately informal, responding to the topography, the streams, and the existing trees. Cabins were all located near the stream and each had a sense of seclusion, but was easily accessible from centrally located common areas. Paths curved over the landscape, splitting and joining to form a web of circulation within the camp core. Outside of the core, trails snaked off into the forest to access scenic destinations. All of the camp features were tucked into the hemlock forest, which created a high ceiling and framed views within the camp.

The President's Cabin was located in the prime location closest the confluence of Mill and Laurel Prongs. Other guest cabins at the site were carefully built amongst the trees and boulders, and all were sited so that the sound of the streams could be

Figure 3.8. Diagram showing the functional organization of Rapidan Camp during the camp's operation. (OCLP)



heard. Two guest cabins, The Owl and The Creel, were built north of the President's Cabin along Mill Prong. Four guest cabins, the Prime Minister's Cabin, Ishbel's Cabin, The Slums, and Trail's End, were built west of the President's Cabin between Laurel Prong and Hemlock Run. Five Tents, the first cabin to be built at the site, was located furthest from the center of camp on a hillside to the northwest. This location put Five Tents furthest from the streams, but also offered it some of the only views available from camp. Camp guests would sometimes gather in the clearing in front of Five Tents to view the stars.

The two common cabins, the Mess Hall and Town Hall, were centrally located between the two streams. Town Hall was located on the north side of Hemlock Run, close enough to hear the water rushing over Hemlock Run Falls. The mess hall was located near the dead center of camp, making it easily accessible from all cabins. Outdoor gathering places, in particular the area around Town Hall, the outdoor fireplace, and the stone fountain and rock garden, were also located in this central area. This arrangement maximized the social function of the camp, something very important to the Hoovers. Staff quarters were located the furthest from the center of camp, north of the entrance bridge on Mill Prong.

Hemlock Run was constructed roughly parallel to Laurel Prong to bring the sight and sound of rushing water into the center of camp. With many of the guest cabins located south of Hemlock Run, between it and Laurel Prong, and the public areas of camp located north of the run, camp guests crossed the waterway frequently over the stone footbridges. Between the President's Cabin and Town Hall were the constructed waterfall, called Hemlock Run Falls, and the concrete-lined trout pool. The picturesque view and soothing sound of the waterfall made this location popular for socializing.

The primary access into the camp was from the east along a road from Criglersville. In 1931, another road, Rapidan Road, was built to provide access from the west and Skyline Drive. Two other camp clusters were developed nearby with their own buildings, structures, roads and paths, and water systems. The Marine Camp, located one mile to the east, housed the U.S. Marines that constructed the President's Camp and infrastructure and provided protection and maintenance. The Cabinet Camp, situated approximately two miles downstream from the President's Camp, provided a retreat for members of Hoover's Cabinet where they could be close to the President if necessary.

Post-historic and Existing Conditions

The arrangement of Rapidan Camp was established by the end of 1929 and changed little through and after the historic period. After Hoover left office, alterations were made to the camp to better accommodate President Roosevelt, but these did not substantially alter the camp's organization. The most signifi-

cant change was the addition of a loop drive in front of the President's Cabin. A planned swimming pool and other changes were considered, but never undertaken, and the overall organization of Rapidan Camp did not change through the end of the 1940s.

From 1948 to 1958, the National Capital Council of the Boy Scouts of America leased the President's Camp. During this period, the Five Tents building was demolished and several Hoover-era buildings were modified. Additional structures were built to accommodate the functional needs of the Boy Scouts, including comfort stations, barbecues, and tent sites. While no map of the camp during the Boy Scout period exists, the locations of many of these features can be determined through archeological investigation.

Following the departure of the Boy Scouts, the National Park Service removed many of the buildings at Rapidan Camp, including nine of the remaining original cabins and the majority of the Boy Scout structures. The sites of the removed cabins and the paths that accessed them were left to revert to natural conditions. The President's Cabin, Prime Minister's Cabin, and The Creel were retained and used by government VIPs, including congressmen and Supreme Court justices from the 1960s through the 1990s. The outdoor stone fireplace, stone fountain, and stone footbridges were also retained. Foundation remains, roads, paths, and constructed pools were left but unmaintained, and many eventually became overgrown and lost in the wooded landscape. Many of site's circulation and water features were brought back beginning in the mid-1990s as part of site-wide restoration and reconstruction efforts.

Evaluation: contributing

Today, although only a portion of the original layout of the camp remains, important relationships, such as the location of the President's Cabin, the relationships between the cabins and Hemlock Run and other natural features, and the overall framework of the circulation system are still evident. Remnants of the original layout, such as cabin sites and other features, can be discerned with the assistance of interpretive signs or guided tours. The organization of the camp may be further revealed through removal of encroaching vegetation, restoration of lost features, and interpretation.

VEGETATION

The vegetation at Rapidan Camp was characterized predominantly by the native forest species, including hardwoods, hemlocks, and a variety of understory species. To these were added flowering and ornamental plants, largely collected from the surrounding forest and transplanted along paths, cabins, and stream banks.



Figure 3.9. President and Mrs. Hoover sitting on the porch of the President's Cabin. At Mrs. Hoover's direction, potted ornamental plants and cut flowers and foliage were placed on the porches of the cabins. (Herbert Hoover Presidential Library)

Historic Conditions

The vegetation at Rapidan Camp was dominated by the stately hemlock trees that grew in profusion throughout the camp. The massive trees formed a cathedral-like atmosphere of high ceilings and wide columns with deep shade beneath. The shade from the large trees suppressed understory vegetation, resulting in a largely open character beneath the high canopy. Fallen hemlock needles formed a soft carpet underfoot, and their scent filled the air. Few descriptions of the camp failed to mention the hemlock trees and their effect on the tranquil character of the camp. Although the Hoovers were adamant about respecting the existing vegetation, shoehorning the cabins into the forest and even building porches around many of the large trees, they were not content to leave the vegetation as they found it. Mrs. Hoover was an avid gardener and wanted very much to see Rapidan Camp filled with flowers and forest plantings, but she was very specific about what plants should be selected and how they should be arranged in camp. First preference was given to native vegetation found in and around camp. Mrs. Hoover wrote specific instructions for the vegetation at Rapidan Camp (Appendix B). "All the plants should be either the native variety or look so like it that they will not seem out of place among that woodsy setting. . .There should be no formal beds of plants or flowers but, while having a certain compactness as to give masses of color, should ramble off into the surroundings. They should not be carefully trimmed nor should the beds be outlined in any way."[20]

Mrs. Hoover indicated that Mr. Hoover was fond of color in gardens and directed that flowering plants be massed together for maximum effect. Flowering plants were to be planted along the paths, overhanging the streams, and in the areas cleared along the sides of roads, as well as in rustic pots and hanging baskets on porches, in rooms, and hanging from the eaves. Flowers used for cutting were to be of the same type found in and around camp, but were to be taken from more



Figure 3.10. Mrs. Hoover and camp guests at Rapidan Camp. The ornamental nature and tidy character of the understory vegetation is evident in the photo's background. (Herbert Hoover Presidential Library)

distant, inconspicuous locations. Perennials were favored over annuals to reduce cultivation efforts, and Mr. Hoover directed that White House gardeners could come down to put the plants in and train the Marines to maintain them.

Mrs. Hoover's planting instructions included lists of plants that were preferred or appropriate for using in camp, selected primarily from those found in the area. The list was categorized according to those plants that already grew profusely in the area, those that had been seen in the vicinity, and those that had not been seen but were thought to possibly grow well at the camp. These lists are included in Appendix A.



Figure 3.11. Five Tents cabin, circa early 1930s. The photograph shows the large clearing in front of the cabin and some of the planted shrubs and small trees. (SHEN)



Figure 3.12. Five Tents cabin, circa late 1930s or early 1940s. The photograph, taken several years after the end of Hoover's presidency, shows overgrown vegetation around the cabin. (SHEN)



Figure 3.13. Historic photograph of the President's Cabin taken sometime during the period of significance. Many of the ornamental plants that were present in the camp can be seen planted along the path and in planters on the porch. (SHEN)



Figure 3.14. A contemporary photograph showing the same view as above, taken in 2011. Woodland shrubs and tree seedlings can be seen growing around the bridge and along the paths. (OCLP)

Post-historic and Existing Conditions

For many years, the predominant vegetation at Rapidan Camp remained relatively unchanged. Just as the Hoovers had been careful to protect the native vegetation and to introduce only those plants that were local to the area, the National Park Service was intent on preserving the vegetation as it was when they assumed management of the site. Although it is unknown what degree of maintenance the camp vegetation received in the years after Hoover left, there is no record of large-scale changes in the vegetation during that time. More change to the camp vegetation likely occurred during the Boy Scout period, as the scouts modified the camp to



Figure 3.15. Historic photograph showing the outdoor fireplace during the historic period. (Herbert Hoover Presidential Library)



Figure 3.16. Comparing a contemporary view of the outdoor fireplace to the historic photograph above shows an overall reduction of canopy trees and an increase in small scrubby trees and shrubs. (OCLP)

suit their needs and the site experienced more intensive use in general. A ranger report made shortly after the Boy Scouts occupied the camp noted with alarm that they had felled twelve trees, indicating that this was counter to park policy.

The most drastic change to the camp's vegetation occurred at the end of the twentieth century. Beginning in the late 1980s, gypsy moths impacted the oaks and other hardwoods in camp. This was followed in the late 1990s and early 2000s by a catastrophic infestation of hemlock woolly adelgid, which killed the majority of the hemlocks in the area. The open canopy has resulted in a flush of young veg-

etation growth on the forest floor within camp. This includes young hardwoods, poplars, vines, grasses, and forbs, creating a dense, green understory throughout much of the camp.

The majority of the flowers and ornamental vegetation planted along the paths and cabins during the Hoover period were likely lost over the years. In some cases, Mrs. Hoover's plantings have naturalized with the surroundings. In 1998, the park's Division of Natural and Cultural Resources undertook a study of the vegetation in the central area of the Rapidan Camp.[21] In the study, they sampled sites within the central area of camp that had been the location of former buildings, sites within the camp that were never built over, and comparison sites outside of the center of camp. Their results noted non-native ornamentals were present, as well as unusual concentrations of natives that indicates they were deliberately planted as part of Mrs. Hoover's plan to beautify the camp in a naturalistic way. Non-native vinca (*Vinca minor*), for instance, had naturalized in the area near the trout pool between the President's and Prime Minister's Cabins.

Several mountain laurels (*Kalmia latifolia*) are growing within the camp. Large specimens growing on the south side of the President's Cabin, as well as several others along pathways in the center of camp may date to the historic period. Their size and form suggest sufficient age, and their placement is consistent with historic use of the plant. Other specimens along the Hemlock Run trail west of camp may also be historic.

Based in part on the 1998 study, projects were undertaken from 2004 to 2005 to rehabilitate the vegetation in Rapidan Camp. The primary strategy was to allow forest succession to proceed in the areas impacted by tree loss while managing for desired species. In addition, select plants that were common during the Hoover occupancy were planted within the camp area. White pines, a species that was not common within the camp during the historic period, were planted to help reestablish a conifer canopy. Fieldwork conducted in 2008 in support of the Cultural Landscapes Inventory revealed that much of the vegetation installed as part of the rehabilitation efforts was missing or were performing poorly. The poor success of the planted vegetation was due primarily to the competition of pioneering species in the sunny areas of camp.

Today, tulip poplar saplings that have established themselves in the clear areas of camp have begun to create a closed canopy, reestablishing shade within the center of camp. In other areas, maintenance activities such as weeding and mowing have kept the area open with widely spaced trees over non-native turf grass. Non-native vegetation is also prevalent in camp, some of which may be naturalized remnants of historic plantings, post-historic plantings, or species that have spread inadvertently. Understory vegetation, a mixture of native and non-native young trees, shrubs, and herbaceous plants, grows densely around the periphery of the camp,

obstructing views to the streams.

Evaluation: non-contributing

Vegetation at Rapidan Camp has changed substantially since the period of significance, due largely to the loss of many of the trees in camp. The overall character of the camp has changed from a shady site with a high canopy and largely open understory to a more sunny area choked with young understory vegetation. Any ornamental vegetation planted during the Hoover period has either been lost or has naturalized, and little or no trace of it is evident in the landscape today. The changes to the site's vegetation as a whole are such that it no longer reflects historic conditions and does not contribute to the site's historic character. However, individual elements of the historic vegetation remain and are an important component of the camp's historic character.

Mountain laurels

Historic Conditions

Several species of ornamental shrubs were planted throughout Rapidan Camp during the historic period, but the most numerous and prominent were the mountain laurels. These were praised by Mrs. Hoover for their "wonderful profusion" and were favored for their showy flowers and their suitability to the site. Mountain laurels can be seen in many of the historic photos from later in the historic period growing along the paths and near the cabins, steps, and bridges.



Figure 3.17. One of the several laurel bushes that grow in Rapidan Camp. The size and location of many of the laurels suggest that they were planted during the historic period. (OCLP)

Post-historic and Existing Conditions

While the majority of the historic ornamental vegetation in camp has either been lost or has been subsumed into the encroaching forest , several large specimens of mountain laurel remain in the camp. Notable examples are located near the rear steps of the President's Cabin and along the pathways in the center of camp. While it is not possible to positively determine if these were historic specimens or whether they were planted after the period, their size and location suggest that these are in fact historic fabric.

Evaluation: contributing

Large hardwood canopy trees

Historic and Existing Conditions

During the historic period, the canopy of the camp included a number of hardwoods in addition to the many hemlocks. Many of these trees were spared the storms and pests and survive today as an important component of the camp's historic character.

Evaluation: contributing

Hemlock trees

Historic Conditions

The canopy above Rapidan Camp was historically composed of eastern hemlock trees (*Tsuga canadensis*), towering evergreens with short, soft needles that provided dappled to deep shade year-round. These trees were a major character-defining feature and a primary reason for selecting the location of the camp. Hemlocks grew profusely in the moist, fertile soils along the corridors of Mill Prong, Laurel Prong, and Rapidan River. Within camp, large hemlocks towered overhead, with tall, straight trunks and dark green foliage. This shade was one of the most distinctive qualities of the camp during the historic period, creating a cool, secluded atmosphere and a sense of physical enclosure by the high canopy above. The shade also discouraged understory and mid-story growth, creating an open character underneath the canopy and a sparse, duff-covered floor underfoot.

Post-historic and Existing Conditions

For several decades after the historic period, the hemlock trees remained a characteristic feature of Rapidan Camp. The trees first became infested with the hemlock woolly adelgid in the late 1990s, and within a few years the tiny insects had killed hundreds of centuries-old trees. Many of the trees remained standing dead



Figure 3.18. Several young hemlock trees grow between the footpaths of Rapidan Camp. (OCLP)

for a number of years before falling and becoming a tangle of massive trunks in and around the camp. While the park quickly removed the trees that died within the camp core, numerous dead and fallen trees remained along the periphery of the camp and in the forest surrounding it. Tree trunks close to the stream channels were periodically picked up by flood events and became destructive debris pushed along by the rushing water.

Today the majority of the large trees are gone, but a handful of young trees remains within camp. These trees, clustered in small stands throughout the central portion of the camp, have been kept alive and healthy by the park through the use of systemic pesticide applications. Although the remaining trees are too young to have been present during the historic period, they represent a vital link to the past and provide the potential to someday restore the hemlock canopy that defined the camp's historic character.

Evaluation: contributing

Naturalized Herbaceous Plantings

Historic Conditions

The primary source for the historic conditions of the ornamental herbaceous plants is Lou Henry Hoover's memo containing instructions for camp planting as described above (Appendix B). While the memo describes Mrs. Hoover's wishes rather than the conditions as they were actually implemented, it can be assumed that her instructions were carried out to a great degree. Mrs. Hoover specified a number of species, primarily native and local to the area, but she specified that "hardy species that might be easier to cultivate but very similar to the native ones"

may be substituted. These herbaceous plants were planted along with ornamental shrubs throughout the camp, along the paths, and around the cabins.

Post-historic and Existing Conditions

The historic ornamental herbaceous plantings were not consistently maintained through the years following the Hoovers' departure, although how long they lasted, whether they were maintained a points during the post-historic period, or whether new ornamental plantings were added after the historic period is not known. Today there are several species that had been specified in Mrs. Hoover's instructions growing in conspicuous locations in camp, including along path edges and around the cabins. These include painted trillium, violets, asters, columbine, and solomon's seal. While their origin can not be positively determined, the concentrations of these plants and their locations suggest that they are naturalized descendants of cultivated plants, which may have been initiated during the Hoover period.

Evaluation: non- contributing

The naturalized herbaceous plantings do not represent historic fabric and are not individually contributing resources, however, their collective presence in camp and their species and location are consistent with historic conditions and are contribute to the historic character of camp.

Large oak tree growing in the President's Cabin porch

Historic Conditions

In an effort to avoid removing the large trees growing at the site of Rapidan Camp when it was constructed, and to further blend the camp into its wooded setting, many large trees were retained very close to the cabins' exterior walls. Cabin eaves and porches were constructed around the tree trunks, which protruded through the porch decking. Two large trees grew through the President's Cabin porches, a large white oak in the front and a hemlock in the back.

Post-Historic and Existing Conditions

The large trees throughout the camp, including those that grew through the cabin porches, lived for many years after the Hoovers left. Beginning in the 1990s, the trees were impacted by a series of events, including ice and wind storms and culminating in the hemlock woolly adelgid infestation. With the rest of the hemlocks in camp, the adelgid killed the large hemlock growing through the President's Cabin rear porch and one growing through the eave of the Prime Minister's Cabin. Initially the tree in the President's Cabin rear porch was cut off a few feet

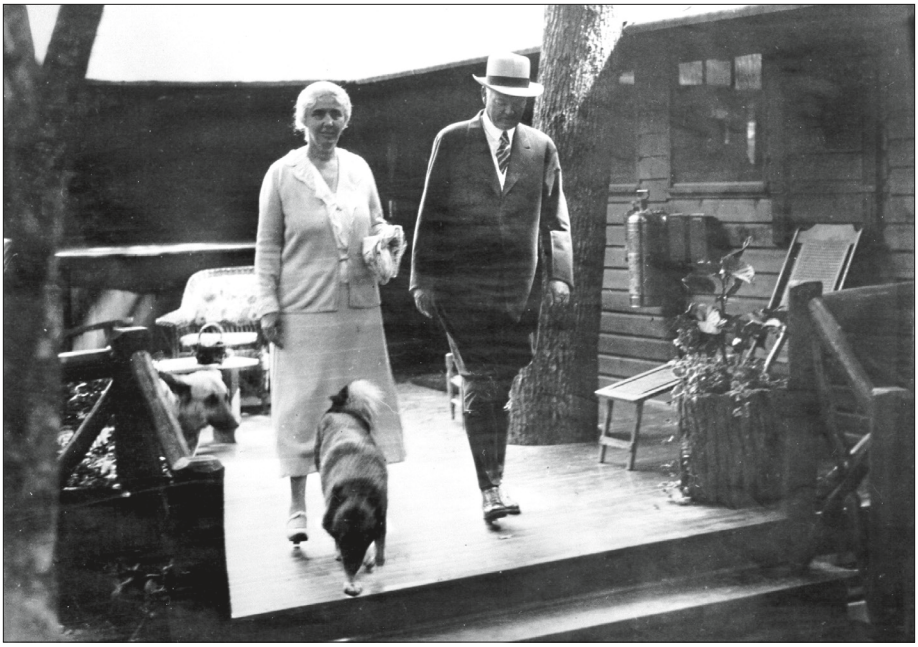


Figure 3.19. Historic photograph of Mr. and Mrs. Hoover on the north porch of the President's Cabin during the historic period. A large oak tree is seen protruding from the porch. (Herbert Hoover Presidential Library)



Figure 3.20. A contemporary view of the President's Cabin shows the same oak tree growing from the porch. (OCLP)

above the level of the porch decking and the stump was retained as a reminder of the tree. As the stump began to decompose, it was removed and the hole in the porch was patched with contrasting decking to preserve the visual indication of the tree's location.

By the early twenty-first century, the oak tree in the front porch of the President's Cabin had begun to impact the structure, shifting and buckling the roof and other structural elements. In order to protect the cabin from further damage, the oak tree was removed in 2014. The hole in the porch was closed with planking placed perpendicular to the existing planking to indicate the tree's location.

Evaluation: non-contributing

CIRCULATION

Circulation in and around camp was accommodated by a hierarchical network of roads, drives, footpaths, and trails. These features were unpaved and surfaced either with gravel or compacted earth and were often lined with stones to define their edges.

Historic Conditions

Vehicular access to the camp consisted of two roads constructed between 1929 and 1931. The first access was from the southeast via a seven-mile road from Criglersville, constructed by the State of Virginia (to the point where it entered



Figure 3.21. Historic photograph showing the President's Cabin, as well as the vegetation and the character and arrangement of the paths and steps. (SHEN)



Figure 3.22. Current photograph showing the condition and character of the circulation features around the President's Cabin. (OCLP)



Figure 3.23. Historic photograph showing the stone-lined path and the northwest facade and porch of the President's Cabin. (Herbert Hoover Presidential Library)

President Hoover's leased land) and the Marines (within the president's land) in 1929. The road was typical of small service roads into forested areas for the period, characterized by graded dirt or gravel surface, a narrow travel lane, an alignment that followed the terrain, and a simple cut-and-fill profile to accommodate the grade. The road featured rustic stone features, such as bridges, culverts, and retaining walls. Two years later, a new road was constructed between Rapidan Camp and Big Meadows as part of the Skyline Drive project. Similar in character to the road from Criglersville, the new road, named Rapidan Road, snaked in broad switchbacks down the mountainside to meet the original road at a point a half-mile east of camp.

Figure 3.24. Current view looking southwest showing the path leading to the Prime Minister's Cabin. (OCLP)



The entrance road entered the north end of camp across a bridge over Mill Prong, where it turned south along the western edge of camp and terminated in a circulation loop. Here, the cars would likely have dropped camp guests off before driving back out to a garage located south of camp. In the garage, the cars would have been available for transportation but kept out of sight of camp guests. Service drives extended westward from the circulation loop, providing access to the spring house and reservoirs and to the stables/garage area, Marine Camp, and Cabinet Camp.

The Spring House Access Road led west from the original loop to connect to the Five Tents building, the reservoir that served the camp, and to a foot trail that led

up to Fork Mountain where an observation tower was built to take advantage of excellent views of the surrounding area. Closer to the camp, Spring House Access Road connected to the Marine Corps Road, which headed east across Hemlock Run and Laurel Prong and back to the stables, Marine Camp, and Cabinet Camp.

The footpaths in Rapidan Camp were a combination of cleared paths with stone edging and informal paths and social trails. The most developed paths were located near the President's Cabin and Prime Minister's Cabins. These paths were characterized by mortared stonework, including portions of mortared flagstone path surface, stone steps, and stone retaining walls. The bulk of the trails throughout the camp were either surfaced with compacted earth or gravel with simple un-mortared stone edging. As the trails led away from camp, they became more narrow and lost their stone edging. The alignment of the footpaths is recorded on the sitemaps drawn during the historic period and shortly thereafter. These maps show a web of informal paths with numerous junctions connecting the cabins and outdoor areas in the center of camp.

Post-historic and Existing Conditions

In 1933, a few months after Hoover's departure, the Civilian Conservation Corps built a drive heading east from the original loop that terminated as a new loop directly in front of the President's Cabin. Various plans indicate that this was accomplished mostly by widening some of the existing paths. In 1939, the National Park Service discontinued access from Criglersville, and Rapidan Road from Big Meadows became the primary access route. As a result, the portion of the entrance road from the east gate to the junction with Rapidan Road became unused. After many of the camp's buildings were removed in 1960, the site was not actively used, and circulation features, especially paths, gradually deteriorated and were



Figure 3.25. View looking west showing the entrance road and the steel bridge at the north edge of the camp. (OCLP)

no longer discernible when the area was mapped in 1995.

Beginning in the mid-1990s, many of the circulation features in the central core of Rapidan Camp were restored to conditions similar to those during the historic period. The major roads and paths, as well as some of the smaller paths and trails have been reestablished, and visitors can now walk along many of the camp's primary stone-lined gravel routes. The stone steps on the east end of the wooden footbridge were reconstructed in 2010. Many secondary footpaths, especially those associated with the removed cabins along Laurel Prong were not reestablished and are not evident today.

The most notable change to the path system is a wide path extending from the arrival loop to The Creel cabin, which replaced a series of paths that once encircled the Mess Hall. The section of the entrance road heading west from the junction of Rapidan Road is in good condition, as are the original loop and the loop in front of the President's Cabin. The graded Spring House Access Road still exists, but the Marine Corps Road is in some places only a trace.

Evaluation: contributing

Due to the many extensive restoration and reconstruction projects that began in the mid-1990s, circulation features for the most part reflect conditions as shown in the park's 1935 Master Plan that was prepared a few years after Hoover left. The restored circulation helps convey the functional and spatial organization of the camp, even with the loss of many of the camp cabins. The loss of circulation features around the removed cabins, particularly along the south edge of the camp between Hemlock Run and Laurel Prong, diminish this ability to convey the camp's organization. Overall, however, the extant circulation at Rapidan Camp contributes to the site's historic character.

Entrance road

Historic Condition

When President and Mrs. Hoover first visited the site that would become Rapidan Camp in the spring of 1929, they completed the final leg of the journey on horseback along rough trails because the road to the area from Criglersville, a small town approximately seven miles southeast of the camp, was not yet completed. When finished, later that year, this road became the primary means of access to Rapidan Camp. This road passed by the Cabinet Camp prior to continuing through a gate that marked boundary of the leased property. Beyond this point, the road's construction was accomplished by the U.S. Marine Corps.

Beyond the gate were the stables on the west side of the road and then the entrance to the Marine Camp on the east side. Past Marine Camp, the entrance road

intersected with Rapidan Road, which was completed in 1931 as part of Skyline Drive to provide access from Big Meadows to the west. From this point west, the core of the camp, the entrance road was lined with dry-laid stone walls. Prior to the crossing at Mill Prong was a small parking pullout that accommodated four or five automobiles. After crossing Mill Prong, the entrance road terminated as a loop at the west edge of the main camp area. None of the roads were paved during the historic period.

Post-historic and Existing Conditions

The entrance road has received regular maintenance efforts over the years and remains in good condition.

Evaluation: contributing

Circulation drive and loop

Historic Conditions

During the historic period, vehicles arrived at the main circulation loop near the Mess Hall. Guest transportation stopped here, while service roads extended south and west to the Marine Camp and the spring house respectively. There was no formal vehicular access into the camp beyond the arrival loop.

Post-historic and Existing Conditions

In preparation for anticipated use by Franklin Delano Roosevelt following Hoover's departure from office, the circulation drive was extended from the original arrival loop toward the President's Cabin. This drive ended in a new loop on the north side of the President's Cabin, replacing the network of small foot-



Figure 3.26. View looking west showing the circulation drive loop near the President's Cabin. Like the footpaths, the circulation drive is surfaced with crushed gravel and bordered with stones. (OCLP)

paths there. The circulation drive and loops were restored as part of rehabilitation efforts in the 1990s, and today they are in good condition.

Evaluation: non-contributing

Spring House Access Drive

Historic and Existing Conditions

The Spring House Access Drive provided service access to a springhouse located west of camp. The road was in place by 1930, when it was indicated on a topographic map of the area. The road remains today as part of the area's trail system.

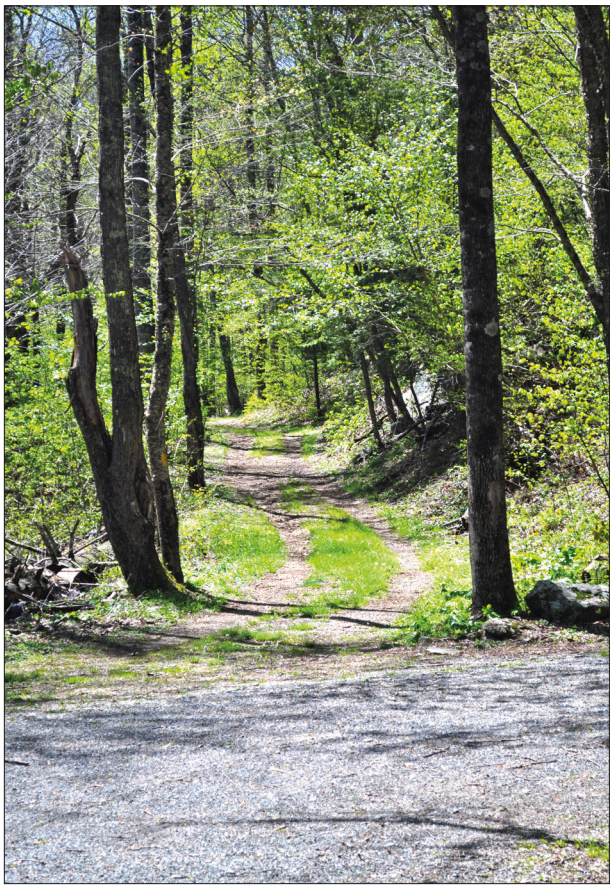
Evaluation: contributing

Road to Marine Camp

Historic Conditions

During the historic period, The road to Marine Camp extended from a juncture with the springhouse access road southeastward to the road to Criglersville, intersecting the latter at a point south of Rapidan Camp where stables and a garage was located. The road crossed Hemlock Run over a bridge and then crossed Laurel Prong at a ford before continuing southeast.

Figure 3.27. View looking west showing the beginning of the Spring House Access Drive, currently a two-track dirt road. (OCLP)



Post-historic and Existing Conditions

The road to Marine Camp fell into disuse after the historic period, and today it is barely discernible as a road trace.

Evaluation: non-contributing

Footpaths

Historic Conditions

A 1931 Marine Corps plan of the President's Camp shows three types of paths or trails: "cleared trails," "uncleared trails (foot)," and "horse trails." "Cleared trails" generally referred to the web of footpaths within the camp core that connected the cabins and primary functional spaces of the camp. These were three to five feet wide with a compacted surface and stone edging. The footpaths curved through the camp, splitting and joining frequently, forming numerous islands and areas that could be planted with flowers and forest vegetation that comprised Mrs. Hoover's "wood-

land garden." Stone steps and stone edging were incorporated into the paths where topographic conditions dictated, especially along the trail to Five Tents and around the President's Cabin. Numerous stone and wood footbridges crossed the two streams and Hemlock Run.

The "uncleared trails" were secondary trails that were often short spurs, shortcuts, or social trails that connected camp features or accessed individual cabins. These were likely narrow paths with no edge treatment and encroaching vegetation on both sides, giving these trails a less formal character than the cleared trails. Uncleared trails also connected to foot trails and bridle trails that extended into the landscape at large. The main horse trail was called the River Trail and generally followed the same course as the Marine Corps Trail but tracked closer to Laurel Prong. The unimproved road to the Fork Mountain Trail was also used as a bridle path.

Post-historic and Existing Conditions

The first significant modification to the circulation of Rapidan Camp was the extension of the circulation drive eastward and the establishment of a second loop in front of the President's Cabin, which was superimposed on the existing paths. After this, the path alignment appears to have been stable for many years. The circulation depicted on a map of the camp drawn in 1954, during the Boy Scout period, matches that of a map drawn twenty years earlier, shortly after the circulation drive was extended. With the removal of the camp cabins from 1960 to 1963, the unused paths were either removed and naturalized or were simply left to be reclaimed by the forest. Other paths gradually deteriorated with disuse and lack of maintenance, and by the early 1990s many were no longer discernible. The foot-



Figure 3.28. View looking north showing the network of footpaths in the center of camp. (OCLP)

paths in the center of camp were restored in the mid-1990s, using historic maps as guides for path alignment. Because the restoration was not based on archeology, it is possible that some of the paths may be of different width or slightly different alignment than historic conditions, but a comparison of historic and existing path alignment shows overall agreement. Only a portion of the footpath system was restored, however, and paths that once served cabins that are no longer extant are still missing.

Evaluation: contributing

Trail to Five Tents

Historic Conditions

Five Tents, located on a hillside above camp to the west, was the furthest guest cabin from the center of camp. The trail that led to the cabin began on the west side of camp and wound steeply up two flights of mortared stone steps. As the hill slope became more moderate, the trail leveled out and continued without steps. The trail was constructed during the initial construction of the camp in 1929.

Post-historic and Existing Conditions

The Five Tents Trail is intact, with the sets of stone steps and stone edging.

Evaluation: contributing



Figure 3.29. The trail to five tents, pictured here looking west, is less formal than the footpaths within the camp core. (OCLP)



Figure 3.30. Two flights of mortared stone steps ascend the grade at the beginning of the trail to Five Tents. (OCLP)

Hemlock Run Trail

Historic Conditions

The trail along Hemlock Run was classified as an "cleared" on the 1931 Marine map, although it doesn't appear that the trail featured stone borders as did the paths within camp. The trail ran along both the south and north bank of Hemlock Run to Laurel Dam on Laurel Prong, crossing the channel twice over stone bridges. As there is no indication that the Hemlock Run trail connected to any other route at the dam, it is likely the trail was used primarily for maintenance of the channel and dam.

Post-historic and Existing Conditions

Today, the Hemlock Run trail is a narrow footpath through the forest along the channel of Hemlock Run. The trail does not feature stone borders, but the stone bridges still remain.

Evaluation: contributing

CONSTRUCTED WATER FEATURES

Historic Conditions

Constructed water features played a significant role in the design of Rapidan Camp. The site's natural streams initially attracted the Hoovers to this location, and the camp was designed to take full advantage of them with additional construction. Trout pools were built at several locations along Mill Prong, both upstream and downstream from the bridge that provided the main access to the site. Small stone dams were built by Hoover and his guests at various times throughout the historic period to create small pools along the streams.

The natural effect of water created by the streams was supplemented by a system of water features built within the camp. The most prominent of these was Hemlock Run, a constructed channel that brought water from Laurel Prong into the heart of camp. Conceived of as a miniature, more domesticated version of the natural streams, Hemlock Run exhibited a naturalistic character for much of its length, but had a more formal character near the center of camp with mortared stone walls and stone bridges. Water from Hemlock Run fed a constructed concrete-lined trout pool located adjacent to Hemlock Run Falls, that then flowed over a rock-lined outfall back to Hemlock Run. In the center of camp was a tiered stone fountain gravity-fed by pipes from Mill Prong. The water flowed from the

top of the fountain and over the tiers before flowing through a series of small pools formed from placed stones.

Post-historic and Existing Conditions

The trout pools along Mill Prong have deteriorated over the years due to the constant flow of the stream and high water events, but some portions of the old stone dams are still discernible upstream from the vehicular bridge. Hemlock Run itself still exists, but the flow of water has been significantly reduced since Hurricane Isabel severely damaged the sluice gate structure in 2003. Due to the diminished water flow, there is rarely enough water to create visible water falls over the large rocks at the site of Hemlock Run Falls. The channel's mortared stone walls have been restored and reconstructed and are in generally good condition. The unmortared stones lining the channel's edge farther upstream are present, but portions are overgrown. The trout pool next to the falls is in fair condition, although the pipes that once fed it are not functional and the water inside is stagnant. Mrs. Hoover's stone fountain does not currently function, and only a few of the recorded seven pools flowing from it are discernible.

Evaluation: contributing

Rapidan Camp retains many of its historic constructed water features, including Hemlock Run, the concrete trout pool, and the stone fountain. Furthermore, the function of the individual features and the inter-functionality of the system as a whole is evident in the extant forms of the channels, falls, pools, fountains, and dams, even when little or no water is flowing through the features. Although the character of these features has changed somewhat, the qualities that the system of features contributed to the historic character remains perceptible.



Figure 3.31. Hemlock run, seen here in the right-foreground, was a prominent feature in camp. (SHEN)

Hemlock Run

Historic Conditions

Hemlock Run was a significant part of the site's rustic character, bringing the sound of running water into the heart of the camp. The stream was an excavated channel, watered by diverting the stream flow from Laurel Prong through a sluice gate that consisted of two concrete piers with embedded cuts for a removable gate. The half-mile-long channel, which ran higher than the level of Laurel Prong, was lined with loosely arranged un-mortared stones at the western portion and mortared stone walls at the eastern portion. Several large rocks were incorporated into the channel between the President's Cabin and Prime Minister's Cabin to create Hemlock Run Falls, a small picturesque waterfall. Several wood footbridges and mortared stone footbridges spanned the channel.

Figure 3.32. Contemporary view of Hemlock Run in August showing the low water level and vegetation growing in the channel. (OCLP)



Post-historic and Existing Conditions

Today, Hemlock Run, with its associated stonework, remains intact and is generally in good condition. The mortared stone walls on the eastern portion of the channel have been repaired periodically over the years and do not show significant deterioration. The channel does exhibit minor condition issues, including loose or displaced stones, excess sedimentation, and vegetation growing both in the bottom of the channel and on

or between the stones of the retaining walls. Of the original eight channel crossings, five remain.

Due to changes in the flow dynamics of Laurel Prong, Laurel Dam, and the diversion of water into Hemlock Run, the volume of water flowing through the constructed channel is usually lower than it was during historic period. Water flows through the channel of Hemlock Run during wet periods, but for much of the year the channel is fed solely by groundwater and flows at little more than a trickle. Over time, the channel of Hemlock Run has accumulated sediment, and in portions, excessive amounts of vegetation is growing in the bottom of the channel. The sediment and vegetation impede water flow, further reducing the overall flow of water through the feature.

Evaluation: contributing



Figure 3.33. Historic photo of Hemlock falls, circa 1929, showing mortared stone channel walls, stone footbridge, Town Hall, and the Prime Minister's Cabin in the background. (SHEN)



Figure 3.34. Current view of Hemlock Falls shows the primary structures comprising the falls and the channel intact. During periods of low flow, seen here in August, the water does not flow over the falls. (OCLP)

Hemlock Run Falls

Historic Conditions

Hemlock Run Falls was a highlight feature in camp, providing visual and auditory interest. The falls consisted of a large flat stone placed in the channel over which the water cascaded into a small pool. The falls were prominently located just under one of the stone bridges and adjacent to the concrete trout pool. In historic photos, the volume of the water over the falls was relatively high, with water flowing across the full width of the rock.

Post-historic and Existing Conditions

Today, the rocks that compose Hemlock Run Falls are still in place and function as they did historically, creating a lively waterfall when channel flow is adequately high. That is rarely the case, however, and even in high-flow periods, the flow through the channel and over the falls is typically less than it appears in historic photos. The stones below the falls have been disturbed, and the water does not pool. The rocks are covered in moss and small plants.

Evaluation: contributing

Concrete trout pool

Historic Conditions

The concrete trout pool was a roughly circular pool located between the President's Cabin and the Prime Minister's Cabin. The pool, which featured a concrete bottom and mortared stones around the rim, was fed by two iron pipes from Hemlock Run. The level of the water in the pool was controlled by an overflow on



Figure 3.35. View looking south showing the concrete-lined trout pool. (OCLP)



Figure 3.36. The concrete trout pool is fed by two iron pipes that originate immediately below Hemlock Falls. (OCLP)

its northeast side, which then flowed over a cascading channel of rocks along the side of the President's Cabin before rejoining Hemlock Run.

Post-historic and Existing Conditions

The concrete trout pool is not depicted on a number of maps of the camp drawn during and after the historic period, but it is present on others. The pool is absent on a 1931 Marines map and on maps from 1935 and 1954, but present on maps from 1930 and 1931. It is unclear whether an early omission was propagated through copying base maps to create subsequent maps, or if the pool was buried for portions of the historic and/or post-historic period.

Today the pool is exposed, and when the water is flowing through Hemlock Run and the pool's source pipes are clear of debris, the pool fills with water. The pool, however, suffers from leaks in the concrete lining and gaps in the stone coping, causing water to leak out before overflowing through the stone channel. When flow through Hemlock Run is lower, the pool is often half filled with stagnant water, or empty of water, and the basin full of leaves and debris.

Evaluation: contributing

Mill Prong trout pools

Historic Conditions

Herbert Hoover was fond of building small dams within the channels of the natural streams to create pools that would attract trout. He built several of these pools along Mill Prong, which are documented in historic photos, and possibly along Laurel Prong as well. The dams were one to two feet high, constructed of simple



Figure 3.37. Historic photograph, circa 1929, showing two of the trout pools on Mill Prong and their hand-stacked stone dams constructed by Hoover. (SHEN)



Figure 3.38. The same view today shows only scattered stones remain of the trout pools. (OCLP)

stacked river stones placed across the channel. At least two or three of these were located on Mill Prong near the wooden footbridge, and several more were located north of camp. While the locations of some of these pools are known, it is not known how many pools were constructed or how far from camp they were located.

Post-historic and Existing Conditions

While there is no documentation of active preservation of the trout pool dams, many of these persisted in some form for many years after the Hoover Period. On Mill Prong in the vicinity of the wooden footbridge, the dams have been impacted by high-water events, which have washed the dams over and scattered the stones. These are still discernible as concentrations of small stones in the areas where the dams once stood. Three dams are still present on Mill Prong north of camp



Figure 3.39. Laurel Dam, visible along the left side of the photograph, holds back a small amount of water today, but not enough to feed Hemlock Run in periods of low flow. (OCLP)

between the steel bridge and Big Rock Falls, although they too have been damaged by stream flow.

Evaluation: contributing

Laurel Dam

Historic Conditions

The scale and construction of Laurel Dam is not well documented, however maps from the period show a small dam crossing the main channel of Laurel Prong at the source of Hemlock Run. The dam was constructed with the initial camp development in 1929 and remained throughout the historic period.

Post-historic and Existing Conditions

It is unclear what maintenance or preservation efforts Laurel Dam received after the historic period, although it is presumed that the dam persisted in some form throughout the post-historic period. Today, the dam remains in the form of a line of stones across the channel, however the stones have been scattered and the dam no longer retains water to a significant degree. During high water flow, enough water is diverted by the dam to enter Hemlock Run, but for much of the year no water reaches the constructed channel from Laurel Prong.

Evaluation: contributing



Figure 3.40. View looking east showing the sluice gate at the origin of Hemlock Run. At water levels typical of late summer (shown here in August), the water from Laurel Prong does not reach the sluice gate or enter Hemlock Run. (OCLP)

Sluice gate

Historic Conditions

Technically a wier dam, what is referred to as the sluice gate was constructed at the origin of Hemlock Run to control the water through the constructed channel. The sluice gate consisted of two concrete block placed on either side of Hemlock Run near its origin at Laurel Dam. The concrete blocks featured vertical slots for boards, which could be placed between the blocks to form a wier dam of adjustable height. Removing the boards would allow the maximum amount of water to enter Hemlock Run, while replacing the boards would restrict the flow.

Post-historic and Existing Conditions

Today, the sluice gate consists of its two concrete blocks approximately two feet high, with a concrete base between them. The blocks are built into the embankment along the north side of Laurel Prong with a gap of about two feet between them. The blocks have no boards between them and no longer function to control the water flow. The concrete shows signs of deterioration and is covered in moss.

Evaluation: contributing

Figure 3.41. View looking north showing the stone fountain and rock garden (in the foreground) through which the water from the fountain flowed. (OCLP)



Stone fountain

Historic Conditions

At the center of the camp and Mrs. Hoover's woodland rock garden was a round, four-tiered stone fountain with several adjacent pools leading south. The water was designed to overflow from the center of the fountain and cascade over the tiers before flowing through the rock garden and pools below it. Although concrete was used as a mortar, the fountain's stone construction created a naturalistic appearance. The fountain was fed with a gravity pipe from Mill Prong above the camp. Mrs. Hoover was insistent that the pipe be installed with minimal disturbance to the natural landscape and that stones and vegetation be replaced along its path to conceal it

Post-historic and Existing Conditions

The stone fountain remains, but has not been operational for a number of years. At one point, the park fed water into the fountain using the fire system water supply, indicating that the internal plumbing of the fountain may be operational. The stonework of the fountain shows signs of deterioration, and

the stones of the rock garden pools are in disarray.

Evaluation: contributing

Riprap on Mill Prong

Historic Conditions

The riprap on Mill Prong was not present during the historic period.

Post-historic and Existing Conditions

In 2007, the west bank of Mill Prong directly beneath the President's Cabin was reinforced with stacked riprap stones to repair damage caused by Hurricane Isabel and to protect the bank and the cabin from future damage. The riprap is composed of large native river stones stacked along the embankment without concrete or mortar, extending from the wooden footbridge northward for a length of approximately forty-five feet.

Evaluation: non-contributing

BUILDINGS AND STRUCTURES

Historic Conditions

During the Hoover presidency, there were a total of forty buildings at the President's Camp, Marine Camp, and the Cabinet Camp. The President's Camp contained thirteen buildings at the end of the period of significance. All were wood framed in a rustic style, designed by the architect James Y. Rippin with significant input from First Lady Lou Henry Hoover.

The camp's single-story buildings were built on wooden pilings that were placed to accommodate the natural topography of the site. Though Hoover later referred to them as "log cabins," the buildings were in fact constructed with pine boards, and heavy framing covered by German drop siding. Roofs were thin, could hold back rain but not hold in heat, and were comfortable for three seasons. The buildings were designed to minimize separation between outside and inside: they had numerous windows, and the wood panels around many of these windows were hinged so that nearly half the wall could be let down. All buildings also had open air porches of varying sizes, most of which looked out over one of the camp's streams. The buildings within the President's Camp were constructed by the U.S. Marine Corps. They included, in order of construction: Five Tents, President's Cabin, Mess Hall, Staff Quarters, Chief Steward's Quarters, Town Hall, Duty Office, Prime Minister's Cabin, Ishbel's Cabin, The Slums, Trails End, The Owl,

and The Creel. There was also a stable area consisting of at least two structures, located just off the entrance road between the Marine Camp and Cabinet Camp.

Other buildings and structures in the President's Camp included the outdoor fireplace, vehicular and pedestrian bridges, stone walls and culverts, a springhouse, and reservoirs. The entrance road featured two bridges. One was located about 100 yards southeast of the junction with Rapidan Road and was constructed with mortared stone. Another crossed Mill Prong, but it was replaced in the 1940s and its original design is unknown. Dry laid stone walls lined both sides of the entrance road between the Rapidan Road junction and Mill Prong to create a subtle yet clear gateway approach to the camp.

Historic plans indicate the Hemlock Run water channel was spanned by eight crossings. In upstream portions of the channel, the crossings were simple stone slabs or metal culvert pipes covered with stones, but farther downstream the bridges were either wood construction with rustic wood handrails, or mortared stone construction supported by a central stone pier. The wood footbridge over the Mill Prong to the east of the President's Cabin was supported by a mortared stone footing at one end and a natural boulder at the other and featured rustic timber handrails. There are several historic photographs of the Hoovers standing on this footbridge. Another footbridge of unknown construction was located upstream between this footbridge and the vehicular bridge. There is no record of any bridges on Laurel Prong.

Comprehensive details of the camp's water and sewer systems are not known, but site plans from 1931 and 1935 indicate a series of reservoirs west of the site connected to the camp via a two-inch water line and a chlorinator to the north of the Staff Quarters. In the site's National Historic Landmark documentation, a wood-frame springhouse was identified in this area, which helped deliver water to the camp. The 1935 site plan shows a system of septic lines and septic tanks that discharged into Laurel Prong.

Post-historic and Existing Conditions

Soon after the Hoovers left Rapidan Camp, several plans were prepared to modify the camp's buildings so that each cabin could function independently with its own sleeping, cooking, and dining areas, but these plans were not implemented. Some of the buildings were used occasionally by government officials in the ensuing years, and right before World War II the Virginia Sky-Line Company, the park's concessionaire, prepared to transform the site into guest lodgings, but this plan was also abandoned. Around this time, The Creel was utilized as a residence for the site's caretaker, and the bridge over the Mill Prong was replaced with a steel bridge.

From 1948 to 1958, many of the buildings at Rapidan Camp were used and modified by the Boy Scouts. Additional structures were also built, including toilets and barbecues. The Five Tents building was removed during this period. In 1960, all but three buildings in the President's Camp were demolished due to their deteriorated condition. The stable area may have been removed at this time or perhaps earlier in the 1940s when the Marine Camp was demolished. The three remaining buildings – the President's Cabin, Prime Minister's Cabin, and The Creel – were repaired and used for park housing (The Creel) and interpretive purposes (the President's and Prime Minster's Cabins). As the site's wood-frame buildings were elevated above the ground, the only traces of the other ten buildings removed in 1960 are in the scattered remnants of stone steps, support piers, and pipes. The exception is the Five Tents building site, which retains the massive field stone chimney and an impressive semi-circular stairway.

Five of the eight crossings built across the Hemlock Run water channel remain. The first crossing, counting downstream from the sluice gate on Laurel Prong, is a simple mortared arched bridge over the channel. The second crossing consists of a single slab of stone set across the channel, marking the point where the Hemlock Run Trail crosses the channel, just upstream from the ford crossing. The third crossing consists of twin corrugated metal pipes covered by compacted earth and gravel that carry the Marine Corps Road over the channel. The last two crossings are stone footbridges of similar construction near the Prime Minister's Cabin, featuring mortared stone construction reinforced by steel railroad track set, supported by a central mortared stone pier.

Three historic crossings on Hemlock Run, indicated on historic plans, are not extant. These were likely wood footbridges supported by stone piers or steps. Only scattered stones, remnant steps, and small abutments remain of them today. The site's most significant wood footbridge, across Mill Prong next to the President's Cabin, was rebuilt in the 1970s or 1980s using milled board construction, but then destroyed in 2003 by Hurricane Isabel. Supported by mortared stone abutments and boulders, the footbridge was replaced in 2007. The new bridge features a rustic design that recalls the design of the original bridge, but the reconstruction uses far more substantial timbers than the original. In conjunction with this project, the west bank of Mill Prong was reinforced with riprap to prevent a repeat of bank erosion caused by Isabel and to provide long-term protection for the President's Cabin. No trace of the other footbridge crossing upstream from here remains.

The reservoirs are not extant, but the springhouse remains in poor condition. The camp's septic field was abandoned in 1996 due to contamination, but the pipe and stone supporting piers crossing Laurel Prong were retained. Concrete pad and stone remnants of three privy sites dating from the Boy Scout period can still be found at various locations. Two unidentified stone structures, speculated to have been Boy Scout barbecue pits, are visible in the woods just to the south of the

entrance road and on the hillside above the Five Tents trail.

A unisex vault toilet was constructed in 2008 opposite the small parking area on the Entrance Drive. Adjacent to this structure is a non-historic wood-framed shed. Another small shed is located just west of The Creel.

President's Cabin

Historic Conditions

The President's Cabin, known at the time as "The Brown House" or "The President," was one of the first cabins constructed at Rapidan Camp in 1929, located at the confluence of Mill Prong and Laurel Prong. As the sleeping quarters of the president and first lady, the President's Cabin was the largest and most elaborate of the guest cabins in camp. Originally constructed as a rectangular cabin eighteen feet wide and seventy-two feet long with an eighteen-feet-square wing on the northwest elevation, the cabin contained a bedroom, living room, sitting room, one bathroom, an enclosed sun porch, a sleeping porch, and open decks in front and back. Large stone fireplaces adorned the sitting room and living room. During the historic period the cabin was expanded to better accommodate the needs of the Hoovers. These alterations included the enclosure of the sleeping porch into a second bedroom, the addition of a second bathroom, and the expansion and reconfiguration of the open decks.

Post-historic and Existing Conditions

With the removal of the Mess Hall and other cabins, The President's Cabin was remodeled between 1960 and 1963 to be more self-contained. One of the cabin's two bathrooms was eliminated to facilitate the addition of a kitchen, with the



Figure 3.42. View of the President's Cabin looking southeast. (Courtesy of Amy Henschen)

northeast wall of the dining room altered to provide access to the kitchen. The deck on the cabin's southeast elevation was reduced in size from its 1932 configuration, while the southwest deck was eliminated entirely.

Although used primarily for interpretation, the Prime Minister's and President's Cabins were reserved for the occasional use by cabinet or congress members. In 1996, however, it was determined that the septic system could no longer support such use, and the policy of letting people stay at the cabins was officially discontinued. At this time, the park undertook renewed efforts to restore and interpret the cabins and the camp. The President's Cabin was restored using original, period, and reproduction furniture and carefully replicating scenes in historic photographs. Today, the cabin operates as a historic house museum for guided tours.

Evaluation: contributing

Prime Minister's Cabin

Historic Conditions

The Prime Minister's Cabin was constructed during the first phase of camp construction in 1929 and was complete by the summer of that year. The cabin was named in honor of a high-profile visit by British Prime Minister Ramsay MacDonald during disarmament talks between the two leaders. The single-story ell-shaped frame building included a thirty-two-foot by fourteen-foot main section and a thirteen-foot by fifteen-and-a-half-foot wing along the western elevation. The cabin had a prime location near the President's Cabin and Hemlock Run.



Figure 3.43. View looking south showing the Prime Minister's Cabin. (OCLP)

Post-historic and Existing Conditions

The Prime Minister's Cabin underwent remodeling during the 1960–1963 camp renovations, including the conversion of the bathroom to a second bedroom and the addition of a new bathroom at the end of the southwest wing. The new bathroom was removed during 1990s restoration work. Today, the cabin is used as interpretive space with exhibits and is open during select times for self-guided tours.

Evaluation: contributing

The Creel

Historic Conditions

Built in 1929 and named for the wicker baskets popular with trout fishermen for storing their catch, this single-story, ell-shaped structure consists of a thirty-one-foot by seventeen-and-a-half-foot main section and a fourteen-and-a-half-foot by fourteen-foot wing on the building's west elevation.

Post-historic and Existing Conditions

In 1969, in anticipation of a visit by President Richard Nixon, The Creel was equipped as a communications center. In the process, the cabin was insulated and the ceilings and walls paneled. That work has not damaged the historic structure and could be easily removed and restored to original appearance. In general, the exterior of this cabin has not changed over time, except for the original rustic rail-



Figure 3.44. View looking northeast showing the Creel Cabin. (OCLP)

ing being replaced by sawn members.

Evaluation: contributing

Five Tents fireplace and steps

Historic Conditions

The original structure at the Five Tents site consisted of five canvas tents on a wooden platform. It was here that Hoover and other guests stayed when visiting Rapidan Camp in early 1929 before the other structures of camp were built. The tent platform was later converted to a wooden cabin with a large stone fireplace and stone steps. Constructed in roughly the same location and footprint as the original tents, Five Tents was a long narrow rectangular cabin.

Post-historic and Existing Conditions

Five Tents, dismantled in the 1950s, was the first major original structure removed from Rapidan Camp. When the cabin was removed, the stone fireplace and steps were retained and have remained, gently weathering in the forest since. Located four hundred feet west of the circular drive at the camp center and two hundred feet northwest of the ford over Laurel Prong, this is the only former building site with visible remnant features. The site includes a massive fieldstone chimney with

Figure 3.45. (Left) The stone fireplace at the Five Tents cabin site was once a part of the cabin. Today, the fireplace and stone steps remain. (OCLP)

Figure 3.46. (Right) The outdoor fireplace was a gathering spot for camp guests. (OCLP)





imprints from building clapboard, exhibiting a different mortaring technique than other extant chimneys, characterized by much exposed mortar and rubble construction. This chimney centers the building plan, which includes a massive semicircular stairway that curves away from a central landing, mortared stairs with side walls on the west end and simpler steps and concrete pad on the east end. A drainage ditch wraps around the north (rear) of the site.

Evaluation: contributing

Outdoor fireplace

Historic Conditions

Located fifty feet northwest of The President's cabin, the fieldstone fireplace with stone base was a social centerpiece of Rapidan Camp, used frequently as an outdoor meeting place. The fireplace was originally fronted by an open space with logs for sitting, surrounded by a network of small footpaths.

Post-historic Existing Conditions

When the circulation drive was extended in 1932, the new drive loop in front of the President's Cabin encroached significantly on the area in front of the fireplace, reducing its function as a gathering space. Today, the fireplace remains in good condition.

Evaluation: contributing



Figure 3.47. View of the steel culverts and stone headwall of the Entrance Road bridge. (OCLP 2008)

Entrance road bridge

Historic and Existing Conditions

The mortared stone bridge was constructed in 1929 by the Marines as part of the initial camp development. The bridge, located on the original access road about one hundred yards southeast of the junction with the road to Big Meadows, crosses a small drainage stream that empties into Rapidan River. The bridge remains today.

Evaluation: contributing

Entrance road retaining walls

Historic Conditions

In the construction of the entrance road, the Marines used dry-laid stone walls to retain portions of the cut-and-fill slope of the road profile. The walls were small in scale, ranging in height from two to four feet.

Post-historic and Existing Conditions

The entrance road stone walls are extant, but show signs of deterioration.

Evaluation: contributing

Hemlock Run stone footbridges

Historic Conditions

Two mortared stone footbridges were constructed over Hemlock Run in the vicin-



Figure 3.48. View looking south showing the westernmost of the two Hemlock Run stone footbridges. The easternmost stone footbridge is shown in Figure 2.10. (OCLP)

ity of the Prime Minister's Cabin and Ishbel's Cabin. These bridges were associated with the most developed portions of hemlock run and were integrated into the mortared sidewalls of the channel. The bridges consisted of flat, rectangular stone bridge decks supported by a large stone pillar in the center of the channel, creating two rectangular openings beneath for the water flow. The easternmost bridge had two steps on its southern end, but the bridge deck meets the grade of the trail on the northern end without any steps. The westernmost bridge had steps on both ends.

Post-historic and Existing Conditions

The bridges have undergone repairs over the years, primarily resetting stones and repairing mortar. These repairs are evident in the different character of the mortar.

Evaluation: contributing

Hemlock Run stone slab footbridge

Historic Conditions

Although there is no documentation of the stone slab footbridge, its association with Hemlock Run and the Hemlock Run Trail, both historic features, and its design and construction suggest that it is original to the historic period.



Figure 3.49. View of the stone slab footbridge over Hemlock Run. (OCLP)

Post-historic and Existing Conditions

The footbridge consists of a large, flat stone slab placed across the channel of Hemlock Run.

Evaluation: contributing

Hemlock Run arched stone footbridge

Historic Conditions

An arched mortared stone footbridge over Hemlock Run was located near the western terminus of the Hemlock Run trail. As the trail does not cross Hemlock Run at this point, the purpose of the bridge is unknown.

Post-historic and Existing Conditions

The arched stone footbridge is extant.

Evaluation: contributing

Mill Prong wooden footbridge

Historic Condition

The first temporary footbridge over Mill Prong near the President's Cabin consisted of simple boards with a rope hand guide installed during the construction of the camp. This bridge is visible in a photo taken in May 1929 during a press visit to the camp, before the stone steps and paths were constructed on the south side



Figure 3.50. View looking east showing the wooden footbridge over Mill Prong. (OCLP)

of the President's Cabin. This was quickly replaced by a more permanent bridge, consisting of a timber-plank deck on log stringers with un-hewn log railings. The new bridge was supported by a large boulder on its west end and on a stacked stone foundation on the east end. This bridge is visible in other photos during the Hoover period (see cover photo).

Post-historic and Existing Conditions

It is unknown how long the original bridge lasted after the historic period, or how often it was repaired or replaced. The current bridge is a reconstruction based on the aesthetics of the original bridge. Notable differences between the current bridge and the historic bridge include log handrails, which are considerably more robust than the original handrails, and the east bridge foundation, which now consists of a mortared stone abutment. These accommodations were made in response to durability and stability issues, as the bridge is subjected to great stresses during flood events.

Evaluation: contributing

Septic pipe and piers

Historic Conditions

Maps that depict the utilities of Rapidan Camp drawn in 1935 and in 1954 show wastewater from the cabins discharged into septic tanks, which in turn appear to discharge directly to Laurel Prong. At the current location of the septic pipe and piers, the maps show one such outflow into the channel. From these maps, it appears that the current pipe and piers were installed at a later time to carry the water over the channel and eliminate direct discharge to the stream.



Figure 3.51. View looking south showing the septic pipe and stone piers. (OCLP)

Post-historic and Existing Conditions

The septic pipe is an elevated four-inch (approximate) metal pipe that crosses Laurel Prong just south of the President's Cabin. The pipe emerges from the ground and crosses the channel supported on two mortared stone piers.

Evaluation: non-contributing

Steel Bridge

Historic Conditions

The design and construction of the original bridge that carried the entrance road over Mill Prong is not known. It would have been constructed early in the development of the camp in the spring or summer of 1929.

Post-historic and Existing Conditions

The original bridge was replace in the early 1940s with a simple steel bridge. The bridge, which survives today, consists of steel girder stringers mounted across the channel in concrete abutments. The bridge is flat with no railings and a metal grate deck.

Evaluation: non-contributing

Unidentified stone structures

Historic Conditions

The stone structures do not appear to have been present during the historic period.



Figure 3.52. View of one of the unidentified stone structures conjectured to be part of the Boy Scout Camp. The pictured structure is located on the hillside northeast of the Five Tents site. (OCLP)

Post-Historic and Existing Conditions

Obscured in the forested areas near Rapidan Camp are two stone structures that have not been positively identified. The structures consist of a rectangular stone foundation with the remnants of post attachments at the corners and along the sides. On top of each stone foundation is a raised stone structure, possibly a barbecue pit or fireplace. One of these structures is located along the entrance road near the junction of the trail from the President's Cabin. The other structure is located on the hillside above the trail to Five Tents. The structures appear to be of similar design and function.

The structures do not appear on any maps from the historic period, nor do they appear on a detailed park map created in 1954 during the period of use by the Boy Scouts. On the latter, the locations of both stone structures corresponds to areas indicated as "existing tent camp area." It has been speculated that these were picnic or barbecue shelters constructed during the Boy Scouts period, a theory supported by their apparent design and location. One former scout who camped at Rapidan, however, recalled the structures as in poor condition at the time, suggesting that they predate the Boy Scout period. The structures may have been a part of the water or other utility systems of the camp.

Evaluation: non-contributing

Shed and vault toilet

Historic Conditions

The shed and vault toilet were not present during the historic period.

Post-historic and Existing Conditions

Located near the vehicular entrance to camp just east of the steel bridge are two small, contemporary park structures, a shed and vault toilet. These structures are sited in an open turf area near the road with a zigzag accessible path leading to the vault toilet. The shed contains telephone equipment and is used for park storage, while the vault toilet is available for visitor use.

Evaluation: non-contributing



Figure 3.53. View looking north showing the vault toilet (right) and the storage shed. (OCLP)

SMALL-SCALE FEATURES

Historic Conditions

Since it was developed as a private camp, Rapidan Camp lacked some of the types of small-scale features typically found elsewhere in Shenandoah National Park. Those that existed were of the Hoovers choosing and unique to the camp setting.

Log benches were placed around the outdoor fireplace, and it was the site of many social gatherings, including talks between Hoover and the British Prime Minister. Log benches are also shown throughout the site in historic photographs in an area along Hemlock Run opposite Town Hall that was used as a horseshoe pitching ground and recreational area.

A letter by a camp guest in 1932 describes porches "made gay with boxes of geraniums and other hardy flowers".[22] Photographs from the historic period show the Town Hall and the President's Cabin porches outfitted with wooden tables and chairs, most likely built by craftsmen from the Marine Camp (some of the camp's interior furniture was also made by the Marines). The Town Hall porch is also shown to have been equipped with game sets for the amusement of the camp guests.

A series of incandescent "street lights" were present at the camp. On the Five Tents Trail, they were mounted high in the trees so as to be relatively hidden and maintain the camp's naturalistic appearance. Lights were especially helpful along this trail when Mrs. Hoover accompanied guests to the clearing in front of Five Tents to watch the moon rise over Fork Mountain. Utility maps from the historic period show additional lights scattered throughout the camp's developed areas, and they

too were probably similarly unobtrusive in design and placement.

Other features included a granite mounting block to serve horseback riders, a variety of hitching posts, a flagpole, and a metal swinging gate along the access road/entrance road (at the property's boundary) that marked the formal entrance to the camp. There were likely other features in the landscape donated by Hoover supporters. It is possible more details about them may be found in the collection of receipts from the era, housed at the Hoover Presidential Library in West Branch, Iowa.

Post-historic and Existing Conditions

Only a few small-scale features remain from the Hoover era, although additional features from that period as well as Boy Scout period may be hidden in the dense understory vegetation. The mounting block is in poor condition and is overgrown, but nonetheless still recognizable for what it is. The hitching post is only a remnant, its piers standing but crumbling and tangled in vegetation. Two lights high up in the trees along the Five Tents Trail are all that remains of the lighting system. They are obviously no longer functional, but still provide a glimpse of the once developed aspect in this natural setting. The original metal gate on the access road/entrance road was removed in 1999 and replaced by another metal gate. The location or remains of the flagpole are not known. A pump head and pipe on the north bank of Laurel Prong likely dates to the Boy Scout period.

Post-historic small-scale features consist largely of a series of interpretive markers located throughout the developed areas. Contemporary metal interpretive signs are located in around the President's Cabin, Prime Minister's Cabin, and the site of Town Hall. There are also various contemporary features such as small sheds,



Figure 3.54. View of the stone barbecue. (OCLP)

a fire hydrant, a rack for a fire ladder, and utility boxes and poles, and concrete curbs that define portions of the original loop.

Evaluation: non-contributing

Overall, the aggregate of small-scale features that added functional and aesthetic richness to the camp does not survive sufficiently to convey their significance. However, individual elements survive and contribute to the site's historic character.

Stone Barbecue

Historic Conditions

The stone barbecue was associated with the Mess Hall in the center of camp. The barbecue was a rectangular mortared stone structure on a stone platform with a masonry block top that held the cooking coals and grill.

Post-historic and Existing Conditions

The barbecue is the only remaining feature associated with the mess hall. The barbecue is in poor condition, with evident deterioration, particularly in the masonry block top. The stone base and stone platform are in fair condition with crumbling mortar and vegetation and moss growing on the rocks and in the cracks.

Evaluation: contributing



Figure 3.55. View of the stone mounting block on the Hemlock Run trail. (OCLP)



Figure 3.56. View of one of the remaining lights mounted in a tree along the trail to Five Tents. (OCLP)

Mounting block

Historic Conditions

Characteristic of the stone features that defined the camp character, the mounting block consisted of a mortared stone platform with stairs on the east end. The mounting block was located west of camp along the Hemlock Run trail at the point where it intersected the road to the stables. Horses were brought up from the stables to meet camp guests at the mounting block. Riders would use the mounting block to make mounting the horses easier.

Post-historic and Existing Conditions

The mounting block is extant, currently covered in moss and partially obscured by vegetation and leaf debris.

Evaluations: contributing

Five Tents lights

Historic Conditions

Lighting within camp was provided by a system of outdoor lights mounted high on tree trunks. The camp originally featured dozens of these lights, providing illumination for all of the cabins as well as the prominent paths and outdoor areas. The lights consisted of a metal dish-shaped shade directed downward, mounted to the trees using a metal pipe.

Post-historic and Existing Conditions

Of the dozens of lights that were in camp originally, only two remain, located on trees along the trail to Five Tents. The lights currently consist of the metal shade and pipe mounting, with no electrical hardware remaining. The lights show signs of rust and deterioration, but are overall in fair condition.

Evaluation: contributing

Hitching post remnants

Historic Conditions

The hitching post was located at the intersection of the spring house road and the road to Marine Camp. The horses were brought up the road to Marine Camp from the stables along the entrance road and hitched to the hitching post for easy access from camp.

Post-historic and Existing Conditions

The piers of the hitching post are extant, but are crumbling and are obscured by vegetation.

Evaluation: contributing

National Historic Landmark marker

Historic Conditions

The National Historic Landmark marker was not present during the historic period.

Post-historic and Existing Conditions

The National Historic Landmark marker consists of a bronze plaque noting the NHL status of "Camp Hoover," mounted on a stone on the ground. The marker, placed in 1988, is approximately eighteen inches high and wide.

Evaluation: non-contributing

Pump head and pipe

Historic Conditions

The pump head and pipe were not present during the historic period.

Post-historic and Existing Conditions

A ten-inch pump head is located on the north bank of Laurel Prong, where the prong takes a sharp turn to the south. The pump head features four swivel turns-crew tighteners and a three-inch pipe that enters the pump head from Hemlock Run below. Also includes fifteen to twenty feet of pipe that was apparently part of a system used to remove water from the Hemlock Run. Date unknown.

Evaluation: contributing

Interpretive signs

Historic Conditions

The interpretive signs were not present during the historic period.

Post-historic and Existing Conditions

Several metal interpretive signs are located in Rapidan Camp. These consist of small etched metal signs mounted on metal pipes providing visitors information about the historic conditions of camp. The signs are located in the area around the President's Cabin, the Prime Minister's Cabin, and the site of Town Hall.

Evaluation: non-contributing

Fire hydrant, ladder rack, and hose shed

Historic Conditions

The fire hydrant, ladder rack, and hose shed were not present during the historic period.



Figure 3.57. View looking southwest showing the hose cabinet, fire hydrant, ladder (since removed), and visitor donation box. The Prime Minister's Cabin is visible in the background. (OCLP)

Post-historic and Existing Conditions

Fire equipment, including a small red fire hydrant, a two-post rack for a fire ladder, and a metal cabinet for storing a fire hose, is located in the area between the President's Cabin and the Prime Minister's Cabin. The hydrant does not appear on the 1954 utility map, so it was installed sometime after that. The other equipment was likely installed at the same time.

Evaluation: non-contributing

VIEWS AND VISTAS

Historic Conditions

Due to the topography and the mostly wooded nature of the site, Rapidan Camp is not thought to have had many significant views beyond the site. One exception was probably from Five Tents, which was situated on a cleared area of hillside to the west of the main camp area buildings and likely had a view across Laurel Prong to Doubletop Mountain. Depending on the season, views of the surrounding mountains may have been possible from other locations in the camp.

The most important views within the camp itself were likely those to and from Hemlock Run and Hemlock Run Falls. It is not known to what extent these views were managed, but they were seen as an appropriately picturesque background in photographs of the Hoovers. Various views of the camp and its gardens were available from the cabins and their attached porches, and from many of the winding paths. There was also presumably a view from the historic trail to Big Rock Falls, but no photographs of this view have been found.

Post-historic and Existing Conditions

Today, there are more views of the surrounding mountains due to the loss of many of the deciduous and hemlock trees at the site. Such views especially exist from Mill Prong and from the porch at the President's Cabin. The historic view of Doubletop Mountain from Five Tents has been obscured by the woods that have overtaken the formerly cleared hillside. Historic views within the site, especially of Hemlock Run and the Hemlock Run Falls, are obscured by undergrowth that has come to dominate in the absence of the lost trees. There are no clear views on the current trail to Big Rock Falls.

Evaluation: non-contributing

The loss of important external views of the mountains from Five Tents, and internal views of the various features within camp, as well as the increase of external

views from the President's Cabin and other portions of camp, have altered the historic character of Rapidan Camp.

Table 3.1. Summary of Analysis and Evaluation

CLR Feature Name	Date of Origin	Evaluation	Comments
Natural Systems and Features			
Laurel Prong	NA	Contributing	Natural stream.
Mill Prong	NA	Contributing	Natural stream.
Rapidan River	NA	Contributing	Natural river.
Big Rock Falls	NA	Contributing	Waterfall and pool on Mill Prong.
Spatial Organization			
Spatial Organization	1929	Contributing	Missing cabins and circulation and encroaching vegetation diminish historic spatial organization.
Circulation			
Entrance Road	1929	Contributing	Graded road from the NPS boundary to the steel bridge.
Circulation Drive and Loop	1929	Contributing	Modified c. 1933 to extend the circulation drive toward the President's Cabin and add circulation loop.
Spring House Access Drive	1929	Contributing	Possibly predates establishment of camp.
Road to Marine Camp	1929	Non-contributing	Only trace of road evident.
Footpaths	1929	Contributing	Partially restored in the 1990s; portions are not extant.
Trail to Five Tents Area	1929	Contributing	Foot trail with stone steps and stone sidewalls.
Hemlock Run Trail	1929	Contributing	Foot trail from camp to Laurel Dam along Hemlock Run
Vegetation			
Large Oak in President's Cabin Porch	NA	Contributing	Large oak tree is pressing on the structure of the cabin.
Mountain Laurels	1929–1933	Contributing	Mature mountain laurels within camp were likely planted during the historic period, but date of origin is not confirmed.
Large Hardwood Canopy Trees	NA	Contributing	Large, naturally occurring hardwood canopy trees within camp.
Hemlock Trees	NA	Contributing	Existing hemlock trees are too young to have been present during the historic period, but provide an important link to historic conditions.
Buildings and Structures			
President's Cabin	1929	Contributing	Restored interior and exterior.
Prime Minister's Cabin	1929	Contributing	Restored.
Creel Cabin	1929	Contributing	
Five Tents fireplace and steps	1929	Contributing	Five tents cabin was removed or destroyed in the 1950s; stone fireplace and chimney and the stone steps are extant.
Outdoor Fireplace	1929	Contributing	
Entrance Road Bridge	1929	Contributing	Stone headwall and steel culverts on the Entrance Road east of camp.
Entrance Road Retaining Walls	1929	Contributing	Dry-stacked stone retaining walls on the Entrance Road east of camp.

CLR Feature Name	Date of Origin	Evaluation	Comments
Hemlock Run stone footbridges	1929	Contributing	Mortared stone footbridges over Hemlock Run; integrated into the stone sidewalls of Hemlock Run.
Hemlock Run stone slab footbridge	c. 1929	Contributing	Single stone slab placed across Hemlock Run on the Hemlock Run Trail.
Hemlock Run arched stone footbridge	c. 1929	Contributing	Arched mortared stone footbridge over Hemlock Run on the Hemlock Run Trail.
Mill Prong wooden footbridge	2005	Contributing	Reconstruction of historic bridge.
Septic pipe and piers	Post-1954	Non-contributing	Not depicted on 1935 or 1954 utility maps.
Steel Bridge	c. 1940s	Non-contributing	Steel bridge over Mill Prong on Entrance Road; replaced earlier bridge.
Unidentified stone structure	c. 1950s	Non-contributing	Two stone structures, possibly Boy Scout barbecue or picnic shelters. Origin unconfirmed.
Shed and comfort station	2009	Non-contributing	Small wooden structures near steel bridge.
Constructed Water Features			
Hemlock Run	1929	Contributing	1,600-foot constructed water channel including 200 feet of mortared stone channel walls.
Hemlock Run Falls	1929	Contributing	Large, flat rock in Hemlock Run channel forming a small waterfall.
Concrete Trout Pool	1929	Contributing	Concrete-lined pool with stone rim.
Mill Prong Trout Pools	1929–1933	Contributing	Pools within the natural stream channel formed by stacked stone dams; traces of the dams remain as scattered concentrations of stones.
Laurel Dam	1929	Contributing	Original dam was of unknown construction and character; existing dam is likely a remnant of the historic dam.
Sluice Gate	1929	Contributing	Concrete blocks designed to hold wooden plank weir between them. Concrete is extant, planks are not extant.
Stone Fountain	1929	Contributing	Circular stone fountain in center of camp.
Rip-rap on Mill Prong	2005	Non-contributing	Dry-stacked stone riprap on the Mill Prong bank below the President's Cabin.
Small Scale Features			
Mounting Block	c. 1929	Contributing	Stone platform and steps along Hemlock Run Trail.
Five Tents lights	1929	Contributing	Two metal light shades attached to trees along the trail to Five Tents.
Hitching post remnants	1929	Contributing	Stone posts that once supported a wooden or metal rail for hitching post.
NHL marker	1988	Non-contributing	Natural rock with bronze plaque indicating National Historic Landmark status.
Pump head and pipe	Unknown	Non-contributing	
Interpretive Signs	Unknown	Non-contributing	
Fire hydrant, ladder rack, and hose shed	Unknown	Non-contributing	
Views and Vistas			
Distant views	NA	Non-contributing	Distant views were not prominent within camp during the historic period due to dense overhead canopy.

ENDNOTES

1 Letter from Lou Henry Hoover

2 Washington Post, 18 August 1929, cited in NHL documentation 1988: Sec.8

3 Herbert Hoover, *Fishing for Fun and to Wash Your Soul* (New York: Random House, 1963), 22.

4 Darwin Lambert, "Administrative History, Shenandoah National Park, (Unpublished National Park Service report, 1981), 27, cited in NHL documentation 1988: Sec.8

5 Letter from Lou Henry Hoover to friend, 27 January 1929, copy in SHEN archives.

6 Lou Henry Hoover, "Flowers and Shrubs for the President's Camp," 1929, copy in Shenandoah National Park Archives.

7 Washington Herald, 7 October 1929, cited in NHL documentation 1988: Sec.8

8 Lou Henry Hoover (attributed), "Information for Camp Hoover Guests," c. 1929, copy in Shenandoah National Park Archives.

9 Darwin Lambert, *Herbert Hoover's Hideaway* (Luray, VA: Shenandoah Natural History Association, Inc., 1971), 42.

10 Lambert 1971, 82.

11 Herbert Hoover, Madison Day address, 1929.

12 *New York Times*, June 12, 1932.

13 Lambert 1971, 73.

14 NHL documentation 1988: Sec.8

15 Lambert 1971, 56.

16 NHL documentation 1988:Sec.8

17 Lambert 1981, 28.

18 Lambert 1971, 101.

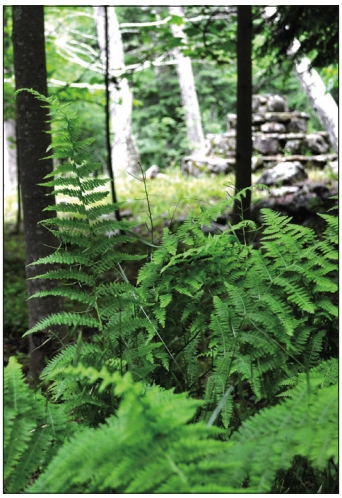
19 Letter from Lou Henry Hoover

20 Lou Henry Hoover, "Flowers and Shrubs for the President's Camp," 1929, copy in Shenandoah National Park Archives.

21 Wendy B. Cass, "Reconstructing the Past: Describing Vegetation Composition and Change at Camp Hoover, Shenandoah National Park," unpublished report, 1999.

22 Laurel Racine, *Historic Furnishings Repoert: Rapidan Camp: The Brown House* (National Park Service, 2001), 31.

Treatment



This chapter presents a treatment strategy for long-term preservation and management of the cultural landscape of Rapidan Camp. According to National Park Service policy, the cultural landscape report serves as the primary supporting document guiding the treatment of a cultural landscape, and is required before major interventions. Treatment is the collective set of actions taken within a cultural landscape intended to ensure the protection and preservation of the resources and characteristics that contribute to its historic character. Treatment guidance may range from broad guidelines and principles to specific tasks. The overall goal of treatment is to provide a basis for the sound stewardship of the cultural landscape as outlined in the *National Park Service Cultural Resource Management Guideline* (1997) and the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1996).

The treatment strategy for Rapidan Camp is focused on enhancing visitor experience and understanding of the landscape's historic character and revealing camp structure and organization through feature repair, vegetation management, and interpretation. Treatment efforts include reestablishing a thriving forest canopy over the camp, cultivating a woodland garden character as imagined by Lou Henry Hoover, repairing and rehabilitating water features, clearing and interpreting the location of missing cabins, and reestablishing historic circulation patterns. In addition to these efforts, treatment will ensure that the surviving historic structures and landscape features are preserved and protected from damage from vegetation and the risk of fire, and that non-historic features are adequately screened from view.

The treatment strategy must balance the preservation of the camp's historic character with management of the natural systems of the camp and its environs. The camp lies deep within a natural area, surrounded by hardwood forest, mountain streams, and critical habitat for native plants and animals. Treatment will consider these native ecosystems, endangered species, invasive non-native species, fish and wildlife habitat, water quality, and hydrology. Treatment must be adaptive to changing environmental conditions, including the loss of the hemlock trees in camp and the continued threat of the hemlock woolly adelgid, and responsive to threats such as fire and floods.

The treatment is informed by the technical assistance provided by the University of Tennessee Institute of Agriculture, Department of Forestry, Wildlife, and Fisheries. The group, led by Dr. Jennifer Franklin, Associate Professor, provided analysis of the soils, canopy cover, forest density, seedling regeneration, and pre-

dominant plant species. Based on their analysis, the University of Tennessee team provided recommendations for achieving the management objectives for Rapidan Camp. The treatment strategy builds on these recommendations within the context of the overall management of the cultural landscape.

The treatment recommendations that follow are based on findings of the site history, existing conditions, and analysis and evaluation chapters of this report. The recommendations were developed through discussion and collaboration with park staff and resource specialists and were refined during a treatment workshop at the park in June 2013.

FRAMEWORK FOR TREATMENT

This section describes the framework within which the landscape treatment guidelines and tasks in this report have been developed. Based on park legislation, mission, policies, and planning, the framework supports a treatment philosophy that calls for preserving and enhancing the historic character of the landscape to reflect the period of time it was used by President Hoover within the context of the natural systems of the camp and its environs.

ENABLING LEGISLATION, MISSION, AND POLICIES

Shenandoah National Park was authorized by Congress on May 22, 1926 along with Great Smoky Mountains National Park. While the language within the legislation is limited as to the purpose of the park, it does state that the lands were "set aside as public parks for the benefit and enjoyment of the people . . . ." Treatment for Rapidan Camp is also guided by the National Park Service Organic Act, which establishes the National Park Service and defines its purpose "to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such a manner and by such means as will leave them unimpaired for the enjoyment of future generations."[1]

The status of Rapidan Camp as a national historic landmark and its inclusion in the National Register of Historic Places make the property also subject to the terms of the National Historic Preservation Act of 1966. The law and its subsequent guidance documents clearly stipulate how historic resources are identified, documented, evaluated, and managed. According to the law, the park assumes the responsibility for the preservation of the historic properties within its jurisdiction. At Rapidan Camp, these resources include the contributing buildings, structures, vegetation, and landscape patterns described in the register nomination and in the Cultural Landscapes Inventory. The park must take into consideration the historic value of these resources when undertaking any actions that may affect the re-

sources and comply with the *Secretary of the Interior's Standards for the Treatment of Historic Properties*.[2]

Additional guidance is contained within *National Park Service Management Policies* (2006), *Director's Order #28, Cultural Resource Management*, and *National Park Service Resources Management Guidelines* (*NPS-28*). NPS-28 provides guidance on management of a number of issues related to cultural landscape preservation, including biotic systems, which are defined as plant and animal communities associated with human settlement and use. *NPS-28* directs management of specimen vegetation such as trees, hedges, and orchards to ensure health and vigor and, if appropriate, provide for propagation of the next generation, especially for rare plants or those unavailable in commerce. For natural systems, *NPS-28* calls for managing landscape patterns to allow for natural dynamics. Exotic plant species, which are often found in cultural landscape, should be monitored and controlled to avoid spreading and disrupting adjacent natural plant communities. In addition to biotic systems, *NPS-28* states that historic circulation features are to be rehabilitated to accommodate health and safety codes in ways that minimize impacts to historic character.

Park Planning

The National Park Service expresses its priorities and goals for the management of its resources through its planning documents, including General Management Plans, Master Plans, Development Plans, and Foundation Documents. These planning documents articulate the park's purpose and fundamental resources, establish long-term goals and strategies, and provide opportunities for public review and input. These documents provide umbrella guidance under which the treatment recommendations of the Cultural Landscape Report are developed.

The combined document General Management Plan and Development Concept Plan for Shenandoah National Park, completed in 1983, was originally intended to be used to guide park management for ten to fifteen years. Although the document is out of date, it continues to serve as the official planning guidance for the park. At the time the General Management Plan was completed, Rapidan Camp, then referred to as Camp Hoover, was recognized as a historically significant site and a valuable cultural resource, although it had yet to be evaluated and designated as a National Historic Landmark. The plan outlined the following approach for Rapidan Camp:

> The exteriors of the three cabins at Camp Hoover will be preserved in their present state. Restoration of some minor features original to the structures will be made based on recommendations of the historic structure report. Future repair of the interior of the Prime Minister's Cabin will use materials similar to that used in original construction. The interior of the President's Cabin and The Creel will be preserved in their present state. The extant foundations and

> structures (including steps, utilities, paths, roads, and the artificial stream) will be stabilized, and a plan will be developed for interpreting the historic grounds. The camp will be evaluated for designation as a national historic landmark. It will continue to be used as summertime lodging for the president, White House staff, cabinet officers and members of their staffs, and congressional leaders.[3]

Although use by the president and other public officials was discontinued in the 1990s, the management of Rapidan Camp has generally followed the recommendations of the plan.

TREATMENT PHILOSOPHY

For cultural landscapes, a treatment philosophy defines an overall goal of enhancing historic character and perpetuating those characteristics and features that convey historic significance based on the landscape's historic integrity, park policies and planning, natural resource protection, park operations, and other resource management issues.

Rapidan camp is a surviving record of one of the most personal aspects of Herbert Hoover's presidency, and an embodiment of some of his most fundamental values and interests. President Hoover believed in the restorative power of nature, and he believed that regular contact with nature was essential for balance and perspective. Rapidan Camp provided him the opportunity for that contact while he was in office, and he credited his time at camp with his ability to perform his job as president. The location of the camp, its natural features, its organization, and its aesthetic qualities were all carefully stipulated by Mr. and Mrs. Hoover to maximize the experience of nature. All built or manipulated elements of the camp were rustic or naturalistic in style, minimal in scale, and inconspicuous in the landscape. The camp was designed to encourage the use of outdoor spaces for gathering, dining, meeting, strolling, recreating, or resting. Although immersed in nature, Rapidan Camp was decidedly more cultivated, with a tidy appearance, flowering ornamental plants, stone features, and stone-lined paths. Visitors relaxed under the dappled shade from the hemlocks and were soothed by the sound of water in the streams and water features. The camp had a peaceful and quiet atmosphere and a distinct feeling of seclusion from the outside world while maintaining its separateness from the wild surrounding forest.

The Rapidan Camp landscape will be managed to preserve and enhance its historic character while adapting to changing environmental conditions and establishing a sustainable direction for future management. Rather than attempting to recreate historic conditions exactly, adaptive strategies will be used to enhance the essential qualities that convey the camp's history, while conforming to site conditions that differ significantly from the historic period, meeting natural resource objectives, accommodating visitor access and interpretation, and protecting the resources from fire, flood, and other threats. The essential qualities that define the

historic character include dense shade provided by a closed tree canopy, an open understory with ornamental shrubs and herbaceous plants, the immediate presence of running water, and legible camp spatial organization. To enhance these qualities, the tree canopy will be reestablished using pioneering tulip poplars, and a recommended native plant palette will help guide the management of understory vegetation to achieve the desired character. The presence of water within camp will be enhanced through the repair or rehabilitation of water features to establish greater control over the volume and timing of water flow through the features. The spatial organization of the camp will be revealed through careful vegetation management, reestablishment of portions of the circulation system, and interpretation of the locations of former cabin locations.

During the historic period, the towering hemlock trees were a major character defining feature, creating a high overhead canopy and providing deep shade beneath. In the past fifteen years, the hemlock woolly adelgid decimated the hemlock trees, and today only a handful of young trees remain within camp. The continued threat of the hemlock woolly adelgid precludes the reestablishment of the hemlock grove at the present time, necessitating the selection of replacement species to create an overhead canopy and its corresponding shade. Rather than importing a non-native conifer substitution, the tree canopy will quickly be reestablished using native tulip poplars that are already pioneering in the open areas of camp. Meanwhile, the surviving hemlock trees will be protected with pesticide treatment and propagated, preserving the possibility of reestablishing the hemlock grove at a future date if conditions become more favorable.

The use of native vegetation in camp is part of an overall sustainable approach to treatment of the cultural landscape. Establishing a diverse community of native plants will enhance the camp's historic character, while reducing maintenance efforts, minimizing potential impacts to natural systems, and building resiliency to future changes in environmental conditions. Likewise, all treatment recommendations are considered within the context of the forest and stream ecology, with priorities to protect stream health and the quality habitat for brook trout and other stream biota, preserve quality habitat for forest wildlife, protect endangered species, and prevent the spread of non-native vegetation. Treatment will allow visitors to understand Rapidan Camp both for its historic associations and as an integral part of its local natural systems, preserving the natural qualities that initially drew the Hoovers to the site and endeared it to them for the rest of their lives.

The treatment strategy will focus management efforts in the areas of camp that provide the best opportunity to enhance historic character and convey that character to visitors. The areas of highest priority, centered around the President's Cabin and Prime Minister's Cabin, contain the highest concentration of extant historic resources and exhibit the greatest integrity of historic character. These areas also correspond to the primary points of access and interaction with the vis-

iting public as they stroll across the cabin porches, camp paths, and stone bridges. Focusing resources in these areas maximizes the positive impact to historic character and the potential to contribute to interpretation and visitor understanding of the site's significant associations. To this end, management zones are defined that establish priorities, articulate desired character, and identify the types and level of treatment actions that apply within the camp.

Primary Treatment: Rehabilitation

The Secretary of the Interior is responsible for establishing professional standards on the preservation of cultural resources listed in or eligible for listing in the National Register of Historic Places. The *Secretary of the Interior's Standards for the Treatment of Historic Properties*, revised in 1992, were codified as 36 CFR Part 68 in the 12 July 1995 Federal Register (Vol. 60, No. 133). The standards define four primary treatment approaches according to preservation goals: *preservation*, *restoration*, *rehabilitation*, and *reconstruction*. Preservation standards require retention of the greatest amount of historic fabric, including the landscape's historic form, features, and details as they have evolved over time. Rehabilitation standards acknowledge the need to alter or add to a cultural landscape to meet continuing or new uses while retaining the landscape's historic character. Restoration standards allow for the depiction of a landscape at a particular time in its history by preserving materials from the period of significance and removing materials from later periods. Reconstruction standards establish a framework for re-creating a vanished or non-surviving landscape with new materials, primarily for interpretive purposes.

At Rapidan Camp, *rehabilitation* is the recommended treatment for the cultural landscape because it provides the flexibility needed to preserve the resources and enhance the historic character of the camp, while accommodating current site conditions and meeting the objectives outlined in the treatment philosophy. Rehabilitation will accommodate the selection of replacement tree species to reestablish the forest canopy and the establishment of a strictly native understory of ornamental plants. Rehabilitation will also permit accommodations for safety and resource protection, such as the removal of contributing vegetation that poses a fire threat or taking steps to protect structures from floods, and alterations to the water features to increase the control of water flow, minimize impacts to the stream hydrology, and reduce the risk of flooding within the camp.

According to the *Secretary of the Interior's Standards for the Treatment of Historic Properties*, rehabilitation treatment actions must conform to the following standards:

1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial

relationships.

2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.

3. Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.

4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.

5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.

6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.

7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.

8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work shall be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.

10. New additions and adjacent or related new construction will be undertaken in a such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

The recommended primary treatment of rehabilitation applies to the landscape as a whole, describing an overall approach to the management of the cultural resources. Under the umbrella of rehabilitation, treatment of different areas of the landscape or of individual features may include any of the four treatment approaches (preservation, restoration, rehabilitation, and reconstruction), depending on historic integrity, interpretation, natural resource management, and park operations.

Treatment Reference Date: 1933

Identification of a treatment reference date provides an objective benchmark for managing historic landscape character. The treatment reference date corresponds to a time during the historic period when the landscape reached the height of its development or a time when the property best illustrated the property's significance and interpretive themes. In rehabilitation, identifying a treatment reference

date is not for the purpose of replicating conditions present at the time, but rather to avoid imposing anachronistic elements that never coexisted on the property.

At Rapidan Camp the recommended treatment date is 1933. The period of significance extends from 1929, when construction of the camp began, to 1933, when Herbert Hoover left office and stopped using the camp. The camp was nearly completely developed by the end of 1929, but over the next four years the vegetation would have matured and the camp would have recovered from the intense disturbance of initial construction. By 1933, the camp would have reached the highest expression of its form and character, fully reflecting the design intentions and personalities of Herbert and Lou Hoover.

GENERAL TREATMENT GOALS

As expressed in the treatment philosophy, the overall objective of landscape treatment at Rapidan Camp is to enhance visitor experience and understanding of the landscape's essential qualities and historic relationships, while adapting to current site conditions, natural resource concerns, resource protection, and visitor use and interpretation.

The following general treatment goals establish a strategy for accomplishing this objective by targeting the essential qualities of the historic character, including shade provided by a high tree canopy; an understory of ornamental plants presenting a tidy, cultivated character; the immediate presence of flowing water within the water features; and historic spatial organization that is legible through extant features, circulation, and interpretive efforts.

Treatment Goal: Reestablish Forest Canopy
Desired Character

- **High canopy, few low branches**
- **Large, straight trunks**
- **Sparse mid-story**
- **Deep to dappled shade**
- **Even-aged, single-species dominant**



Reestablish forest canopy

The canopy above Rapidan Camp was historically composed of eastern hemlock trees (*Tsuga canadensis*), towering evergreens with short, soft needles that provided dappled to deep shade year-round. This shade was one of the most distinctive qualities of the camp during the historic period, creating a cool, secluded atmosphere and a sense of physical enclosure by the high canopy above. The shade also discouraged understory and mid-story growth, creating an open character underneath the canopy and a sparse, duff-covered floor underfoot.

The loss of the hemlock trees to the hemlock woolly adelgid dramatically altered the character of the camp, opening the forest floor to sunlight and encouraging dense shrub and sapling growth. Reestablishing the high overhead canopy and the shaded character of the camp will help restore the shady character that once defined the camp. Increasing the shade within the camp will also help suppress undesirable pioneering understory species and encourage a native forest-floor shrub and herbaceous layer throughout the camp.

Today hemlocks continue to be vulnerable to the hemlock woolly adelgid, requiring ongoing treatment with systemic pesticide to control the infestation. Reestablishment of the hemlock canopy would require a lengthy propagation program to generate seedlings from existing specimens, as well as clearing of existing vegetation, extensive planting, and treatment for an indefinite period. Should pesticide treatment lapse in the future or a resistant population of adelgid become prevalent, the entire hemlock stand could collapse at once, leaving Rapidan Camp once again in a sunny clearing.

White pine (*Pinus strobus*) is a native evergreen species that grows tall and fast and would create a shading canopy with an open understory. Several white pine seedlings were planted in Rapidan Camp during the early 2000s, but there is little evidence of natural regeneration within the camp. Establishment of a sizeable white pine stand would require significant investment in planting and cultivation of the trees. And while white pine has the advantage of being evergreen, they may be susceptible to a number of pests and diseases and will become hazard-prone as they age.

Although tulip poplars (*Liriodendron tulipifera*) would likely have represented a small component of the overall tree cover during the historic period, the trees exhibit a number of desirable characteristics that make them the preferred species for canopy reestablishment at Rapidan Camp. Tulip poplars are a pioneering species that is already colonizing many parts of the camp that had been opened to sunlight by the hemlock loss. These trees are growing quickly and are already creating a low closed canopy that is creating a deep shade on the ground below them. Little intervention would be necessary to quickly establish a closed canopy of these trees throughout the camp. Tulip poplars are long-lived and grow tall and

straight with high canopies and few lower branches. The trunks will eventually become large and columnar, similar in form to the hemlock trunks. Careful management of existing tulip poplar trees, supplemented by transplanting tulip poplar saplings into clear areas, will achieve the desired shaded character within camp with the least amount of initial investment and ongoing maintenance.[4]

Cultivate woodland garden character

Both Mr. and Mrs. Hoover believed that careful cultivation of the camp grounds could enhance the scenic qualities of the camp. Mrs. Hoover was especially concerned with plantings within the camp, specifying her and the president's preferences in detailed instructions regarding the camp's landscaping. Her instructions, supported by photos from the period, indicate a naturalistic garden character composed primarily of native, local shrubs and flowering perennials arranged in informal groupings near the cabins, paths, and other points of interest in the camp. (See Appendix A for a transcript of Mrs. Hoover's instructions.)

The garden character of Rapidan Camp should be enhanced to emphasize a sense of cultivation and underscore the camp's contrast with the surrounding forest. The understory should be managed to improve sight lines, reduce tall, scrubby shrubs and large forest debris, and cultivate ornamental native vegetation and herbaceous ground cover. The vegetation within the camp should be grouped naturalistically, with a mixture of species, sizes, and textures in informal arrangements near paths, cabins, bridges, steps, and water features. Cultivated areas should appear natural and blend with the forest beyond camp, with no perceptible edge or transition. Consistent with Lou Henry Hoover's instructions, the plantings, "while having a certain compactness so as to give masses of color, should ramble off into

Treatment Goal: Cultivate Woodland Garden Character
Desired Characteristics

- **Native herbaceous ground cover**
- **Native woodland shrubs and perennials**
- **Naturalistic arrangements near paths and cabins**
- **Orderly and cultivated character**



the surroundings. They should not be carefully trimmed nor should the beds be outlined in any way."[5]

The species selected for inclusion in camp should be restricted to native forest species appropriate to the location. Using native plants is in keeping with the values and wishes of the Hoovers, consistent with historic character, and sensitive to the native forest ecosystem.

Enhance experience of water within the camp

The presence of water was an essential characteristic of Rapidan Camp during its historic period. The camp's location at the confluence of the two natural streams ensured that the sounds of rushing and gurgling water permeated the camp experience. The natural presence of water was enhanced with the construction of Hemlock Run and the stone water fountain, which brought water right to the center of camp. Features like Hemlock Run Falls, the concrete trout pool, and the cascading pools of Mrs. Hoover's rock garden were prominent picturesque features.

The vital role of water within Rapidan Camp should be strengthened and enhanced through the repair and rehabilitation of the camp's constructed water features. All of the constructed water features should be inspected, repaired, and maintained in good condition. Furthermore, where feasible they should be repaired or rehabilitated so that their original functions are restored and they may once again convey the vital role water played in the character of the camp. Treatment actions include rehabilitating Laurel Dam and the sluice gate to deliver water to Hemlock Run in a controlled manner so that it may flow at a higher rate during the summer, rehabilitating the fountain so that it can be operated with supplemen-

Treatment Goal: Enhance Experience of Water Within Camp
Desired Characteristics

- **Sounds and sights of flowing water present in camp**
- **Constructed water features operational and maintained in good condition**
- **Establish control over water system**



tal water during brief demonstrations or special events, and repairing the concrete trout pool and its outflow so that it will fill with water and overflow along its stone channel back to Hemlock Run. These actions will make the water features more visible and foster a better understanding of their historic function and character.

Any alterations to the water systems of camp should be assessed for their potential impacts to the hydrology of the camp and its natural streams. Potential impacts include an increased risk of flooding, increased erosion, altered water flow in the stream channels, or damage to historic structures or other camp features. The assessment should evaluate the risk associated with implementing recommended treatment actions and weigh the risk against the benefits of enhancing the camp's historic character.

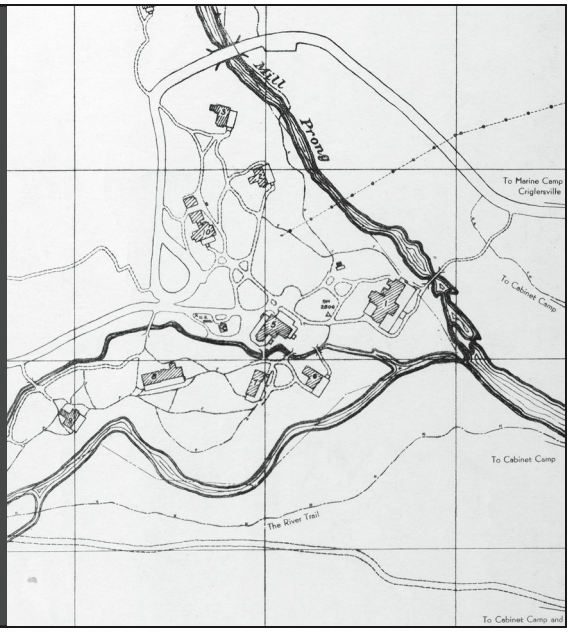
Reveal structural and organizational patterns of the camp

When Rapidan Camp was laid out, its organization was carefully considered to maximize the sense of seclusion and privacy while encouraging social interaction, conversation, and collaboration. The President's Cabin and guest cabins were located along the streams and along Hemlock Run on the edges of the camp so that the connection to the water and to the surrounding forest was emphasized, while social spaces were centrally located. These qualities, as well as the overall size of the camp, the cabin arrangement and spacing, and some of the circulation patterns through camp, have been partially lost due to missing cabins and other features and the encroachment of obscuring vegetation.

To help convey the spatial characteristics of the historic camp, steps should be taken to reveal and interpret the missing elements of camp, restore portions of the historic circulation, and reestablish the spatial qualities of the camp's vegeta-

Treatment Goal: Reveal Structural and Organizational Patterns of Camp
Desired Characteristics

- **Extent of historic camp visibly differentiated from surrounding forest**
- **Camp extent exhibits a character of care**
- **Cabin footprints visible and interpreted**
- **Key circulation features reestablished**



tion. The locations of former cabins and other camp features should be confirmed through archeological investigation and marked on the ground to preserve the information. The cabin locations and arrangement of the overall camp should be made visible through interpretive methods.

Deemphasize non-historic features

There are currently few non-historic non-compatible features in Rapidan Camp that detract from the historic character. Those that are present, however, are conspicuous, and measures can be taken to deemphasize the visual presence of non-compatible features.

Treatment Goal: Deemphasize Non-Historic Features
Desired Characteristics

- **Non-historic structures and infrastructure are inconspicuous in the landscape**
- **Non-historic features are located out of direct view from primary camp areas**
- **Non-historic structures are screened with vegetation**
- **All non-historic development is compatible with the historic character**



Non-historic features that no longer serve a purpose should be removed. Features necessary for safety, visitor services, or other reasons should be located where they are less conspicuous or screened with vegetation. Compatible materials and construction methods should be used for all non-historic features within the historic camp.

UNIVERSITY OF TENNESSEE FINDINGS AND RECOMMENDATIONS

The scope of the technic al assistance component of the project was to provide analysis of the soils, canopy cover, forest density, seedling regeneration, and predominant plant species present in Rapidan Camp and in the forests immediately around it. The team found that the forest structure in and around Rapidan Camp has been significantly impacted by the loss of hemlocks due to hemlock woolly adelgid. The regenerating forest, characterized as a young hardwood forest, is dominated by yellow poplar trees that appear to have established themselves at around the same time. The poplars will likely remain the dominant species as they are fast growing and will compete aggressively against other species. Diverse seedlings are present, but few survive to the sapling stage, indicating control by the park, impacts from deer browsing, or a combination of the two. Total basal area of the camp area is between ten and twenty-five square meters per hectare.[6]

Herbaceous cover is a mixture of non-native and native species, with non-native herbaceous plants and cool-season grasses dominating in disturbed areas around parking lots, paths, and cabins. Native woodland species, such as fern, mayapple (*Podophyllum peltatum*), trilliums (*Trillium* spp.), and violets (*Viola* spp.) were well represented in the ground-cover layer in areas where shade has been reestablished.

Based on management objectives for Rapidan Camp, the University of Tennessee team provided recommendations for establishing a shading canopy, controlling non-native vegetation, mitigating fire hazards, and maintaining stream health for trout habitat. These management recommendations, based on limited criteria for meeting the natural resource goals outlined in the original project scope, were then used to generate the treatment guidelines and tasks in the following sections. The treatment guidance that follows is based in part on the recommendations of the University of Tennessee team, but also take into account a full range of objectives, including significance and integrity, historic character, maintenance, interpretation, and visitor experience. These additional considerations may lead to modifications or discrepancies between the two sets of recommendations. The treatment guidance and tasks contained within the body of this Cultural Landscape Report should be considered the comprehensive recommendations for the

treatment of the cultural landscape that consider the full set of relevant issues.

The findings and recommendations, including recommended plant lists, were presented in a report to the Olmsted Center for Landscape Preservation. The report is included for reference as Appendix C.

MANAGEMENT ZONES

For the purposes of developing effective treatment recommendations, the cultural landscape of Rapidan Camp is organized into four management zones (Figure 4.1). These zones will assist in prioritizing treatment efforts and focusing available resources where they may be of most benefit in enhancing the historic character and visitor understanding of the landscape. The delineation of the management zones and their respective treatment approaches take into account the concentration of extant historic features and their relative historical value, as well as visitor access and experience of the site, and the potential to contribute to interpretation and visitor understanding of the site's significant associations.

The first zone, the Camp Core, comprises the area immediately around the Presi-

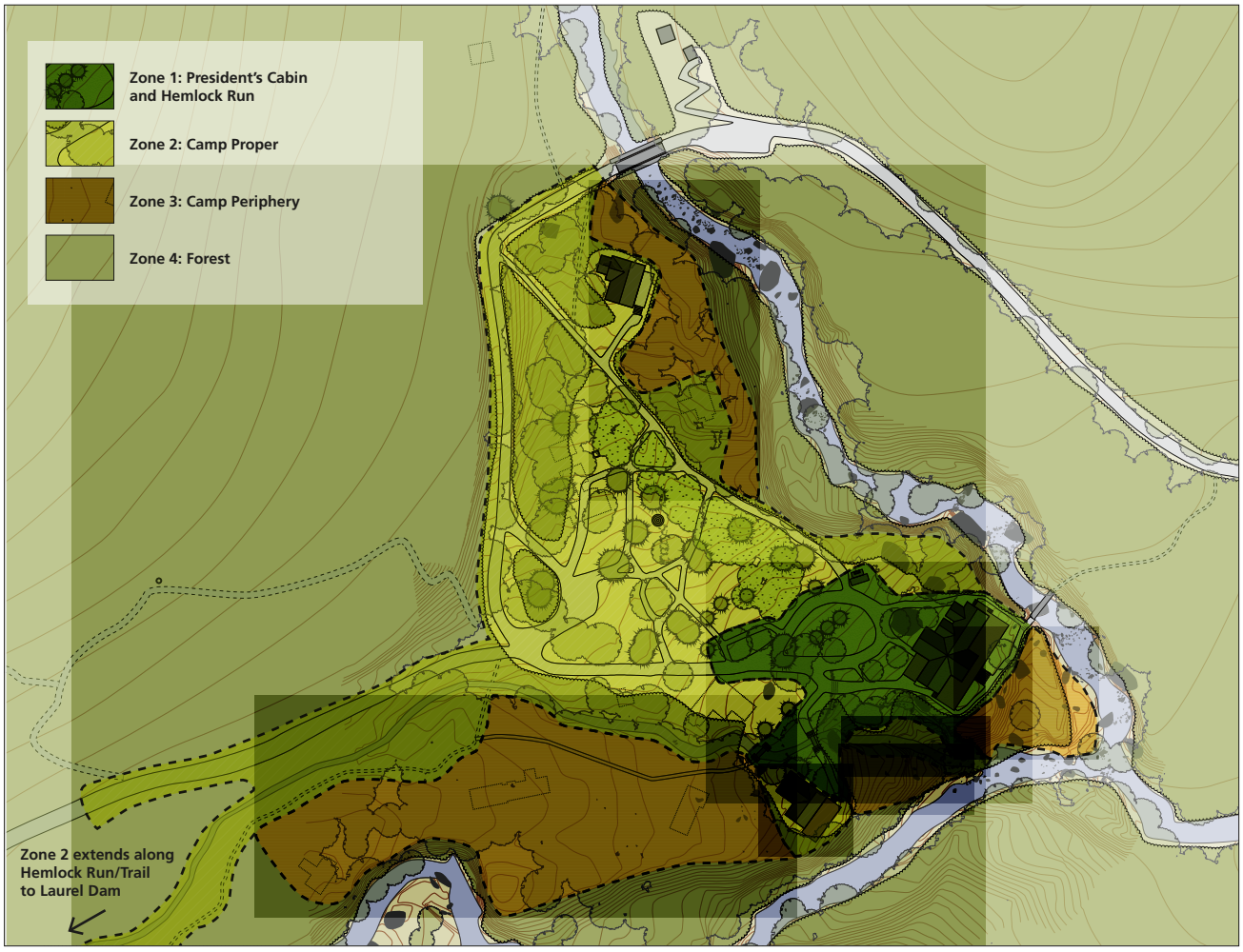


Figure 4.1. Diagram showing the management zones of Rapidan Camp. (OCLP)

dent's Cabin, the Prime Minister's Cabin, and Hemlock Run. This area represents the functional center of camp during the historic period and retains the highest concentration of contributing historic resources. This zone should receive a high level of intervention, and will have the greatest impact on the camp's historic character. The second zone, the Camp Proper, includes most of the remainder of the extant circulation system, as well as the Creel Cabin and features like the stone fountain and the stone barbecue. The third zone, the Camp Periphery, contains the peripheral areas of camp along the edge of the forest and portions of camp that are currently obscured with forest cover. These three zones collectively represent approximately five percent of the total area within the National Historic Landmark boundary. The fourth zone, the Forest, covers the balance of the area within the boundary, including primarily forested areas outside of the primary camp core.

The guidance for each of these zones is intended to provide general management guidelines, primarily for the management of existing vegetation, the addition of new vegetation, and the general care and maintenance of vegetated areas. Numerous historic features are located throughout all four zones, including cabins, cabin foundations, stone features, paths, lights, water features, culverts, and bridges. Preservation of the features is of equal priority, and all efforts should be taken to protect and preserve all historic features located within the National Historic Landscape boundary.

ZONE 1: CAMP CORE

Zone 1 comprises an approximately half-acre area immediately around the President's Cabin, including features like Hemlock Run, Hemlock Run Falls, and the concrete trout pool and its stone-lined outfall, as well as paths and stone bridges. This zone contains the highest concentration of character-defining features and possesses the most potential to convey the site's historic character, and should therefore receive the highest level of management and preservation effort.

The desired character for Zone 1 is that of a woodland garden, with naturalistic arrangements of native woodland shrubs and an herbaceous ground cover of diverse native forest-floor ferns, forbs and grasses. The woodland shrubs should be compact in form, ranging from one to six feet in height, with attractive foliage and flowers. These shrubs should be clustered in small, mass plantings along the edges of paths, particularly at path intersections, as well as near cabin steps and foundations, stone features, and other points of interest. The shrubs should be arranged close together with irregular spacing, height, and alignment to give the impression of natural planting groups.

Areas between the shrub groupings should be filled with a cover of native forest-



Figure 4.2. The desired character for Zone 1 is that of a woodland garden, with naturalistic arrangements of native woodland shrubs and an herbaceous ground cover of diverse native forest-floor ferns, forbs and grasses. Large mountain laurels, likely dating from the historic period, grow along with ferns and other ground covers at the south side of the President's Cabin. (OCLP)

floor vegetation, including ferns, native grasses, and other herbaceous ground covers and flowering perennials. Overall, the zone should have a tidy and well-kept appearance free of invasive weeds and excess forest debris. Shade is of primary importance within Zone 1, and effort should be made to reestablish a closed shading canopy throughout the zone.

Vegetation within Zone 1 should be actively managed, with careful control of what grows within the zone. Initial and ongoing management includes diligent efforts to identify and remove unwanted species and plants with undesirable form. Naturalized forest-floor forbs should be retained and cultivated, while non-native species should be removed by hand. Stubborn species may be carefully spot-treated with approved herbicide. Native ornamental shrubs should be planted in naturalistic clusters along paths and other features. Tulip poplar trees should be transplanted into areas that do not currently feature an overhead tree canopy. Areas currently covered in non-native turf grass should be converted to forest-floor forbs and grasses with a more naturalistic character.

ZONE 2: CAMP PROPER

Zone 2 encompasses approximately two acres of the remaining areas of the developed camp, including the Creel Cabin and the Prime Minister's Cabin, the stone-lined path network, and stone features like the fountain and outdoor fireplace. Along with Zone 1, this zone comprises the core area of Rapidan Camp and continues to convey its historic associations, but its lower concentration of extant features intimates a second-tier priority level for intensive vegetation management.

The desired character for Zone 2 is largely defined by a natural forest-floor character with a lush green ground-cover layer of ferns, forbs, and grasses less than

two feet high beneath a high tree canopy. This area should have few shrubs and an almost complete lack of larger understory and midstory plants between five feet and twenty feet high. This vertical space between the ground cover and overhead canopy should be largely clear allowing uninterrupted views through the vegetated areas. While lacking some of the garden-like qualities of Zone 1, Zone 2 should convey an overall quality of tidiness and care, with little conspicuous scrubby vegetation, standing dead wood, or large woody debris.

Management in Zone 2 involves targeted removal of unwanted vegetation and the retention and cultivation of desired overstory and ground-cover vegetation. Invasive species, woody shrubs and young trees, and large woody debris should be removed from within the zone to maintain an open midstory. Ground-cover forbs should be cultivated where they are absent, which may include clearing leaf litter and other debris to encourage growth and transplanting plants from other locations. Existing tulip poplar trees should be retained and selectively thinned to create a closed overhead canopy, and tulip poplar seedlings transplanted into areas that do not currently have an overhead tree canopy. Areas currently covered in turf grass should be converted to forest-floor forbs and grasses with a more naturalistic character as shade develops.

ZONE 3: CAMP PERIPHERY

Zone 3 comprises the areas around the periphery of the former camp and portions of camp that are currently covered in dense forest, an area of less than two acres. This area includes the southwest portion of the former camp where Ishbel's Cabin, the Slums, and Trail's End once stood, as well as the circulation system that once served these cabins and portions of Hemlock Run. Zone 3 also includes areas along the stream bank that are important for views down to the stream from



Figure 4.3. The desired character for Zone 2 is that of a natural forest floor with a lush green ground-cover layer of ferns, forbs, and grasses less than two feet high beneath a high tree canopy. This area is characterized by few shrubs and an almost complete lack of larger understory and midstory plants between five feet and twenty feet high. (OCLP)

camp.

Zone 3 represents a transition between the camp proper and the surrounding forest. The desired character of the periphery zone differs from the camp proper by the abundance of low understory shrubs and small trees, as well as downed trees and woody debris. The connection between the camp proper and the periphery zone, and the contrast between the periphery and the surrounding forest, should be conveyed primarily by the maintenance of sight lines through the understory. The midstory stratum above about four feet should be largely open, with clear views through these areas. Views from paths, cabin porches, and other points within the camp proper should penetrate well into the periphery zone, and features within the zone, including Mill Prong, Laurel Prong, Hemlock Run, and the cabin footprints, should be visible from nearby points within the camp.

Management of the vegetation in Zone 3 involves the periodic removal of midstory vegetation, tall shrubs, and vines that obscure views through the understory. Dense thickets of vegetation and large woody debris should be removed, and nonnative species eliminated. Contributing features should be preserved, including the removal of vegetation that might impact the features. Particular effort should be made to preserve native species listed in Mrs. Hoover's list of preferred plants (Appendix B).

ZONE 4: FOREST

Zone 4 includes areas beyond the actively managed core of the camp, extending to the National Historic Landmark boundary, approximately seventy-six acres. Zone 4 includes area that contributes to the cultural landscape and contains a number of contributing features, however, its position outside of the camp proper and



Figure 4.4. The desired character of the vegetation in the periphery zone differs from that of the camp proper by the abundance of low understory shrubs and small trees, as well as down trees and woody debris. The periphery zone should exhibit a less-meticulous level of care while providing clear views through the understory. (OCLP)

its location within the natural areas of the forest warrant a more limited level of intervention. Contributing features in Zone 4 include the Five Tents site, steps, and fireplace; the Five Tents trail; portions of hemlock run and its associated features, wall, and bridges; Laurel Dam and the sluice gate; and the Entrance Road and its associated bridges and culverts.

The desired character of Zone 4 is that of a natural hardwood forest, composed of overstory, midstory, and understory layers of native species. Management within Zone 4 should be focused on the preservation of contributing features and the management of the forest for optimal health.

TREATMENT TASKS

The following section provides specific treatment tasks to accomplish the rehabilitation of the Rapidan Camp cultural landscape. The treatment tasks are organized by landscape characteristic, and within each characteristic the tasks are enumerated by a task code to assist in referencing and mapping of the tasks. The landscape characteristics include vegetation (VG), constructed water features (WF), spatial organization and circulation (SP), and small-scale features (SF). All treatment tasks are indicated by their task code on the treatment plan (Drawing 6). Each task description references the general treatment goal or goals that the task addresses, as well as the management zone or zones in which the task primarily applies.

VEGETATION

During the historic period, the vegetation of Rapidan Camp was a mixture of naturally occurring and carefully managed vegetation. Key elements were the large hemlock trees and their high canopy, the natural forest understory, and the planted and cultivated ornamental shrubs and herbaceous plants. These elements combined to create the distinctive character of an idyllic, secluded retreat that was both immersed in nature and cultivated as a woodland garden. Today, the loss of the hemlocks has altered the character of the camp, increasing the amount of sunlight reaching the forest floor and spurring the growth of pioneering understory species. The majority of the historic planted vegetation has also been lost, although some laurels remain, and a small number of ornamental shrubs and small trees have been planted in recent years.

The management of vegetation in Rapidan Camp will primarily address three of the overall treatment goals: reestablishing a forest canopy, cultivating a woodland garden character, and revealing the structural and organizational patterns of the camp. The reestablishment of the canopy will restore the shade to the site, enhancing the historic character, suppressing undesirable vegetation, and encouraging a native forest floor plant community. This will be accomplished by managing the existing young tulip poplar trees and transplanting tulip poplar seedlings into clear areas. Hemlock trees will be preserved and propagated to preserve the potential of reestablishing them if conditions change. The understory will be managed to remove tall, shrubby vegetation and large forest debris, encourage native ground cover, and supplement with planted native shrubs and herbaceous plants. The spatial organization of the camp will be revealed through the reduction of tall understory plants, improving sight lines and emphasizing the contrast between camp and the surrounding forest.

The primary strategy for vegetation management at Rapidan Camp will be to utilize the forest's natural succession, guided with targeted intervention, to achieve

the objective character. Management will involve selection of desired vegetation to retain, removal of undesired vegetation, and limited planting of additional vegetation. Native vegetation will be utilized exclusively, and natural growing conditions will be considered in management actions and their timing. Intervention efforts will be focused to maximize the benefits to historic character and visitor experience. Management of the vegetation will be flexible and adapt as conditions within the camp evolve.

The use of native vegetation at Rapidan Camp meets multiple management objectives. Once established, a diverse native plant community of overstory trees, understory shrubs, and herbaceous groundcover will be more resilient and require less intensive maintenance efforts. By not introducing new non-native species, and by actively managing the non-native plants currently in camp, the impact to natural plant communities beyond the edges of camp is minimized. Furthermore, the use of native plants is consistent with historic character and the values of the Hoovers. Lou Henry Hoover expressed a strong preference for native and local plants for Rapidan Camp, stipulating that plant species should be selected from a radius of twenty to twenty-five miles of camp. While it is possible that non-native plants were used in camp during the historic period, the desired character can easily be achieved with a native plant palette.

VG-1: Manage vegetation to promote existing tulip poplar trees

Goal: Reestablish forest canopy
Zones: 1 and 2

The top priority for the management of vegetation at Rapidan Camp is the establishment of a closed forest canopy to replace the missing historic hemlock canopy. Since the loss of the hemlocks, several pioneer species have emerged in the clear areas of camp. In much of the camp, tulip poplars have become the dominant species, growing as thick stands of young trees. These trees have grown quickly, and in just a few years the stands have already succeeded in creating a shading low canopy in portions of the camp.

Continued management of the stands to encourage fast, straight growth of the tulip poplar trees will quickly achieve the desired character. In areas where the tulip poplar trees are already growing in dense stands overhead, existing trees should be retained at a density sufficient to maintain a closed canopy as the stand ages. Closely spaced trees will encourage straight growth, minimize lower branches, and shade the regeneration of competing tree species and sun-loving understory vegetation. The trees may be thinned as they grow to maintain the desired density, but natural thinning will occur as the stand ages.

The density of trees in Rapidan Camp should be monitored using the method of

basal area calculation. Basal area is a measure of tree trunk area that takes into account both the number density of tree trunks and their diameter. A stand with many small-diameter trees may have the same basal area as one with fewer larger trees. The desired basal area for Rapidan Camp is between 80 and 100 square meters per hectare, corresponding to the approximate density of hemlock trees during the historic period, as well as to the desired character of the camp. The method of calculating the basal area of a stand of trees is simple, utilizing an inexpensive wedge prism device, and can be quickly taught to survey teams with no prior experience. More information on basal can be found in Appendix C, and detailed instructions may be obtained online or from other sources.

A limited number of other species, including maple and oak, may be retained to add some variety to the canopy species, however to achieve the desired character the predominant species should be restricted to yellow poplar. Black locust trees (*Robinia pseudoacacia*) should be removed within camp, as these trees have a number of undesirable characteristics. The locusts grow quickly and will occupy canopy positions, but their short lifespan will result in gaps in the canopy within about thirty years. Black locust are not shade tolerant and will be less of an issue as the tulip poplar canopy closes and shade increases throughout the camp. Young trees that have developed a multi-stem, shrubby form should be removed and their cut trunks treated with herbicide. When left untreated, these trees readily sprout from cut trunks and are shade tolerant, creating a persistent mid-story under the canopy.



Figure 4.5. Manage existing tulip poplar trees. Stands of young tulip poplars have established themselves in portions of camp. These trees should be managed to create a high closed canopy. (OCLP)

VG-2: Transplant tulip poplars into clear areas

Goal: Reestablish forest canopy
Zones: 1 and 2

Much of the area within Zones 1 and 2 is open, with inadequate canopy cover. The character of these areas, including much of the area to the north and west of the President's Cabin, is sunny and open, with individual small trees and shrubs over non-native turf grass. Due to the active suppression of seedlings by regular mowing and trimming, the poplars and other trees that have colonized many parts of camp are not regenerating in this area.

To quickly establish shade, suppress turf grass, and encourage native forest-floor vegetation, trees should be planted in areas that are currently open. Rather than bringing nursery trees in from off-site, tulip poplar trees already growing in camp should be excavated and transplanted into clear areas. Trees should be selected that are between two and four feet high and exhibit healthy and vigorous growth. During the summer, the roots of selected trees should be pruned with a spade at a distance of ten inches from the trunk, and the trees should be transplanted the following spring before the emergence of buds.

Existing canopy trees, including oaks, pines, and hemlocks, should be retained (see Task VG-7).



Figure 4.6. Transplant tulip poplars into clear areas. Portions of camp, such as the center of the circulation loop in front of the President's Cabin, lack sufficient regeneration of young trees to create a closed canopy. Tulip poplar seedlings should be transplanted from other areas of camp to create a shading canopy. (OCLP)



Figure 4.7. Several young tulip poplar trees growing in camp are suitable for transplantation. These should be transplanted into clear areas of camp before they are too big to move. (OCLP)

Figure 4.8. Diagram showing the approximate areas of tulip poplar management, indicating existing young tulip poplar stands and areas where transplanted trees should be established. For full treatment drawing, see Drawings 5 and 6. (OCLP)



VG-3: Reduce understory and midstory vegetation

Goal: Cultivate woodland garden character
Zones: 1 and 2

Many portions of the camp are currently populated with a continuous cover of understory and midstory vegetation from the ground to the canopy, including ground cover, shrubby understory vegetation, and midstory young trees. This reduces sightlines within the camp and into the surrounding forest, increases a feeling of enclosure, contributes to a character of wild, unmanaged forest.

To establish the desired woodland garden character in this zone and restore sightlines, much of this understory vegetation should be removed. Large shrubs, saplings, and small trees between about six feet and twelve feet should be removed to maintain clear views through the vegetated areas. Features such as Hemlock Run, footbridges, stone retaining walls, and the trout pool should be readily visible from nearby footpaths. Vegetation with scrubby or vining character, as well as dead and downed trees, should be removed. Compact, low shrubs may be retained, as well as selected young trees for canopy regeneration, provided these do not significantly obscure sightlines. The vegetation in these areas should be maintained areas with periodic assessment and removal of undesired vegetation at least once a year. With the removal of the understory and midstory vegetation, the areas should be maintained with low native ground cover and compact shrubs (see Tasks VG-4 and VG-8).

The areas to be managed for understory vegetation are mainly within Zones 1 and 2, around the concrete trout pool and its outflow channel on the southwest side of the President's Cabin, on the west side of camp between the entrance road and the former site of the mess hall, and around the former site of the Owl Cabin. The areas recommended for midstory vegetation reduction are indicated with diagonal hatching on Drawings 5 and 6.

VG-4: Cultivate low, native herbaceous ground cover

Goal: Cultivate woodland garden character
Zones: 1 and 2

The ground-cover layer within camp currently exhibits a wild and unkempt character, with sparse vegetation cover, dense leaf litter, and a prevalence of large woody debris. This has reduced the distinction between the camp areas and surrounding forest and diminished the character of a cultivated woodland garden.

To restore these qualities, efforts should be made to encourage a diverse mix of low, native forest-floor herbaceous vegetation. Ground areas should be cleared of woody debris and excess leaf litter to encourage the growth of ferns and native

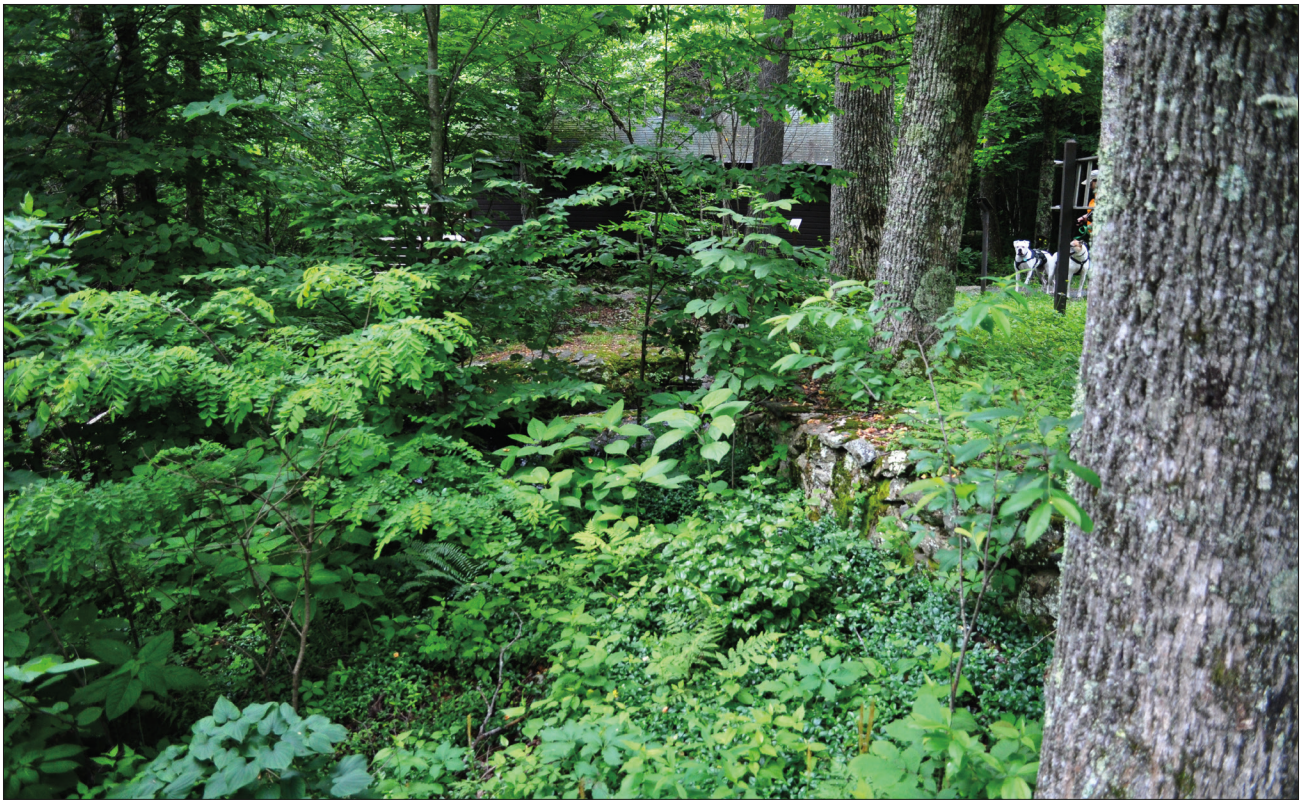


Figure 4.9. Reduce understory vegetation. Many of the features of Rapidan Camp are obscured by understory vegetation. In this view, looking south from the concrete trout pool, features like Hemlock Run and the Prime Minister's Cabin are largely obscured. (OCLP)



Figure 4.10. Remove shrubs, saplings, and small trees between about four feet and twelve feet, sufficient to maintain filtered views through the vegetated areas. Features such as Hemlock Run, footbridges, stone retaining walls, and the trout pool should be readily visible from nearby footpaths. (OCLP)



Figure 4.11. Cultivate a low, native herbaceous ground cover throughout the camp. Here, native ground cover species mix with non-natives, such as *Vinca minor*. Non-native species should be removed, retaining the natives. (OCLP)

ground covers. Non-native and undesirable vegetation should be removed by hand, and native forest-floor species transplanted into areas that have inadequate cover. Non-native turf grass should be removed and converted to native ground cover as shade is established, and native grasses should be planted in areas that receive more sun. Compacted areas should be aerated to promote growth. Appropriate species for ground cover and native grasses are listed in Table 4.1.

Areas within Zone 1 are the first priority for this task, and should continue to receive regular, concerted effort to maintain the ground cover in a lush and attractive state. Activities associated with this task should also be applied throughout Zone 2, but with less rigor, striving for a generally tidy appearance.

VG-5: Preserve existing hemlock trees

Goals: Reestablish forest canopy; cultivate woodland garden character
Zones: 1 and 2

The hemlock trees that survive in camp represent a vital link to the past and provide the potential to someday restore the hemlock canopy that defined the camp's historic character. Today, there are a number of young hemlock trees growing in small thickets or individually within the central core of the camp. These hemlock trees have been sustained with ongoing systemic treatment of pesticide to prevent infestation by hemlock woolly adelgid, and to date do not show indication of infestation.

The existing hemlock trees should be preserved through appropriate measures, including treating with pesticide and protecting and aerating root areas as needed.



Figure 4.12. Preserve existing hemlock trees. Several young hemlock trees survive in the camp. These trees should be treated with pesticide and preserved. (OCLP)

An insecticide such as Merit (imidacloprid) should be applied using best management practices for the control of hemlock woolly adelgid, and the trees monitored for signs of infestation or other stresses. A tree-care professional should be consulted for any remedial actions to ensure the continued health and vigor of the trees.

VG-6: Propagate and plant hemlock seedlings

Goals: Reestablish forest canopy; cultivate woodland garden character
Zones: 1 and 2

Existing hemlock trees not only provide a direct link to the past, they offer an opportunity to perpetuate and increase the hemlock grove through propagation. At this time it is not advisable to attempt to establish the camp's tree canopy using hemlock as the primary species for reasons discussed in the General Treatment Goals section above. However, propagating the existing hemlocks and planting the seedlings as an understory beneath the deciduous canopy will strengthen the historic associations with the hemlocks and create a population that may someday serve as the primary canopy.

Seeds should be collected from healthy vigorous hemlock trees and propagated in a nursery setting. The seedlings should be planted throughout camp as an understory layer beneath the tulip poplars and other existing trees. The hemlock trees can be incorporated into the woodland shrub planting (see Task VG-8 below). Treat all new plantings with an approved systemic insecticide to prevent infestation by the hemlock woolly adelgid.

VG-7: Retain existing native overstory trees

Goal: Reestablish forest canopy
Zones: 1 and 2

In addition to the poplars and hemlocks, other species are appropriate in limited numbers in the canopy. Poplars should compose the majority of the canopy, with limited inclusions of pine, maple, oak, hickory, and other native tree species. Older, established specimens of these species should be retained as part of the overall tree composition of Rapidan Camp.



Figure 4.13. Retain existing native overstory trees. Large canopy trees from the historic period still grow throughout Rapidan Camp. While the missing component of the canopy should be reestablished with tulip poplars, mixed species existing trees should be retained. (OCLP)

VG-8: Plant native woodland shrubs and herbaceous plants

Goal: Cultivate woodland garden character
Zone: 1

During the historic period, Rapidan Camp was generously planted with flowering shrubs and perennials. Lou Hoover's detailed instructions regarding the plantings specified native, locally sourced flowers and shrubs arranged "so as to give mass effects of color." She also indicated that there be "no formal beds of plants or flowers but, while having a certain compactness so as to give masses of color, should ramble off into the surroundings. They should not be carefully trimmed nor should the beds be outlined in any way." The character described in these instructions are supported by historic photos that show profusions of plantings along the paths. These plantings created a character that complemented, but was separate from, the native forest. Today, with the exception of a number of mountain laurels that likely survive from the historic period, these plantings are gone.

The woodland garden character should be enhanced throughout Zone 1 by the addition of ornamental native vegetation. Flowering woodland shrubs, small trees, and ornamental herbaceous plants should be planted along the paths and other features in camp to help effect a woodland garden character, emphasize the contrast between the camp and the surrounding forest, and enhance the historic character of camp.

Shrubs should be of native species with notable ornamental qualities, such as flowers or attractive foliage. Mountain laurels were particularly abundant during the historic period and should be a prominent species in new plantings. Other shrubs that would be appropriate include native rhododendrons, azaleas, vaccinium, and

spirea. Refer to Table 4.1 for a recommended palette of shrubs. Shrubs should be arranged in informal groups of two or more plants of each species around the foundations and porches of cabins and along paths, steps, bridges, streams, and water features. Shrubs within the groups should be planted close enough together to create a continuous mass as the shrubs reach their mature size. Care should be taken as to the mature size of each plant, with larger plants, such as laurels and rhododendrons, placed further away from paths or closer to the edge of the forest. Areas close to paths should be planted with shrubs of a more compact form or ground cover.

Flowering perennials and herbaceous forest ground cover should be planted under and around the shrubs and covering the areas between the shrub groupings. Many of these herbaceous plantings should be of the species found growing naturally in and around camp, such as ferns, trillium, and may apple. These can be supplemented with additional species as indicated in Table 4.1.

Zone 1 is the priority area for planting in Rapidan Camp. Shrubs should be planted first in areas near the President's Cabin, the concrete trout pool, and Hemlock Run. The treatment, however, is appropriate throughout the camp, and if the treatment is successful within Zone 1 and if resources are available, the plantings may be extended to areas within Zone 2.



Figure 4.14. Areas of camp that are currently covered with turf grass should be planted with native ornamental understory vegetation. (OCLP)



Figure 4.15. Plant native woodland shrubs, flowering perennials, and forest-floor ground covers along the edges of paths, particularly near key features and path intersections. Plant shrubs in naturalistic groupings. (OCLP)



Figure 4.16. Native ferns, mountain laurels, and other native understory vegetation should be retained and supplemented with new plantings. (OCLP)



Figure 4.17. New plantings should have a low and tidy character and should mimic natural understory shrubs and ground cover. (OCLP)

Table 4.1 Native plant list for supplemental planting in Rapidan Camp

Specific Name	Common Name	Mature height (feet)	Notes
Small trees			
Acer pensylvanicum	Striped maple	35	
Amelanchier arborea	Serviceberry	20	
Asimina triloba	Pawpaw	30	
Carpinus caroliniana	Hornbeam	25	
Cercis canadensis	Eastern redbud	25	
Cornus florida	Flowering dogwood	40	
Hamamelis virginiana	Witch hazel	20	
Ostrya virginiana	Hop hornbeam	30	
Shrubs			
Kalmia latifolia	Mountain laurel	7 to 15	
Lindera benzoin	Spicebush	12	
Photinia pyrifolia	Red chokeberry	5	
R. calendulaceum *R. periclymenoides* *R. prinophyllum* *R. viscosum*	Azalea (deciduous)	4 to 8 4 to 6 2 to 8 2 to 8	
R. catawbiense *R. maximum*	Rhododendron	6 to 10 4 to 15	
Sambucus racemosa, nigra	Elderberry	20	
Spiraea latifolia	Meadowsweet	1 to 6	Prefers sun
Vaccinium angustifolium *V. corymbosum* *V. stamineum* *Vaccinium pallidum*	Blueberry	1 to 2 6 to 12 5 to 10 1 to 2	Prefers sun
Viburnum acerifolium *V. dentatum*	Viburnum	3 to 6 6 to 10	
Perennials and Ground Cover			
Actaea pachypoda	White baneberry	2	
Agalinis purpurea, tenuifolia	False foxglove	3	Prefers moist soil
Aquilegia canadensis	Columbine	2	Deer resistant
Arisaema triphyllum	Jack-in-the-pulpit	1.5	Deer resistant
Aruncus dioicus	Goat's beard	4	Deer resistant
Asarum canadense	Wild ginger	1	
Asclepias exaltata	Poke milkweed	2 to 5	
Campanula Americana *C. divaricata*	Bellflowers	3 to 6 1 to 2	
Caulophyllum thalictroides	Black cohosh	2	
Cynoglossum virginianum	Wild comfrey	2	
Delphinium exultatum, tricorne	Larkspur	5	
Dicentra cucullaria	Dutchman's breeches	1	Deer resistant
Eupatorium maculatum, Eupatorium purpureum	Joe pye weed	6	Deer resistant
Eurybia divaricata	White wood aster	2	
Eurybia macrophylla	Large leaved aster	2 to 4	
Gentiana clausa, villosa	Gentian	1.5	
Geranium maculatum	Wild geranium	2	
Heuchera americana	American alumroot	1	Deer resistant
Hydrophyllum virginianum	Waterleaf	1 to 3	
Hypericum punctatum	Spotted St. John's wort	3	Deer resistant

Table 4.1 Native plant list for supplemental planting in Rapidan Camp (continued)

Ipomea pandurata	Morning-glory	1	
Lilium canadense	Canada lily	2	
Lilium superbum	Turk's cap lily	3	
Maianthemum canadense	Canada mayflower	1	
Maianthemum racemosum	False Solomon's seal	2	
Medeola virginiana	Indian cucumber	2	
Mimulus ringens, alatus	Monkeyflower	3	
Monarda clinopodia *M. didyma* *M. fistulosa*	Beebalm	2 3 4	Deer resistant
Oenothera biennis	Evening primrose	5	
Penstemon canescens	Beardtongue	4	
Phlox divericata	Wild blue phlox	3	Deer resistant
Podophyllum peltatum	Mayapple	1	Deer resistant
Polygonum biflorum, pubescens	Solomon's seal	2	
Sanguinaria canadensis	Bloodroot	1	
Sedum ternatum	Wild stonecrop	1	
Spirea betulifolia	White spirea	3	Deer resistant
Trientalis borealis	Starflower	1	
Trillium erectum	Red trillium	1	
Trillium grandiflorum	White trillium	1	
Trillium undulatum	Painted trillium	1	
Uvulara perfoliata, U.sessilifolia	Bellwort		
Viola bicolor, blanda, canadensis, hastata, hirsutula, macloskeyi, x palmata, pedata, pubescens, rostrata, rotundifolia, sagitatta, striata	Violet	1	
Zizia aptera	Golden alexanders	1 to 3	
Ferns			
Asplenium platyneuron	Ebony spleenwort	1	Deer resistant
Athyrium filix-femina	Northern lady fern	3	Deer resistant
Athyrium thelypteroides	Silvery glade fern	3	Deer resistant
Dryopteris intermedia	Wood fern	3	Deer resistant
Dryopteris marginalis	Marginal shield fern	2	Deer resistant
Polystichum acrostichoides	Christmas fern	2	Deer resistant
Thelypteris noveboracensis	New York fern	2	Deer resistant
Grasses			
Andropogon virginicus	Broomsedge bluestem	2	
Carex appalachica	Appalachian sedge	2	
Elymus virginicus	Virginia wild rye	3	
Festuca subverticillata	Nodding fescue	2	
Schizachyrium scoparium	Little bluestem	2	

VG-9: Remove non-native and nuisance species

Goal: Cultivate woodland garden character
Zones: 1 and 2

The use of native plants are in keeping with both the historic character of the camp and the express wishes of Herbert and Lou Henry Hoover. Native, locally growing species are well adapted to the growing conditions in camp and create the desired character of a woodland garden. Several non-native species are currently growing in camp. Species of concern include blackberry (*Rubus* spp.), vinca (*Vinca minor*), English ivy (*Hedera helix*), mile-a-minute (*Polygonum perfoliatum*), dock (*Rumex* spp.), mullein (*Verbasum thapsus*), Japanese stilt grass (*Microstegium vimineum*), oriental lady's thumb (*Polygonum caespitosum*), spotted knapweed (*Centarea biebersteinii*), velvet grass (*Holcus lanatus*), garlic mustard (*Alliaria petiolata*), oxeye daisy (*Leucanthemun vulgare*), and tree -of-heaven (*Ailanthus altissimus*).

To the extent feasible, the vegetation at Rapidan Camp should be restricted to native species. Non-native species that are currently growing within camp should be removed using appropriate methods. Individual plants may be pulled by hand or spot treated with herbicide, while areas with large concentrations of weeds may be treated more broadly, such as by sheeting with black plastic for a season or until the plants beneath have died. In some cases, non-native vegetation is growing intermixed with native vegetation, and removal efforts will cause more disturbance than desired. In such cases, the non-native plants should be monitored and contained.

Poison ivy, although native, poses a hazard to visitors and park staff and volunteers and is incompatible with the desired garden character. Poison ivy currently proliferates along the west side of the President's Cabin and around



Figure 4.18. Remove non-native species. Non-native species, such as Vinca minor, have colonized portions of the camp. Although some of these species may be naturalized from historic plants, non-native vegetation should be removed. (OCLP)

the concrete trout pool, as well as other places in camp. Poison ivy should be removed wherever it is found, using manual removal, sheeting with black plastic, herbicide, or other effective techniques. Diligent monitoring and removal should be continued to ensure their eradication and prevent recurrence. Poison ivy and other non-native species will become easier to manage as shade from the canopy increases.

VG-10: Clear trees and shrubs from building footprints and maintain as native ground cover

Goal: Reveal structural and organizational patterns of the camp
Zones: 1, 2, and 3

A significant impediment to the legibility of the camp's historic layout is the absence of the majority of the historic cabins. Several of these cabins were located in areas that are now covered in forest, with trees, brambles, and woody debris obscuring their former footprints. These include Ishbel's Cabin, The Slums, Trail's End, The Owl, The Duty Office, The Staff Quarters, The Chief Steward's Quarters, and portions of The Mess Hall. The presence of vegetation within the footprints of the missing cabins makes them indistinguishable from the forest, diminishing the camp's ability to convey its historic spatial organization.

The locations of former cabins should be kept clear of trees and woody vegetation to ensure that the footprints are visible. At least once a year, all woody vegetation should be removed and the cut stems treated with herbicide to prevent sprouting. The cleared cabin footprints should be maintained with native forest floor vegetation. In conjunction with clearing the vegetation within the footprints, the locations of the cabins may be indicated by visible markers (see Task SP-2).



Figure 4.19. Clear trees and shrubs from building footprints and maintain as native ground cover. The locations of former cabins are indiscernible, due in part to vegetation that is growing within their footprints. Remove all woody vegetation from cabin footprints. (OCLP)



Figure 4.20. Remove woody vegetation growing on or near historic features. The tree growing adjacent to the stone fountain threatens the structure and should be removed. (OCLP)

VG-11: Protect historic features from vegetation

Goal: General preservation
Zones: All

Stonework and other features within camp may be impacted by adjacent vegetation. As trees grow, their roots and trunks may press against features and dislodge stones or otherwise damage them. Features may also be threatened by hazardous trees that could fall. Steps should be taken to prevent damage to these features.

It is not recommended to remove all vegetation within an arbitrary distance from historic features. Such action would be too disruptive and would remove too many established overstory trees. Instead, threats should be assessed on a case-by-case basis, and remedied with the appropriate actions. All trees growing directly in or on stone features should be removed, and young trees growing in or near stone features should be removed before they become large. Larger trees that are growing near stone features should be retained where appropriate, and the features should be monitored and repaired as needed. Large trees should be removed when significant damage or destruction is likely or imminent.

VG-12: Plant screening vegetation around vault toilet and storage shed

Goal: Deemphasize non-historic features
Zones: 4

The two non-historic structures, the vault toilet and the storage and telephone equipment shed at the north end of camp, are conspicuous and incompatible with the historic character. The accessible path that leads to the vault toilet in a sharp zigzag, bordered with panels of turf grass, also present a character strikingly different from historic conditions.



Figure 4.21. Plant screening vegetation. Non-historic features, like the pit toilet and storage shed, should be screened with vegetation to deemphasize their presence in the cultural landscape. (OCLP)

Non-historic structures should be screened and blended with the surrounding forest by planting native shrubs, trees, and ground covers. Planting guidelines should follow the guidance in Task VG-2 and VG-8, including the planting of shade trees and the use of mixed native ornamental shrubs in naturalistic arrangements. The structures should not be hidden completely from view, but framed and partially obscured by vegetation in the foreground.

CONSTRUCTED WATER FEATURES

The constructed water features of Rapidan Camp are a vital element of the historic camp and fundamental in conveying the site's historic character. These features, including Hemlock Run, the concrete trout pool, and the stone fountain, brought the sights and sounds of water into the heart of camp. Today, while these features remain, they suffer from condition issues, and their ability to function as they were designed has diminished.

Treatment of the constructed water features, including Hemlock Run, Laurel Dam, the concrete trout pool, and the stone fountain, will primarily address the goal of enhancing the experience of water in camp. In addition to correcting condition deficiencies, rehabilitation of the features will enhance their functionality of the camp's water system. The goal is not only to increase flow through the water features, but to increase the control over the timing and volume of the flow.

The riparian zone in which Rapidan Camp is located comprises a dynamic and sensitive ecosystem, and a key component of the larger forest ecosystem. Stream flow dynamics, bed geomorphology, channel structure, and the health of the biotic systems of the streams, banks, and surrounding forest may all be inadvertently impacted by alterations to the camp's water system. The camp's proximity

to the streams also poses a significant potential for destructive floods during large storms and heavy rainfall. This potential has been demonstrated several times in the recent past during storms that have damaged the stream channels and banks, destroyed the wooden footbridge, and threatened the President's Cabin and other features.

To assess the risks to natural and cultural resources that proposed treatment might pose, and to identify actions to mitigate the risks, a thorough evaluation of the hydrological system of Rapidan Camp, including Mill Prong, Laurel Prong, and Hemlock Run, should be conducted. The assessment should evaluate the system under current conditions as well as consider any changes that might be effected by treatment recommendations. Such an evaluation should consider likely scenarios for the severity and frequency of future flood events, the topography of the land around the streams, particularly between Laurel Prong and Hemlock Run, the anticipated flow volumes through the respective channels, and the potential impact on cultural resources. The assessment should also include characterization of the potential biological and hydrological effects on Laurel Prong, such as impacts to brook trout populations and other stream biota.

Mitigations of potential risks might include alterations or reinforcement of channel banks, removal of obstructing debris, or the construction of a secondary water control device on Hemlock Run (in addition to the existing weir). Such actions should be undertaken in consultation with appropriate subject experts, including hydrologists, ecologists, and cultural landscape specialists.

The following tasks are vital in achieving the treatment goals at Rapidan Camp and conveying the site's historic character, but should be considered in conjunction with a hydrological assessment.

WF-1: Rehabilitate Hemlock Run

Goal: Emphasize the experience of water within the camp
Zone: 1, 2

Hemlock Run, with its stone-lined channel, footbridges, and cascading water over the broad, flat stone of Hemlock Run Falls, was a particular highlight of the camp, earning fond mention from those recalling their days in the camp. Today, the water feature, with its associated stonework, remains intact and is generally in good condition. However, the feature does exhibit some deterioration, including loose or displaced stones, excess sedimentation, and vegetation growing both in the bottom of the channel and on or between the stones of the retaining walls.

The two portions of Hemlock Run—the un-mortared, naturalistic portion from Laurel Dam to the camp core and the mortared stone channel that runs through

the core—will require somewhat different actions to repair and maintain the feature. In the western portion with un-mortared stone walls, woody vegetation growing directly in the channel or among the stones of the channel walls should be removed. The channel should be kept clear of large wood and large collections of debris that might impede water flow. Overall, this portion of the channel should exhibit a naturalistic character.

The eastern portion of Hemlock Run, characterized by straight, mortared stone channel walls, is a higher priority for rehabilitation and should be more carefully maintained than the western section. The mortared stonework of the channel walls and the stone footbridges should be inspected regularly and any damage, lost mortar, or loose or displaced stones should be repaired. Repairs may include resetting and repointing stones and replacing any missing stones. The stonework should be kept free of vegetation, especially woody vegetation that is growing on or near the walls. Larger overstory trees that are growing near the stone walls may be retained, but monitor the condition of the walls near the trees and repair any damage.

Over time, the channel of Hemlock Run has accumulated sediment, and in portions, excessive amounts of vegetation is growing in the bottom of the channel. The sediment and vegetation impede water flow, reducing the overall flow of water through the feature. Vegetation will also accrete more sand and sediment over time, exacerbating the problem. Excess sediment and vegetation should be removed from the stone-lined portions of the channel of Hemlock Run. Some vegetation should be retained, including small ferns or water-tolerant forbs, provided they do not damage the channel or stonework.



Figure 4.22. Rehabilitate Hemlock Run. The portions of Hemlock Run that are naturalistic in character should be maintained to freely carry water. Remove excess sediment, debris, and vegetation growing in the channel. (OCLP)

WF-2: Rehabilitate concrete trout pool and outflow channel

Goal: Emphasize the experience of water within the camp
Zone: 1

During the historic period, water was fed from Hemlock Run into the concrete trout pool via two iron pipes that ran from just below Hemlock Run Falls under the channel bank and into the pool. The pool overflowed on its east side into a stone-lined channel that cascaded back into Hemlock Run. Today, the water flow into the pool is restricted by pipes that are often clogged and by insufficient flow in Hemlock Run, so that there is typically little water in the pool and it doesn't overflow into the stone-lined channel anymore.



Figure 4.23. Portions of Hemlock Run that have mortared channel walls should be more carefully maintained and preserved. Remove sediment and gravel from the channel bed to ensure free flow of water and remove excess vegetation from channel. (OCLP)

The pool structure should be inspected and repaired to ensure that it holds water without leaking. Water should overflow the east side of the pool without flowing through the stones around the rim of the pool or through cracks in the concrete pool lining. The inlets of the iron pipes that feed the pool should be free of obstructions and the pipes should be kept clear of debris to ensure flow of water. Stones should be placed around the pipe inlets to form a small pool and further increase water flow. The outlet channel should be cleared of earth, debris, and vegetation so that it is visible and conveys water as designed. The edges of the channel should be planted with native woodland herbaceous plants and shrubs.

WF-3: Rehabilitate stone fountain and rock garden

Goal: Emphasize the experience of water within the camp
Zone: 2

The stone water fountain was a central feature of Rapidan Camp and one that Mrs. Hoover was particularly fond of. The water, supplied by gravity-fed pipes from Big Rock Falls on Mill Prong, flowed from the top of the fountain and cascaded over each tier into the rock garden, where it flowed through seven small pools. Today the fountain is in fair condition, but it no longer functions as a fountain.

The stonework of the fountain should be inspected for eroded, cracked or degrad-



Figure 4.24. The pipes that feed the concrete trout pool still function, but they are often clogged with debris. Ensure that the pipes are maintained free of debris and create a small pool around the inlets using stacked stones. (OCLP)



Figure 4.25. The concrete trout pool outfall channel is currently obscured by vegetation and debris. Remove the vegetation and debris and rehabilitate the channel to convey water from the trout pool. (OCLP)

ed mortar or loose or missing stones and repairs made accordingly. Vegetation growing directly in the fountain should be removed, and the fountain should be maintained free of vegetation. The rock garden should be cleared of soil, debris, and vegetation.

Efforts should be made to supply water to the fountain so that it may be operated when desired. Investigations should be made to determine if the original water supply system can feasibly be repaired to functionality. If not, other solutions should be explored, including a new permanent, buried pipe that brings water from the well, or a temporary hose that could feed the fountain for demonstrations or special events.

Figure 4.26. Rehabilitate stone fountain and rock garden. Make any necessary repairs to the fountain and remove vegetation and debris from the rock garden. (OCLP)



WF-4: Rehabilitate Laurel Dam and sluice gate

Goal: Emphasize the experience of water within the camp
Zone: 4

During the historic period the flow of water through Hemlock Run was controlled with an in-stream structure referred to as Laurel Dam, although the "dam" was little more than a small weir of stones and gravel across the channel that created a small pool behind it, which fed Hemlock Run. The sluice gate, placed at the opening to Hemlock Run, could be opened or closed to control the flow into the feature. Today, Laurel Dam consists of an informal berm of loose stones that extends across Laurel Prong just below the inlet to Hemlock Run. Water flows through the channel

of Hemlock Run during wet periods, but for much of the year the channel is fed solely by groundwater and flows at little more than a trickle. Insufficient flow of water encourages sedimentation, excessive growth of vegetation, and the accumulation of debris within the channel, and inadequately conveys the character that the rushing water through Hemlock Run created during the historic period.

In order to ensure adequate water flow to Hemlock Run, the dam should be rehabilitated to increase flow to Hemlock Run while minimizing the impacts to the aquatic biota in Laurel Prong. Alterations may include minimally increasing the height of the stone dam across Laurel Prong just below the inlet to the constructed water channel. The dam should be constructed of hand-stacked stones and gravel mounded at such a height that the pooled water behind it reaches the sluice gate at the entrance of Hemlock Run. Accumulated sand and gravel that prevents the water from flowing into Hemlock Run should be removed. Water in Laurel Prong should be able to overtop the dam during periods of high flow. The dam will need to be rebuilt at intervals as it is washed away by the natural flow of the stream. The dam should not be constructed with permanent structural components such as concrete footings or gabions.

In conjunction with repairing Laurel Dam, the sluice gate should also be rehabilitated to restore functionality. The sluice gate originally functioned with a board or boards that slid into the slots of the concrete structure to allow or exclude water from the channel of Hemlock Run. The sluice gate should be assessed to determine the most effective method of repair to ensure control of the flow of water through the gate. The concrete blocks should be repaired as needed and a wooden gate should be fabricated that can slide into the structure to block water. The earth berm on either side of the sluice gate should be reinforced to prevent water from flowing around the gate. The gate should be inspected regularly and maintained or repaired as needed.

The construction of the dam should be carefully considered to diminish the possibility of adverse impacts. To mitigate potential impacts, the height of the dam should be such that it is easily overtopped during high water periods, and the top of the dam should be at a lower elevation than the top of the sluice gate when it is closed. The sluice gate should remain closed during the winter and spring or when heavy rain is anticipated. Appropriate experts, including hydrologists, stream ecologists, and cultural resource specialists, should be consulted before work is undertaken to determine how such work will affect the stream system, as well as to determine the appropriate size, form, and construction of the dam and what repairs or modifications to the sluice gate are needed to make it operational.

SPATIAL ORGANIZATION AND CIRCULATION

A challenge to interpreting the historic conditions at Rapidan Camp is the loss of significant features, particularly ten of the thirteen historic camp cabins. The loss of these cabins, as well as changes in the circulation system and vegetation, makes the essential qualities of the camp's spatial organization, such as the scale of the camp, the orientation and spacing of the cabins, the organization of public and private areas, and arrangement and character of outdoor spaces, difficult to perceive. The following tasks will help to reveal the camp's spatial qualities so that they may better convey the site's significant associations.



Figure 4.27. Repair Laurel Dam by stacking stones and gravel to deepen the pool behind the dam. The water should be able to easily overtop the dam during high-flow periods. (OCLP)



Figure 4.28. Repair the sluice gate to control the water flow to Hemlock Run. (OCLP)

SP-1: Conduct archeological survey of camp

Goal: Reveal structural and organizational patterns of the camp
Zone: All

While the general layout of Rapidan Camp during the historic period is well known, the precise locations of non-extant features may be determined through an archeological survey of the camp. Once the locations of features, such as cabins, paths, and other features, can be positively determined, they can be interpreted or restored.

The locations of missing camp elements, including cabin footprints, porches, paths, and small-scale features should be determined using appropriate archeological methods. Data should be recorded with GIS as well as physically marked in the field using steel pipes placed in the ground or another durable method to mark cabin corner locations so that they may be maintained and interpreted indefinitely.

In conjunction with the archeological survey, or as a separate project, the camp's water lines and sub-surface utility infrastructure should be inventoried and mapped. Features that are likely to still be present underground include water lines, sewer lines, and grease lines. Locating these features will help determine the location of cabins and other features that used them, further resolving the overall organization of the camp and facilitating interpretation. An inventory of the utility features may also provide opportunities to restore water features, such as the stone fountain, to working condition.

SP-2: Interpret building footprints

Goal: Reveal structural and organizational patterns of the camp
Zone: 2, 3

Once cabin locations are identified, their footprints should be interpreted through visual representation of their size, location, and layout. Methods might include outlining the footprints with logs, building timber decks within the footprints, visibly marking the corners with stone markers, metal pipes, or wooden posts.

SP-3: Reestablish historic circulation

Goal: Reveal structural and organizational patterns of the camp
Zone: 1, 2, 3

Much of the historic circulation in Rapidan camp was altered or lost in the years following the historic period. In the 2000s, the camp footpaths were rehabilitated, reestablishing portions of the circulation system that closely followed historic alignments, but many of the footpaths were not reestablished. Conspicuously

absent is the network of small footpaths that extended along the southwestern edge of camp servicing the residential cabins along Laurel Prong. Other missing or non-historic circulation include the paths around the former mess hall and the Owl Cabin. These missing paths, along with the missing cabins and the dense forest understory in these areas, diminish the camp's ability to convey its spatial qualities.

As the spatial characteristics of the camp are reestablished, including the reduction of understory vegetation and interpretation of building footprints, the footpaths should be reestablished. These paths will provide access to the cabin footprints while contributing to the overall legibility of the camp layout and circulation. Refer to Figure 4.27 for general alignment of the paths, and where possible, determine precise alignments through archeological investigation. Paths around the mess hall should be of similar size and character as existing paths, while those that access the former cabins should be narrower, between two and two and a half feet wide The paths should be surfaced in stone dust and lined with stones in the manner of other footpaths in camp.

SMALL-SCALE FEATURES

Rapidan camp contains few small-scale features, most of which are non-historic. Historic features, including the light fixtures mounted in the trees and any small-scale stone features like the mounting block, should be preserved. Non-historic features should be compatible with the historic character and inconspicuous in the landscape.

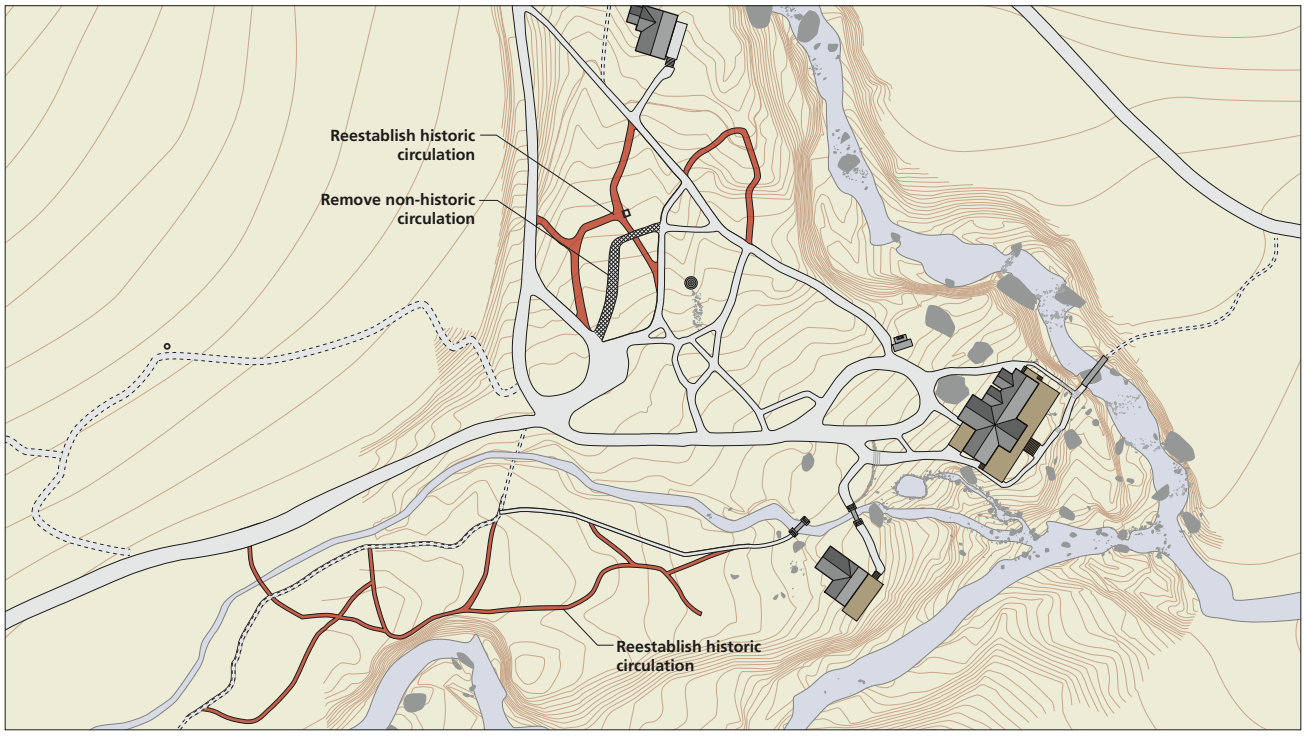


Figure 4.29. Diagram showing circulation features to be reestablished and features to be removed. See Drawings 5 and 6 for full treatment diagram. (OCLP)

SF-1: Remove/relocate fire equipment and donation box

Goal: Deemphasize non-historic features
Zone: 1

Equipment related to fire suppression is currently located between the President's Cabin and the Prime Minister's Cabin. A metal hose cabinet holds a variety of hoses and other equipment, little of which appears to be operational. Adjacent to the hose cabinet is a two-post rack for a fire ladder, a red fire hydrant, and a metal donation box to collect donations from camp visitors. This equipment is not compatible with the historic character of the camp and is highly conspicuous in its current location.

A determination should be made regarding what equipment is necessary for the fire safety of the historic structures. Non-functioning and unnecessary equipment should be removed, and any necessary equipment should be relocated to a less conspicuous location and screened with vegetation. Similarly, the donation box should be evaluated for its need, and removed or relocated as appropriate.



Figure 4.30. Remove non-essential utility features and move essential features to a less conspicuous location. (OCLP

Table 4.2. Summary of Treatment Tasks

Task ID	Task Name	Zones	Priority	Related Tasks
Vegetation				
VG-1	Manage vegetation to promote existing tulip poplar trees	1, 2	1	VG-2, VG-7
VG-2	Transplant tulip poplars into clear areas	1, 2	1	VG-1, VG-7
VG-3	Reduce understory and midstory vegetation	1, 2	Priority 1 in Zone 1 Priority 2 in Zone 2	VG-4, VG-8
VG-4	Cultivate low, native herbaceous ground cover	1, 2	Priority 1 in Zone 1 Priority 2 in Zone 2	VG-8
VG-5	Preserve existing hemlock trees	1, 2	1	VG-6
VG-6	Propagate and plant hemlock seedlings	1, 2	2	VG-5
VG-7	Retain existing native overstory trees	1, 2	1	VG-1, VG-2
VG-8	Plant native woodland shrubs and herbaceous plants	1	2	VG-4
VG-9	Remove non-native and nuisance species	1, 2	Priority 1 in Zone 1 Priority 2 in Zone 2	VG-4
VG-10	Clear trees and shrubs from building footprints and maintain as native ground cover	1, 2, 3	3	SP-2
VG-11	Protect historic features from vegetation	All	1	
VG-12	Plant screening vegetation around pit toilet and storage shed	4	2	VG-2, VG-4, VG-8
Constructed Water Features				
WF-1	Rehabilitate Hemlock Run	1, 2, 3	2	VG-11
WF-2	Rehabilitate concrete trout pool and outflow channel	1	2	
WF-3	Rehabilitate stone fountain and rock garden	2	3	
WF-4	Repair Laurel Dam and sluice gate	4	3	
Spatial Organization and Circulation				
SP-1	Conduct archeological survey of camp	All	3	
SP-2	Interpret building footprints	All	3	VG-10, SP-1
SP-3	Reestablish historic circulation	1, 2, 3	2	SP-1
Small-Scale Features				
SF-1	Remove/relocate fire equipment and donation box	1	2	

ENDNOTES

1 16 USC Sec. 1–4 (August 25, 1916) and Sec. 403 (May 22, 1926.

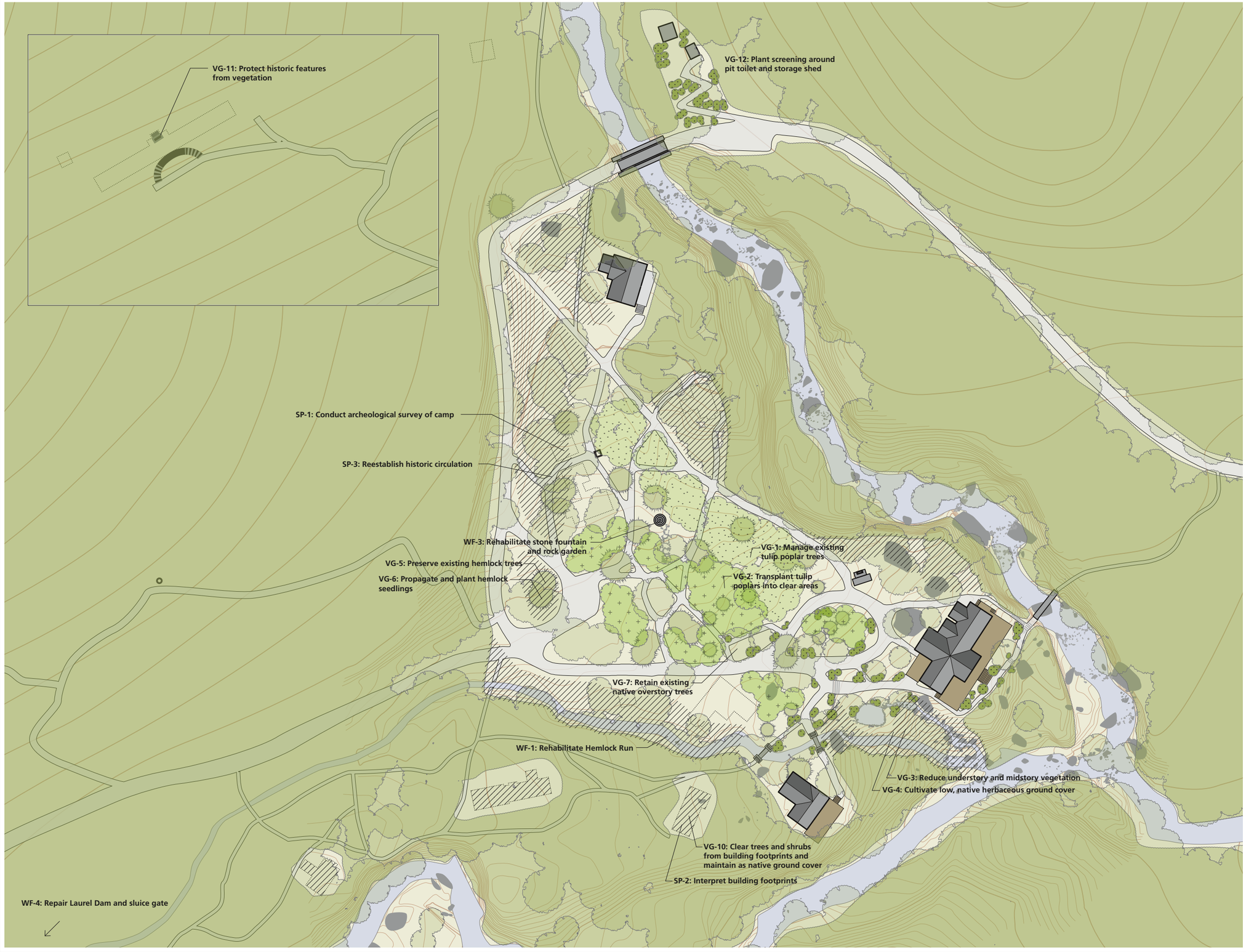
2 16 USC Sec. 470 (October 15, 1966)

3 National Park Service, Denver Service Center, "General Management Plan and Development Concept Plan, Shenandoah National Park," 1983.

4 See the report from the University of Tennessee technical assistance (Appendix B) for more discussion on the characteristics of tulip poplars and their potential use for reestablishment of the forest canopy.

5 Lou Henry Hoover, see Appendix A.

6 Basal area is a measure of tree stand density that considers both the number and size of trees. Discussion of methods and implications of basal area is contained in the University of Tennessee team's final report in Appendix B.



Cultural Landscape Report

Rapidan Camp
Shenandoah National Park

Treatment Plan

National Park Service
Olmsted Center for Landscape Preservation
www.nps.gov/oclp

SOURCES

1. 2005 Aerial photo (from park) (check on date)
2. The President's Camp, Sketch by U.S. Marines, Aug 27, 1930
3. USGS/U.S. Marine Corp, 1930
4. The President's Camp, Sketch by U.S. Marines, June 15, 1931
5. Rapidan Camp utilities map, untitled, c. 1935
6. Rapidan Camp Existing Development, Part of the Master Plan, May 1, 1954

DRAWN BY

John Hammond, OCLP
Adobe Illustrator CS6, 2014

LEGEND

- Reduce understory vegetation
- Transplanted tulip poplar trees
- Planted shrubs
- Deciduous Trees
- Hemlock Trees
- Dense Understory
- Young Tulip Poplars
- Former Cabin Sites
- Buildings
- Rocks and Boulders
- Rivers and Streams

NOTES

1. All features shown in approximate scale and locations.

NORTH

0 75 150 FEET

Drawing 5

VG-11: Protect historic features from vegetation

WF-3 Rehabilitate stone fountain and rock garden

VG-1: Manage vegetation to promote existing tulip poplar trees

VG-2: Transplant tulip poplars into clear areas

VG-5: Preserve existing hemlock trees

VG-7: Retain existing native overstory trees

VG-4: Cultivate low, native herbaceous ground cover

VG-8: Plant native ornamental shrubs and herbaceous plants

VG-6: Propagate and plant hemlock seedlings

SF-1: Remove/relocate fire equipment and donation box

VG-3: Reduce understory and midstory vegetation

VG-9: Remove non-native and nuisance species

WF-2: Rehabilitate concrete trout pool and outflow channel

WF-1: Rehabilitate Hemlock Run

VG-10: Clear trees and shrubs from building footprints and maintain as native ground cover

SP-1: Conduct archeological survey of camp

SP-2: Interpret building footprints

Cultural Landscape Report

Rapidan Camp
Shenandoah National Park

Treatment Detail

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6. Rapidan Camp Existing Development, Part of the Master Plan, May 1, 1954

DRAWN BY

John Hammond, OCLP
Adobe Illustrator CS6, 2014

LEGEND

- Dense understory vegetation
- Reduce understory vegetation
- Existing tulip poplar trees
- Transplanted tulip poplar trees
- Planted shrubs
- Existing Hemlock
- Existing Deciduous
- Former Cabin Sites
- Buildings
- Rocks and Boulders
- Rivers and Streams

NOTES

1. All features shown in approximate scale and locations.

NORTH

0 33 66 FEET

Drawing 6

APPENDIX A: INTEGRATING TREATMENT RECOMMENDATIONS WITH FMSS

Rapidan Camp's cultural landscape is managed through the National Park Service Facility Management Software System (FMSS). This system is structured to track costs associated with asset management, as well as asset condition. FMSS is also fundamental in generating funding requests for capital improvement projects. Integration with FMSS is essential to implementing the landscape treatment recommendations of this report.

Rapidan Camp's FMSS data is currently organized around a single maintained landscape location, Rapidan Camp Managed Area Landscape (3820), and many of the landscape features are tracked as part of this location. Associated with this maintained landscape location are a number of other asset types, including buildings, a road, road bridge, water system, and waste water system. In all for Rapidan Camp, 213 assets are tracked in FMSS. Several important resources are currently not tracked in FMSS, including vegetation resources, hemlock run channel and stone walls, and the mounting block. In order to track these features and secure funding for their maintenance, it is recommended that they be created as assets in FMSS.

In an effort to coordinate the documentation and treatment efforts of this Cultural Landscape Report with the management of assets at Rapidan Camp through FMSS, the following tables provide a cross-reference between the data. Table 5.1 presents the landscape features inventoried in the Analysis and Evaluation chapter along with their corresponding FMSS asset and location information, historic character, and any identified deficiencies. Table 5.2 lists the treatment tasks described in the Treatment chapter with their corresponding FMSS work type, recurring maintenance needs, and approximate quantities to assist in estimating costs and requesting funding.

TABLE A.1. FMSS DATA FOR LANDSCAPE FEATURES

CLR Feature Name	FMSS Asset Type	FMSS Location Record	FMSS Asset Record	LCS ID#	Cultural Landscape Evaluation	Historic Character	Deficiency (Historic)	Additional Guidance
Natural Systems and Features								
Laurel Prong	NA	NA	NA	NA	Contributing	Natural stream	No	Not a maintained asset.
Mill Prong	NA	NA	NA	NA	Contributing	Natural stream	No	Not a maintained asset.
Rapidan River	NA	NA	NA	NA	Contributing	Natural stream	No	Not a maintained asset.
Big Rock Falls	NA	NA	NA	NA	Contributing	Natural feature	No	Not a maintained asset.
Spatial Organization								
Cluster Development at Confluence	NA	NA	NA	NA	Contributing	Developed area organized along and between the natural streams Mill Prong and Laurel Prong	Yes – Sites of missing building are unmarked and obscured with vegetation.	Treatment recommends clearing and marking missing cabin footprints.
Circulation								
Entrance Road	Roads (1100)	Camp Hoover Rd. (49150)	Surface Record (413732) (30 asset record total)	82933	Contributing	Graded dirt or gravel road with stone walls, bridges, and culverts	No	
Circulation Drive and Loop	Roads (1100)	Camp Hoover Rd. (49150)	Surface Record (413732) (30 asset record total)	092672	Non-contributing	Gravel drive with stone borders	No	
Spring House Access Drive	Roads (1100)	Laurel Prong Horse Trail/ Road (48188)	Surface Record (170619) (23 asset records total)	423143		Graded dirt or gravel road through forest	No	
Road to Marine Camp	Roads (1100)	Not in FMSS	NA	83190	Non-contributing	Graded dirt or gravel road through forest	Yes – Road trace does not reflect historic conditions.	Only road trace remains.
Footpaths	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Gravel Pave Base on President's Cabin Trail (1069680)	82945	Contributing	Gravel or compacted earth paths with stone borders	Yes – Footpaths do not fully reflect their historic extent and alignment.	Treatment recommends reestablishing missing trails.
Trail to Five Tents Area	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Five Tents Trail Surface (1002967)	82953	Contributing	Gravel or compacted earth path with mortared steps and dry-laid walls	Yes – stone steps and walls exhibit condition issues.	Treatment recommends repairing and maintaining stone steps and walls.

CLR Feature Name	FMSS Asset Type	FMSS Location Record	FMSS Asset Record	LCS ID#	Cultural Landscape Evaluation	Historic Character	Deficiency (Historic)	Additional Guidance
Hemlock Run Trail	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Hemlock Run Trail Surface (608408)	82954	Contributing	Compacted earth trail with edging.	No	
Vegetation								
Large Oak in President's Cabin Porch	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Not in FMSS	NA	Contributing	Oak tree growing through porch decking adjacent to cabin.	Yes - Impacting Presidents Cabin.	Treatment recommends removal.
Mountain Laurels	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Not in FMSS	NA	Contributing	Mountain laurels of various sizes planted along paths, porches, and other features.	Yes – Only a fraction of the original plantings remain.	Treatment recommends preservation of existing shrubs and new plantings.
Large Hardwood Canopy Trees	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Not in FMSS	NA	Contributing	Tall trees of mixed hardwood species comprising a component of the camp's tree canopy.	No	
Hemlock Trees	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Not in FMSS	NA	Contributing	Mature hemlock trees with high canopy, tall, straight trunks, and open understory.	Yes – Few hemlock trees remain. Existing hemlock trees susceptible to hemlock woolly adelgid.	Treatment recommends preservation and propagation of existing trees.
Buildings and Structures								
President's Cabin	Building (4100)	Camp Hoover President's Cabin (00002394)	23 assets total	7773	Contributing	One-story frame cabin with milled siding; six rooms, sun porch, two decks; two large stone fireplaces	No	
Prime Minister's Cabin	Building (4100)	Camp Hoover Prime Minister's Cabin (00002396)	19 assets total	7774	Contributing	One-story frame cabin with milled siding; three rooms and one deck; large stone fireplace	No	
Creel Cabin	Building (4100)	Camp Hoover Creel Cabin (00002395)	24 assets total	7775	Contributing	One-story frame cabin with milled siding; three rooms and one deck; large stone fireplace.	No	

CLR Feature Name	FMSS Asset Type	FMSS Location Record	FMSS Asset Record	LCS ID#	Cultural Landscape Evaluation	Historic Character	Deficiency (Historic)	Additional Guidance
Five Tents fireplace and steps	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Stone Semi-circular Staircase (1010178/RPDN9999OT002) and Fireplace and Chimney (1010176/RPDN999OT001)	83066	Contributing	Long, narrow frame cabin with stone fireplace and stone entrance steps.	Yes – Cabin was removed or destroyed in the 1950s. Only fireplace and steps remain.	Treatment recommends preservation of existing fireplace and steps.
Outdoor Fireplace	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Fireplace (1012879/RPDN999OT0 06)	82938	Contributing	Mortared fieldstone outdoor fireplace with stone base and chimney.	No	
Entrance Road Bridge	Road Bridge (1700)	Camp Hoover (Rapidan River Bridge) RT 4840-0006s	Not in FMSS	82934	Contributing	Bridge on entrance road composed of mortared stone headwalls encasing two metal pipe culverts.	No	
Entrance Road Retaining Walls	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Not in FMSS	82936	Contributing	Dry-laid stone retaining walls along the side of the road between one and four feet high.	No	
Hemlock Run stone footbridge	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Bridge, Stone (1010185/RPDN999BR002)	83063	Contributing	Mortared stone footbridges integrated into Hemlock Run stone walls.	No	
Hemlock Run stone footbridge	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Bridge, Stone (1010185/RPDN999BR002)	082957	Contributing	Mortared stone footbridges integrated into Hemlock Run stone walls.	No	
Hemlock Run stone slab footbridge	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Bridge, Stone (1010184/RPDN999BR004)	82956	Contributing	Single stone slab placed across Hemlock Run where the Hemlock Run Trail crosses.	No	
Hemlock Run arched stone footbridge	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Bridge, Stone (1010184/RPDN999BR001)		Contributing	Arched mortared stone footbridge over Hemlock Run.	No	

CLR Feature Name	FMSS Asset Type	FMSS Location Record	FMSS Asset Record	LCS ID#	Cultural Landscape Evaluation	Historic Character	Deficiency (Historic)	Additional Guidance
Mill Prong wooden footbridge	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Not in FMSS (GIS RPDN999BR005)	360630	Contributing	Wooden footbridge composed of log stringers and milled decking with unhewn small-log handrails.	No	Reconstructed of similar design, but with more substantial materials
Septic pipe and piers	Waste Water Systems (5200)	Rapidan Camp Developed Area Landscape (3820)	Not in FMSS	82942	Non-Contributing	Metal pipe elevated over Laurel Prong channel on two mortared stone piers.	No	Installed after period to prevent effluent discharge
Steel Bridge	Bridges (1700)	Camp Hoover, Rapidan River Bridge (55732)	Bridge Superstructure (1180205)	NA	Non-Contributing	Metal decking on steel girder stringers over Laurel Prong at camp entrance .	No	Installed in the 1940s to replace original bridge
Unidentified stone structure	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Not in FMSS	NA	Non-contributing	Mortared stone platforms with stone structure on top; mountings for posts along edges.	No	Possible picnic or barbecue shelters from the Boy Scouts period
Shed and comfort station	Building (4100)	Rapidan Camp Vault Toilet (#99601) and Rapidan Camp Telephone-Storage Shed (#00002393)	Vault Toilet (8 Asset Records Total) Storage Shed (10 Asset Records Total)	NA	Non-contributing	Small wooden structures for contemporary uses.	No	
Constructed Water Features								
Hemlock Run	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Not in FMSS	NA	Contributing	Constructed water course; 1,600 feet long total; 200 feet of mortared stone walls.	Yes – Condition issues and insufficient water flow.	Treatment recommends repair and preservation.
Hemlock Run Falls	Building (4100)	Rapidan Camp Developed Area Landscape (3820)	Rapidan Camp Hemlock Run Trout pool, Dam and Waterfall (1032924)	NA	Contributing	Flat rock placed across the channel of Hemlock Run to create a small waterfall.	Yes – Insufficient water flow	

CLR Feature Name	FMSS Asset Type	FMSS Location Record	FMSS Asset Record	LCS ID#	Cultural Landscape Evaluation	Historic Character	Deficiency (Historic)	Additional Guidance
Concrete Trout Pool	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Hemlock Run trout pool, dam and waterfall (1032924)	83065	Contributing	Roughly circular pool with concrete basin and mortared stone rim; fed by water from Hemlock Run.	Yes – Pool leaks around the stone rim	Treatment recommends repair.
Mill Prong Trout Pools	Maintained Landscape (3100)		Not in FMSS	NA	Contributing	Stacked stone dams in the channel of Mill Prong that create small pools behind them.	Yes – Dams are scattered and no longer form pools	
Laurel Dam	Maintained Landscape (3100)		Not in FMSS	NA	Contributing	Stacked stone and gravel dam; diverts water into Hemlock Run.	Yes – provides insufficient water to Hemlock Run.	Requires seasonal attention.
Sluice Gate	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Rapidan Camp, Hemlock Run Sluice Gate (1032927) RPDN999OT004	82958	Contributing	Concrete blocks placed on either side of Hemlock Run at its origin; designed to hold boards between them forming a weir dam to control water flow.	Yes – Boards are missing and concrete is deteriorating.	Treatment recommends repair or rehabilitation.
Stone Fountain	Water Systems (5100)	Rapidan Camp Developed Area Landscape (3820)	Rapidan Camp, Rock Garden Stone Fountain (212386)	82946	Contributing	Circular multi-tiered stone fountain gravity-fed by water from Mill Prong; water cascaded over the tiers and into a rock garden.	Yes – Fountain is no longer operational; stonework needs repair; rock garden is in disarray.	Treatment recommends repair or rehabilitation.
Rip-rap on Mill Prong	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Wall, Retaining, Stone (Drywall) #1069626 RPDN999RW003	NA	Non-Contributing	Stacked stones on the bank of the Mill Prong beneath the President's Cabin.	No	Installed to protect the President's Cabin from flood and erosion damage.
Small Scale Features								
Mounting Block	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Not in FMSS	82943	Contributing	Mortared stone platform with steps on the east side; used for mounting horses.	Yes – Stonework needs repair.	Treatment recommends repair of all stone features.
Five Tents lights	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Not in FMSS	NA	Contributing	Metal light shades mounted on trees via metal pipes.	Yes - Only two of the many lights remain; only the shades remain; show signs of rust and deterioration.	Treatment recommends preservation.

CLR Feature Name	FMSS Asset Type	FMSS Location Record	FMSS Asset Record	LCS ID#	Cultural Landscape Evaluation	Historic Character	Deficiency (Historic)	Additional Guidance
Hitching post remnants	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Hitching Post 1 (1012888/RPDN999OT007) Hitching Post 2 (1012891/RPDN999OT008)	NA	Contributing	Mortared stone piers held a presumably wooden hitching post; - Conflicts with FMSS data indicating location at parking area.	Yes – Only remnants of the stone piers remain.	
NHL marker	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Not in FMSS	82937	Non-Contributing	Natural stone with a bronze plaque mounted to it indicating the NHL status of Rapidan Camp.	No	Installed in 1988
Pump head and pipe	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Not in FMSS	NA	Undetermined	Ten-inch pump head with four swivel turn-screw tighteners; a three-inch pipe that enters the pump head form Hemlock Run.	No	Unknown origin
Interpretive Signs	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Not in FMSS	NA	Non-Contributing	Metal signs on metal pipes.	No	Non-historic
Fire hydrant, ladder rack, and hose shed	Maintained Landscape (3100) Water Systems (5100)	Rapidan Camp Developed Area Landscape (3820)	Hose Shed Not in FMSS (GIS RPDN999OT009) Fire Hydrant (101405/RPDN021FH001) Ladder rack Not in FMSS	NA	Non-Contributing	Metal fire hydrant; aluminum ladder hung on two wooden posts; metal rectangular hose cabinet.	No	Non-historic
Views and Vistas								
Distant views	NA	NA	NA	NA	Non-contributing	Distant views once visible from Five Tents area are no longer present.	No	Reestablishment of the former distant views is not recommended.

TABLE A.2. FMSS DATA FOR TREATMENT TASKS

CLR Treatment Task – FMSS Workorder	CLR Landscape Zone	Task Components	FMSS Asset Type	FMSS Location	FMSS Asset	FMSS Work Type – Sub Type	Recurring Maintenance Needed	Quantities	Units
VG-1 Manage vegetation to promote existing tulip poplar trees	Zone 1 and Zone 2	1. Identify and mark vegetation competing with tulip poplar saplings 2. Remove or prune competing vegetation	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Rapidan Camp Vegetation (*Proposed*)	Facility Maintenance – Deferred Maintenance	No. Initial effort will give existing tulip poplar trees a lasting competitive advantage	1	Acre
VG-2 Transplant tulip poplars into clear areas	Zone 1 and Zone 2	1. Identify and mark young seedlings and saplings for transplant. 2 Root prune young trees the summer before anticipated transplanting project 3. Transplant young trees in the spring well before bud-break	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Rapidan Camp Vegetation (*Proposed*)	Facility maintenance – deferred maintenance	Yes, follow up may be needed where transplants are not successful	0.5	Acre
VG-3 Reduce understory and midstory vegetation	Zone 1 and Zone 2	1. Identify understory and mid story vegetation out of character with open qualities of the central camp during the historic period. 2. Remove identified vegetation 3. Evaluate results	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Rapidan Camp Vegetation (*Proposed*)	Facility maintenance – Deferred maintenance	Yes, pruning and removals based on periodic inspections	0.8	Acres
VG-4 Cultivate low, native herbaceous ground cover	Zone 1 and Zone 2	1. Identify, mark and protect desirable native vegetation naturally appearing within the central camp.	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Rapidan Camp Vegetation (*Proposed*)	Facility maintenance	Yes, seasonal inspection, protection and light transplanting of seedlings.	0.8	Acres
VG-5 Preserve existing hemlock trees	Zone 1 and Zone 2	1. Continue to treat mature surviving hemlocks with systemic pesticides to protect this gene pool from the hemlock woolly adelgid.	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Rapidan Camp Vegetation (*Proposed*)	Preventive maintenance	Yes, annual inspection and assessment – treatment with systemic pesticides.	0.8	Acres

CLR Treatment Task – FMSS Workorder	CLR Landscape Zone	Task Components	FMSS Asset Type	FMSS Location	FMSS Asset	FMSS Work Type – Sub Type	Recurring Maintenance Needed	Quantities	Units
VG-6 Propagate and plant hemlock seedlings	Zone 1, Zone 2 and Zone 3	1. Propagate local hemlock trees under protection. 2. Plant hemlock seedlings in the vicinity of hemlock stumps	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Rapidan Camp Vegetation (*Proposed*)	Facility Maintenance Preventive maintenance	No. Periodic replanting may be required if initial efforts are unsuccessful	3	Acres
VG-7 Retain existing native overstory trees	Throughout	1. Inventory and Assessment 2. Maintenance	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Rapidan Camp Vegetation (*Proposed*)	Preventive Maintenance	Yes, annual inspection and assessment	3	Acres
VG-8 Plant native woodland shrubs and herbaceous plants	Zone 1	1. Develop detailed planting plan 2. Procure native plants 3. Install plants	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Rapidan Camp Vegetation (*Proposed*)	Facility maintenance – deferred maintenance	Yes, however this will diminish as planting become established.	2000	SF
VG-9 Remove non-native and nuisance species	Zone 1 and Zone 2	1. Identify and mark areas of non-native nuisance species. 2. Implement IPM measures.	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Rapidan Camp Vegetation (*Proposed*)	Preventive maintenance	Yes, annual inspection and treatment of growths of non-native and nuisance species	0.8	Acres
VG-10 Clear trees and shrubs from building footprints and maintain as native ground cover	Zone 2 and Zone 3	1. Identify and mark former building footprints. 2. Remove trees and shrubs from interior of footprint areas.	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Rapidan Camp Vegetation (*Proposed*)	Deferred maintenance – Preventive maintenance	Yes, annual removal of woody seedlings, nuisance and weed species	1,500	SF
VG-11 Protect historic features from vegetation	Throughout	1. Conduct hazard tree assessment, including threats to masonry features by tree roots 2. Implement recommendations.	Buildings (4100); Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820) President's Cabin (00002394) Prime Ministers Cabin (0002396) Creel Cabin (00002395)	Multiple Assets	Preventive Maintenance	Yes, seasonal inspection and evaluation	Var.	EA

CLR Treatment Task – FMSS Workorder	CLR Landscape Zone	Task Components	FMSS Asset Type	FMSS Location	FMSS Asset	FMSS Work Type – Sub Type	Recurring Maintenance Needed	Quantities	Units
VG-12 Plant screening vegetation around pit toilet and storage shed	Zone 4	1. Develop planting plan. 2. Procure native plants 3. Install plantings	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Vault Toilet (99601) and Storage Shed (00002393)	Facility Maintenance	Yes, annual inspection	1,500	SF
WF-1 Rehabilitate Hemlock Run	Throughout	1. Assess condition of Hemlock Run as a constructed water course, including masonry features 2. Implement recommendations based on assessment	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Mortared Stone Retaining Wall along Hemlock Run (#1010186/ RPD-N999RW001)	Facility maintenance – Deferred maintenance - Preventive Maintenance	Yes, seasonal inspection and Preventive maintenance of masonry features, removal of encroaching trees and leaf litter and forest debris.	1,645	LF
WF-2 Rehabilitate concrete trout pool and outflow channel	Zone 1	1. Assess extent of erosion and undermining below the concrete basin. 2. Stabilize concrete basin. 3. Remove vegetation and accumulated organic material from the course of the basin outflow	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Rapidan Camp Troutpool, Dam and Waterfall (1032924)	Facility Maintenance – Deferred Maintenance	Yes, seasonal inspection and removal of leaf litter and debris, removal of woody vegetation.	1,000	SF
WF-3 Rehabilitate stone fountain and rock garden	Zone 2	1. Install temporary connection to fountain in order to operate. 2. Map extent and route of water flow. 3. Remove vegetation and accumulated organic material impeding water flow	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Rapidan Camp Rock Garden and Stone Fountain (212386)	Facility Maintenance – Deferred Maintenance	Yes, removal of woody species, weeds and nuisance species, and accumulated leaf litter; annual flushing of pipes.	350	SF

CLR Treatment Task – FMSS Workorder	CLR Landscape Zone	Task Components	FMSS Asset Type	FMSS Location	FMSS Asset	FMSS Work Type – Sub Type	Recurring Maintenance Needed	Quantities	Units
WF-4 Repair Laurel Dam and sluice gate	Zone 4	1. Procure hydrological data informing environmentally preferred height of Laurel Dam and sluice gate. 2. Repair or replace sluice gate as indicated 3. Seasonally maintain low height of Laurel Dam, using hand-carried stream boulders, gravels and short manageable sections of downed timber	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Rapidan Camp, Hemlock Run Sluice Gate (1032927) RPD-N999OT004	Facility Maintenance – Preventive Maintenance	Yes, will require inspection and attention seasonally.	1	EA
SP-1 Conduct archeological survey of camp	Zone 1, Zone 2 and Zone 3	1. Procure archeological geophysical survey of central core of NHL district.		Rapidan Camp Developed Area Landscape (3820)		Not determined	No	1	EA
SP-2 Interpret building footprints	Zone 2 and Zone 3	1. Verify locations of missing camp structures. 2. Mark former building corners with corner posts or piers.	Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	n/a	Facility maintenance	Yes, replacement of markings and exhibits every 10 years	14,000; 1,650	SF of interior area; LF of footprint perimeter
SP-3 Reestablish historic circulation	Zone 2 and Zone 3		Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)	Rapidan Camp Trails (1088706)	Facility maintenance – Preventive maintenance	Yes, annual grading and repair of surface and edging.	1,340	LF
SF-1 Remove/ relocate fire equipment and donation box	Zone 1		Maintained Landscape (3100)	Rapidan Camp Developed Area Landscape (3820)		Facility maintenance	No	1	EA

APPENDIX B: TRANSCRIPT OF LOU HENRY HOOVER'S INSTRUCTIONS FOR CAMP PLANTINGS

FLOWERS AND SHRUBS FOR THE PRESIDENT'S CAMP – DIRECTIONS

1. The President requests that a very great many kinds of plants, flowers, etc. be prepared to be taken up to camp and set out whenever the different seasons permit. (the President said that a couple, or as many as necessary, gardeners could come up from the White House, put the plants in, etc. Major Long says that the marine Detail, after the plants have been set out, can be taught by the gardener how to weed and cultivate them from day to day. At occasional intervals,- perhaps once a fortnight,- a gardener could go up from here and see how things are going, give further directions to the Marines if necessary, etc. Hence it will not be necessary to keep a gardener at camp. However, it may be desirable and necessary for him to stay there several days while putting in the plants.)

2. The plants taken up want to be either the identical species which grow in that neighborhood (within a radius of twenty to twenty-five miles) or of perhaps hardy species that might be better to cultivate but very similar to the native ones. (for instance, there is a native forget-me-not and a little native plant that is not a lily of the valley but looks remarkably like one. But the cultivated species of these tow can well be put in at camp.)

All the plants should be either the native variety or look so like it that they will not seem out of place among that woodsy setting.

3. The President is very fond of color in gardens so where possible and appropriate to the species, arrange the flowering shrubs and flowers so as to give mass effects of color.

4. a. The immediate surroundings of the camp have many trees and bushes which means a great deal of shade; yet there are open spaces where the sun comes through, so that these patches can be picked out for sun-loving things. But there must be a great many things for blooming in the shady places.

Note: there should be no formal beds of plants or flowers but, while having a certain compactness so as to give masses of color, should ramble off into the surroundings. They should not be carefully trimmed nor should the beds be outlined in any way.

b. Some flowers should be planted right along the creek's edge, others overhanging the water.

c. Besides having flowers growing along the paths, under the trees, etc. the president and Mrs. Hoover also want boxes and rustic pots sitting around on verandahs and in rooms; so attention should be given to plants that can be used thusly (of course flowering things).

d. Also they want a good many hanging baskets or pots hanging from the eaves and over the verandahs.

e. Also Mrs. Hoover does want to have planted, in addition to all the foregoing, a little distance from the camp either in open places or shade as the flowering plants demand, considerable number of plants (probably the same type as those about camp) whose flowers can be used for cutting. She does not like to cut the plants that are inside around the camp, yet she wants flowers for bowls in the cabins. So by putting little semi-beds in near-by localities, they can raise the flowers for table use in the various cottages, and yet have them "wild-like" flowers, not the rose and carna-

tion type from the White House.

Note: While there are plenty of shrubs and a profusion of ferns in the neighborhood that can be transplanted into the camp ground, the President and Mrs. Hoover are very insistent that no ferns or other plants be taken from points in the vicinity that would be frequented by them or their guests (i.e., they should not be taken from along a creek, trail or open meadow, but from little hidden-away places.)

5. Some places within a mile or two of camp have rather long stretches of twenty or thirty to fifty feet wide which have been cleared along the side of the road. These patches are very barren and will grow up to ferns if we do not put in other things this year. Hence one should take along a lot of hardy seeds and scatter broadside over these patches – some may take root and help diversify the ferns. Seeds should be of inexpensive flowers.

6. Of course perennials when possible are better than annuals (unless the annuals are self-seeding) because of less care required next year.

8. Mrs. Hoover does not wish an extravagant or exorbitant outlay made for any one particular species, unless consulted before the purchase is made. (For instance, if this is the wrong time of the year to get forgetmenot seed and to do so would mean spending several dollars more per pound, let her know of the difference in total cost before buying the seed.)

Attached are the lists of flowers and shrubs which have occurred to her as being perhaps desirable, with explanation.

It will be noted that some of these demand sun, some shade; some need wet soil; others dry soil, etc., etc.

List I

(Get all of these unless very expensive as Mrs. Hoover is particularly anxious to have them at camp – it may be some will prove a failure, but get them and experiment with anyway. Stock must be taken in for the perennials, even though he varieties grow profusely in the neighborhood.)

a. (Grows profusely in neighborhood; therefore will do well in camp.)

Morning glories
Wild cucumber
Blackeyed susans
Yellow-eyed susans
Butterfly weed (milk weed) – aselepias
Spireas (smaller varieties and pink variety)
Hardy asters (various, -Michaelmas Daisies, etc.)
Triliums
Jacks-in-the-pulpits
Columbines
Mimulus
Goldenrod
Violets

b. (seen in neighborhood; therefore should do well in camp grounds.)

Lady Slippers
Virginia creeper
Forget-me-nots

c. (Not remembered as in neighborhood, but think they might thrive in camp grounds.)

Common "red" swamp lilies (almost orange color)
Tiger lilies
Day lilies – (wildish)
Solomon seals (the real kind – much "false" Solomon seals is there)
Hardy asters
Fox gloves
Gentians
Iris
Lupins
Gourds (all kinds)
Larkspur

List II

(The following might be attractive around the camp in appropriate localities, if easily obtained and easily grown; but do not want the gardener to go to great deal of expense to get plants or to great deal of effort in getting them to grow.)

Hounds tongues

Penstemmons

Evening primroses

Small sweet william

Heleniums (aster-ish)

Snapdragons (Native Varieties)

Lily of the valley

Little wildish pinks

Other asters (asters)

African daisy

Blue cornflower

Sweetshrub

Water lilies

Arrowroot

Bittersweet

Trumpet flower

Aconitum (monkshood – need shade)

Arabis (rock cress – need shade)

Ox-eye daisy

Centaurea – mountain bluet

Clarkia

List V

(no list III or IV)

(The following is a list, hastily prepared, of shrubs profuse in the neighborhood and are given here as an indication of the kind of soil and growth there. All of these can be transplated into the camp grounds as needed.

Wild Rose

Mallows (plenty of ordinary yellow ones)

Snowberries

Wild grape

Azaleas

Sumach

Spirea (very fine species, the taller, candle-like variety, grows 8 feet tall.)

Laurel (wonderful profusion)

APPENDIX C: TECHNICAL ASSISTANCE, UNIVERSITY OF TENNESSEE

The treatment guidance in this report is informed by the technical assistance provided by the University of Tennessee Institute of Agriculture, Department of Forestry, Wildlife, and Fisheries. The group, led by Dr. Jennifer Franklin, Associate Professor, provided analysis of the soils, canopy cover, forest density, seedling regeneration, and predominant plant species. Based on management objectives for Rapidan Camp, the team also provided recommendations for establishing a shading canopy, controlling non-native vegetation, mitigating fire hazards, and maintaining stream health for trout habitat. These management recommendations, based on limited criteria for meeting the natural resource goals outlined in the original project scope, were then used to generate the treatment guidelines and tasks in this report. The treatment guidance presented above is based in part on the recommendations of the University of Tennessee team, but also take into account a full range of objectives, including significance and integrity, historic character, maintenance, interpretation, and visitor experience. In some cases, these additional considerations necessitate modifications or discrepancies between the two sets of recommendations. The treatment guidance and tasks contained within the body of this Cultural Landscape Report should be considered the comprehensive recommendations for the treatment of the cultural landscape that consider the full set of relevant issues.

The findings and recommendations of the University of Tennessee technical assistance were presented to the Olmsted Center for Landscape Preservation in a report submitted in November, 2012. The report is reproduced here in full for reference.

Rapidan Camp Cultural Landscape Technical Assistance

Final Report: Nov. 30, 2012

Prepared for: National Park Service,

Shenandoah National Park

Prepared by: Jennifer Franklin

Department of Forestry, Wildlife and Fisheries

University of Tennessee

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1 OVERVIEW

The goal of Shenandoah National Park is to manage vegetation on specific portions of the area in a manner that will maintain desired conditions. To make efficient use of available resources, areas of concern must be identified, current conditions documented, desired conditions defined, and targeted management strategies identified. The objective of this project is to assist NPS staff in preparing a Cultural Landscape Report by assessing forestry and fisheries issues present on the Rapidan Camp area within Shenandoah National Park, recommending management strategies to meet NPS goals, and reviewing and contributing to the report.

The approach taken was to divide the larger area into stands based on vegetation structure, desired conditions, and management requirements. Stands of different forest types were first delineated using satellite imagery and topography prior to the site visit, then confirmed by visual inspection during the site visit and revised as needed. Data was collected during the site visit, and the current condition of each delineated area is described in this report. Estimates of tree diameter by species, basal area, seedlings by number and height class, and saplings by number and diameter class, and stream condition are included in the description.

Rapidan camp was visited on Apr. 24 for a walkthrough with the historical landscape project team. Areas of interest were delineated based on project goals and to act as treatment and future management units. Measurements of vegetation and stream conditions were made from Apr. 24 through Apr. 26, and results are discussed in the appropriate sections of the report. The current condition of each area was assessed. Desired conditions were determined through discussion with the cultural landscape team, literature review, and analysis of historical photos.

The management of fire risk is the primary factor in close proximity to the cabins, and it is recommended that this area be kept clear of overstory trees. Vegetation in the main camp area is developing into a closed hardwood forest, as desired. Favoring the already dominant yellow poplar by selective cutting should result in an even-aged forest with the desired structure. The riparian zone is recovering well from the loss of hemlock. Coarse woody debris should provide excellent fish habitat over the near future. The surrounding hardwood forest is a mosaic of different aged stands that requires no management at this time.

2 DELINEATION OF MANAGEMENT AREAS

2.1 SOILS AND AERIAL IMAGERY

Portions of the forest surrounding Rapidan Camp suffered a major loss of forest canopy as a result of hemlock wooly adelgid. Prior to the site visit, historical satellite imagery was used to delineate areas that had once been hemlock forest, and areas that potentially differed in forest type. Images of the Rapidan Camp area from the growing seasons of 2011, 2005, and 2003, and from the dormant seasons of 2011, 2009, 2006, 2002, and 1997 were obtained from Google Earth. Potential stand boundaries were identified using differences between growing and dormant season to identify areas of evergreen foliage.

Within each area, changes in vegetation over time were determined and the boundaries of eastern hemlock (*Tsuga canadensis*) stands were identified by the presence of large numbers of dead, standing trees visible in the 2002 and 2003 imagery. Hemlock mortality was found to have occurred between 1997 and 2002, affecting approximately 25% of the project area (Figure 2.1.1).

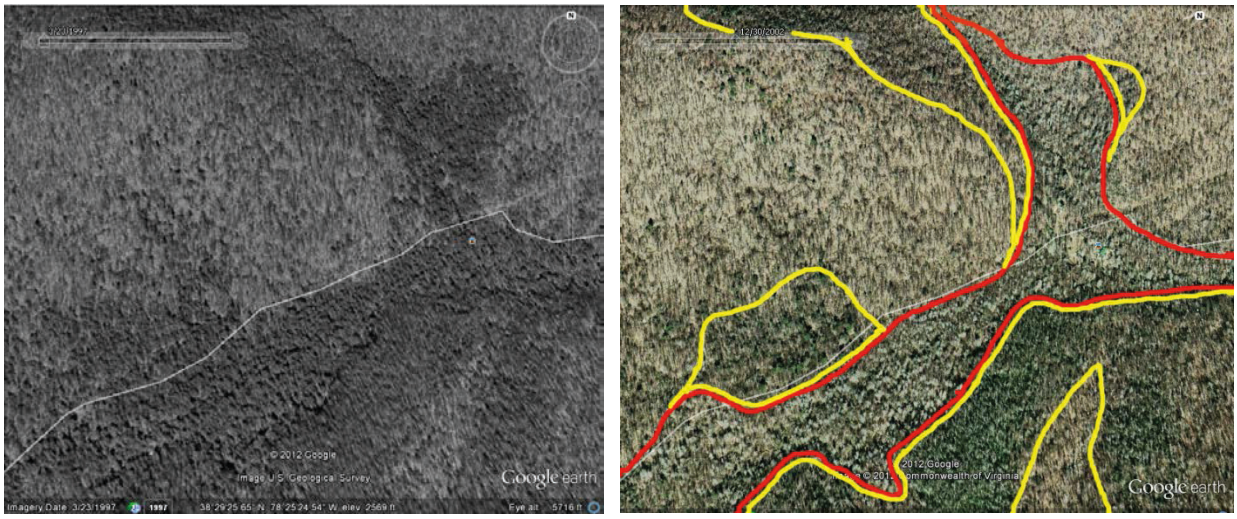


Figure 2.1.1 Satellite images of the Rapidan Camp area taken during the winter of 1997 (left) and winter of 2002 (right). Areas with evergreen vegetation are delineated as being primarily hemlock, appearing as a gray swath of dead trees in 2002 (in red), and other evergreen vegetation (in yellow).

Within the riparian zone, hemlock had dominated slopes with south and west aspects. The other evergreen was found to be laurel (*Kalmia latifolia*), which dominated the understory on north and east-facing slopes in the areas shown in yellow in Figure 2.1.1. Areas formerly in hemlock remain more open than the surrounding forest, but this disturbance is primarily limited to the riparian zone. During the site visit, no substantial differences in forest overstory structure or composition were observed between areas with and without a laurel understory, so it did not appear to be necessary to consider these as separate areas for management purposes.

Soil maps were obtained from NRCS to determine whether there were any substantial differences in soil type across the area that could potentially affect management. The NRCS soil map delineating soil units in project area, along with their hydrologic properties, is shown in Appendix 1. Soils throughout the area are very stony loams, on slopes between 15% and 45%. Hydrologic properties are shown: gray = primarily rock in the riparian zone, blue = deep well-drained soil, and purple = stony upland soils with a poor infiltration rate.Based on maps, no substantial differences were found in soil pH or texture across the project area. The primary variation in soils was between riparian areas and uplands. Observation of soils during the site visit showed that they appeared to be consistent with soil maps, and there seems to be no need to stratify the forest by soil type for management purposes. However, areas of silty soils were found on the floodplain of Laurel Prong that do not appear on the soil maps.

2.2 DATA COLLECTION

Consideration of history, intensity of use, and intensity of management suggested that the cabin and parking area, the riparian zone, and upland forest should be considered separately. Sampling intensity was commensurate with the degree of disturbance and the anticipated management intensity. In the cabin area, four transects were measured, with locations shown in figure 2.2.1. All seedlings and saplings were counted in a 2 m wide belt along the transect, and a 4 m wide belt was used to record the presence of trees greater than 1.2 m in height. Seedlings, saplings and trees were identified to species when possible.

Basal area is the cross-sectional area of tree trunks per unit of land area. A wedge prism can be used to very quickly estimate the basal area of a forest stand. Standing in one location, the person looks through the prism and rotates 360°, counting the number of "in" trees. The prism offsets the image of the trunk with the degree of offset dependent on tree diameter and distance from the viewer, and trees are counted as "in" when the offset is not greater than the trunk diameter. The number of counted trees is multiplied by the prism factor to determine basal area. Basal area of mature, healthy forests is fairly constant for a given forest type. Monitoring of basal area of a stand can be helpful to planners and forest managers in several ways:

1. Creating or maintaining a desired forest appearance – basal area is an objective measurement that can help to describe the appearance of a forest. Stands with a basal area of 20-60 are often described as "park-like", particularly when the understory vegetation is controlled by burning or grazing. Visitors may describe dappled sunlight and good visibility through the forest. Stands with a basal area greater than 100 are often described as deep, shady glens. Stands with a basal area greater than 200 would often be described as "thickets". Park staff with minimal training can quickly monitor fairly large areas of forest, and alert managers when basal area falls outside of desired ranges. This can provide an early warning that some management will be required to maintain the stand in the desired condition, or can let managers know that the desired condition has been obtained. Forest appearance at different basal areas is shown in Appendix 2.

2. Managing understory vegetation – the shading of the forest floor increases with basal area. A stand with a basal area lower than 60 allows enough light to reach the forest floor to allow the growth of many species. Understory vegetation will often be dense, and may be difficult to control. Understory herbs and shrubs that are considered partially shade tolerant will thrive in forests with basal areas between 20 and 60. Stands with a basal area over 60 will have fewer herbs and shrubs, and vegetation control will rarely be needed. Only shade-tolerant plants should be planted in these areas.

3. Determining when to thin a stand – as a young stand develops, its basal area increases until it reaches the range typical for healthy mature stands of that forest type (60-120 eastern hardwoods). As basal are reaches the top end of this range young trees compete fiercely and some individuals will begin to die as others become dominant. Thinning below a basal area of 60 will result in a burst of dense understory growth that is not desirable in this situation. Allowing a stand to reach the top end of the natural range will result in either a stagnation of growth and

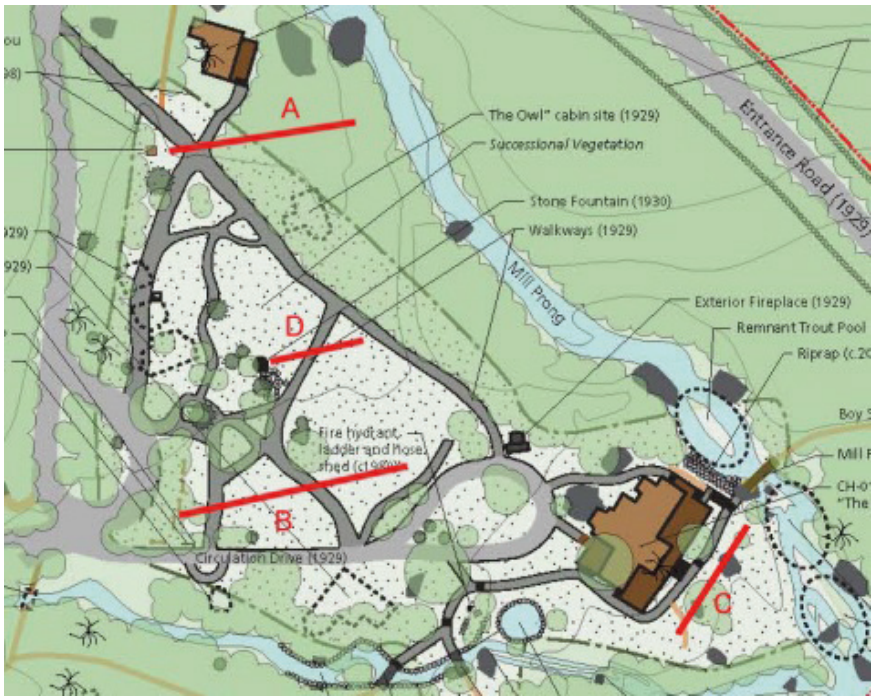


Fig. 2.2.1 Location of transects used for the collection of tree and seedling data within the cabin area. A width of 2 m was used for seedlings and saplings, and 4 m for trees.

development of a "thicket", or the natural death of individuals. Dead trees provide valuable wildlife habitat, but are not desirable in heavily trafficked areas. Thinning at the correct time also allows managers to manipulate the species composition of the stand. A comparison of mixed and single species stands is shown in Appendix 2.

In the upland forest overstory basal area was determined using a factor 10 prism, and species and diameter at breast height were determined for all counted trees. Three plots were measured: two in the hardwood forest on the floodplain of Laurel Prong but outside of the riparian area heavily influenced by hemlock mortality, and the third slightly downslope of the 5 Tents area. The relative importance of each species is based on the percentage of total basal area that is occupied by that species.

The riparian zone was assessed along Mill Prong from a point approximately 60 m (200 ft.) north of "Bailey" bridge to the confluence of Mill and Laurel Prongs. The riparian zone of Laurel Prong was assessed from the confluence to the "hemlock run" sluice gate. For each sample, a vantage point was selected from which a 20 to 30 m (70 to 100 ft.) section of the river was clearly visible. The location of each sampling point was recorded by GPS (Fig. 2.2.2).

At each sampling point, the canopy cover was estimated to the nearest 5% by the agreement of two independent viewers. Dominant canopy trees were recorded, as were species of overstory trees in the seedling and sapling classes. The dominant substrate type of the streambed was recorded based on size as rock, gravel, sand or silt/mud. Stream velocity of each segment was characterized as "swift" in which water moved rapidly enough, or with enough elevation change to create riffles that aerate water; "med" in which water moved swiftly but without riffles; "slow" in which water flowed more slowly through deep pools and shallows; and "variable" areas in which water velocity changed greatly over a relatively small length of stream. The load of coarse woody debris was characterized as "high", "medium", "low"

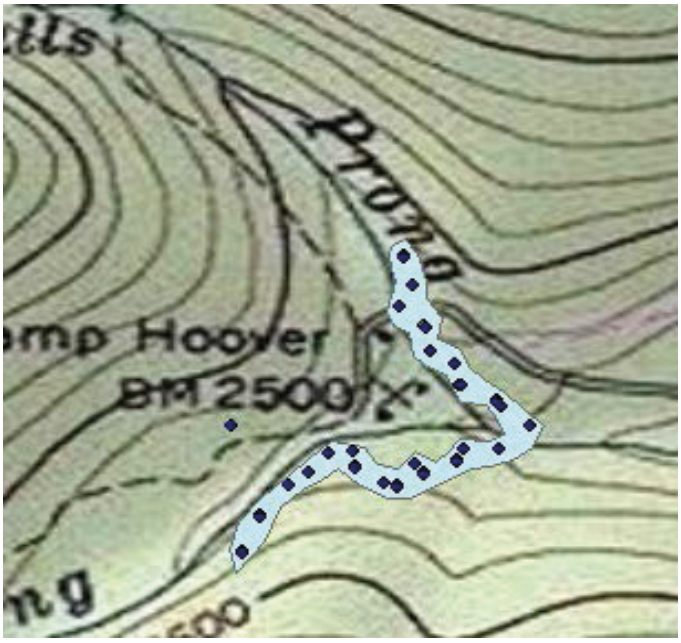


Fig. 2.2.2 Location of sampling sites used for the evaluation of stream habitat and riparian zone vegetation.

or "none". A stream segment that had more than one debris pile large enough to obscure the entire width of the stream were considered to have a "high" load of coarse woody debris. Segments with a single large debris pile and several smaller debris piles were also considered to have a "high" load. These smaller debris piles included a single trunk lying across the stream, large debris that extended into, but not across the stream, and debris made up primarily of smaller branches. Stream segments with a single large debris pile or several smaller debris piles were considered to have a "medium" load of coarse woody debris. Segments with "low" coarse woody debris were those having a single small debris pile, or several scattered, but not piled, pieces of wood in the stream. An absence of coarse woody debris was recorded as "none".

2.3 MANAGEMENT AREAS

After visiting the area and surveying the vegetation, the primary differences in forest structure are between the riparian area and upland forest. Although there is some variability within each of these zones, management of these areas is not expected to be intensive and so there does not seem to be a need to delineate these areas in greater detail.

Two other areas can best be delineated based on project goals. In terms of vegetation management, areas of interest at the Rapidan Camp site can be described as:

- **Cabins**: areas immediately adjacent to the President's Cabin, Prime Minister, and Creel cabins, and corridor between parking area and President's Cabin.
- **Camp proper**: areas between, and immediately surrounding the buildings and parking area.
- **Riparian area**: area immediately adjacent to the stream, from the bridge, and from Laurel dam, downstream to the fork at Rapidan camp.
- **Forest:** all areas within the project boundary, but outside of the 3 areas delineated above.

3 CABINS

This is defined as a 15 foot zone surrounding the President's Cabin, Creel Cabin and Prime Minister Cabin, and also includes the parking lot and pathway between parking lot and President's Cabin (Figure 3.0). The primary factor in delineating this area is to provide a fire safety zone, and reduce building maintenance and damage risk due to falling tree limbs.

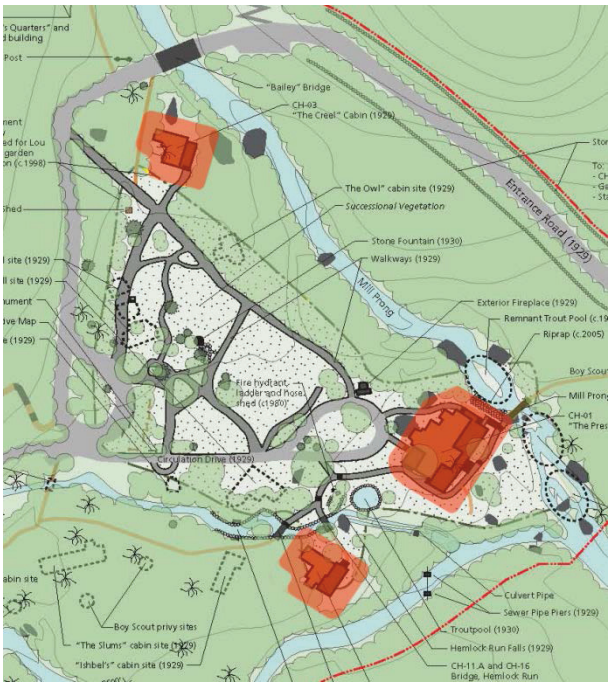


Fig. 3.0 Cabin area shown in red. Map from NPS Cultural Landscape Inventory of Rapidan Camp.



Fig. 3.1.1 "The Creel" cabin, with mayapple (*Podophyllum peltatum*) in the foreground.

3.1 CURRENT CONDITIONS:

Early successional vegetation along the parking lot/President's Cabin corridor is primarily non-native herbs and cool-season grasses, currently maintained by mowing. Dogwood, redbud, and ferns have been planted in the area on the east side of the President's Cabin. Saplings of overstory species were present in the cabin area, with the greatest numbers observed around The Creel and Prime Minister cabins. Few saplings were found in the area of the President's Cabin, but one on the northern corner of the cabin is in a position where it may result in structural damage if it continues to grow.

3.2 DESIRED CONDITIONS

Images of Rapidan Camp from the 1930's show very little herbaceous understory in proximity to the cabins (Fig. 3.2). Other images show a sparse grassy understory around the cabins. The relative lack of an herbaceous layer was likely the result of foot traffic and deep shade imposed by the overstory trees. Shrubs seen in images are of a variety of species; some appear to be laurel and azalea, consistent with reports from the Cultural Landscape team. Laurel is common in the surrounding forest. Large overstory trees are seen within close proximity to the cabins, with decks built around these. The goal for vegetative cover in this area is a low statured, low maintenance, native and cultural vegetation. This could be described as a "woodland garden". This goal is appropriate for the partial to deep shade that will cover most of the area once the canopy of the surrounding forest is established. This vegetation, being in close proximity to the structures, should have a low flammability rating.



Fig. 3.2 Rapidan Camp 1929, from the National Photo Company. Herbaceous vegetation is absent, and shrubs can be seen in the right foreground, and beside the cabin.

3.3 MANAGEMENT RECOMMENDATIONS

Large trees were historically seen in close proximity, even growing through, the cabins. However the wooden construction of the cabins makes them at high risk for fire, and this must be given primary consideration to reduce risk for this valuable cultural resource. Current Virginia Firewise recommendations (2012) call for a distance of 10 feet (3 m) between structures and trees, to reduce fire risk and make the structure defensible if fire does occur. Following other "Firewise" guidelines is highly recommended. The threat of wildfire may currently be higher risk than normal due to the high fuel loading provided by dead hemlock. Tree crowns that overhang structures not only increase fire risk, but also increase building maintenance, and the risk of structural damage when limbs fall.

Therefore, it is recommended that the stems of all overstory tree species be cut within this zone. Some stems of yellow poplar and other large-statured tree species were noted to be very close to the buildings, and may pose a hazard if allowed to grow. Most of these stems are small, and can easily be cut. However, because of their size, many of these stems will sprout prolifically when cut and could result in dense regrowth of multiple stems. Therefore it is recommended that herbicide be used to reduce the incidence of sprouting. The stems can be cut, and a solution of 2% triclopyr (ie. Garlon 4) in diesel fuel applied as a spray or painted on the cut stem. This systemic herbicide will kill the remaining root system. Removal in the spring is often more effective than summer or fall treatment, because the roots have the lowest levels of stored energy. It is important to follow up several months, and again a year later to ensure no new stems have grown from the root systems. The cutting of stems must again by followed by herbicide treatment, because some species can survive and continue to sprout for 10 years or more if removed by cutting alone.

The absence of large trees in this zone will allow some light to reach the ground and allow for the strong growth of vegetation, particularly on the southern side of the structures. This will create a need for ongoing maintenance unless vegetation is controlled by 1) shading from small-statured, understory trees or shrubs, 2) soil compaction and planting of compaction-tolerant species, and 3) fire. All of these are likely to have controlled understory vegetation in the past.

Small-statured trees can provide enough shade to control herbaceous vegetation. Trees and shrubs that grow quickly would provide needed shade over the next 15-20 years while the surrounding forest develops, and reduce the duration and extent of management needed to control vegetation. The surrounding forest will provide considerable shade within 10 years, and so mid-story, highly shade-tolerant trees are recommended. The exception is the southern side of the structures, where shade-intolerant trees and shrubs can be grown. Both redbud and dogwood were noted in the nearby forest, few seedlings were observed. Therefore if desired, these will need to be planted, and protected from wildlife by shelters until well established. The relative scarcity of seedlings in the 1-5 foot range suggests that the vegetation is subject to moderate to heavy browsing by deer. Catalpa, although a larger tree, is included because it grows very quickly and rapidly provides a heavy shade. Native and naturalized populations are common at lower elevations and along streams throughout Virginia where some may have been planted as green catalpa worms were once a prized fish bait (NRCS 2002). A great many "Catalpa" place names in Virginia suggest that the species was once more common than it is today. The planting of shrubby and herbaceous vegetation commonly browsed by deer, such as azalea, is not recommended. Some shade-tolerant small trees, shrubs, and herbaceous plants that are native, and have a low flammability are listed in Table 3.3. Evergreen trees and shrubs with waxy leaves a fire hazard, and should be avoided (See tables in Virginia Firewise). This table includes native species from Mrs. Roosevelt's plant list, but excluded those with a high chance of failure because they are at the northern or southern limits of their range, or they appear to be very limited in the habitat that they can occupy. Existing ferns should be encouraged, and will spread naturally if competing vegetation is controlled. Mayapple is also present in the cabin area and may spread aggressively. Aggressive non-native vegetation will continue to require management until trees develop a closed canopy, which will inhibit their growth and allow woodland species to establish.

Soil compaction may be useful in some areas to reduce the establishment of woody vegetation. Roots of many species grow poorly, if at all, into compacted soils, preventing germination and growth.

Advantages of compaction treatments are that there is no toxicity, and the effects are confined to the area treated since no chemicals are used, and that a single treatment can effectively control vegetation for more than 20 years. However, water does not move into compacted soils, and soil compaction should be limited to relatively small areas, and compacted corridors should be used on flat land or across the topography (not with the slope), to reduce the possibility of erosion. Compaction will adversely affect established trees, and compaction should not be used within 3 m (10 ft.) of the remaining hemlocks. Compaction in the vicinity of any existing trees that will be retained should contain gaps to allow for root growth perpendicular to the stem (Fig. 3.3). Root growth that is restricted on one side can lead to decline of the tree, or a greater risk of tree-fall due to the lack of anchorage on one side.

Table 3.3 Species of understory tree, shrubs, and herbaceous plants appropriate for planting in the vicinity of the cabins. All are native to the area, and have a low flammability. All shrubs, and herbaceous species marked with an asterisk are reported as being deer-resistant. Species tolerance of shade and compacted soils are noted. In some cases, the name of a genus is followed by several species names, all of which met the selection criterion.

		Mature height(ft)	Shade tolerant	Compaction tolerant
Small trees				
Eastern redbud	*Cercis canadensis*	25		
Flowering dogwood	*Cornus florida*	40	√	
Striped maple	*Acer pensylvanicum*	35	√	
Witch hazel	*Hamamelis virginiana*	20		√
Pawpaw	*Asimina triloba*	30	√	√
Northern catalpa	*Catalpa speciosa*	60	√	√
Shrubs				
Elderberry	*Sambucus racemosa, nigra*	20	√	√
Red chokeberry	*Photinia pyrifolia*	5		√
Spicebush	*Lindera benzoin*	12	√	
Mock orange	*Philadelphus inodorus*	12	√	
Herbs				
False foxglove	*Agalinis purpurea, tenuifolia*	3	partially	
Gentian	*Gentiana clausa, villosa*	1.5	partially	
Solomon's seal	*Polygonum biflorum, pubescens*	2	√	
Turk's cap lily	*Lilium superbum*	3	partially	
Wood lily	*Lilium philadelphicum*	3	√	
Dwarf crested iris	*Iris cristata*	1	√	
Larkspur	*Delphinium exultatum, tricorne*	5	√	
Wild comfrey	*Cyanoglossum virginianum*	2	partially	
Beardtongue	*Penstemon digitalis, laevigatus, pallidus*	4	√	
Violet	*Viola bicolor, blanda, canadensis, hastata, hirsutula, macloskeyi, x palmata, pedata, pubescens, rostrata,*	1	√	

	rotundifolia, sagitatta, striata			
Monkeyflower	*Mimulus ringens, alatus*	3	√	
Evening primrose	*Oenothera biennis, fruticosa, parviflora, perennis, villosa*	5	partially	
*Jack-in-the-pulpit	*Arisaema triphyllum*	1.5	√	
Painted trillium	*Trillium undulatum*	1	√	
White trillium	*Trillium grandiflorum*	1	√	
Red trillium	*Trillium erectum*	1	√	
*White spirea	*Spirea betulifolia*	3	√	√
*Greater tickseed	*Coreopsis major*	3	partially	
Morning-glory	*Ipomea pandurata*	1	√	
*Mayapple	*Podophyllum peltatum*	1	√	
*American alumroot	*Heuchera americana*	1	√	
*Obedient plant	*Physostegia virginiana*	4	√	√
*Goat's beard	*Astilbe biternata*	4	√	
*Joe pyeweed	*Eupatorium maculatum*	6	partially	
*Spotted St. John's wort	*Hypericum punctatum*	3	√	
*Beebalm	*Monarda clinopodia* *M. didyma* *M. fistulosa*	2 3 4	partially √ partially	
*Dutchman's breeches	*Dicentra cucullaria*	1	√	
*Columbine	*Aquilegia canadensis*	2	√	√
*Wild blue phlox	*Phlox divericata*	3	√	√
*Wood fern	*Dryopteris intermedia*	3	√	
*Northern lady fern	*Athyrium filix-femina*	3	√	
Grasses				
Broomsedge bluestem	*Andropogon virginicus*	2	partially	√
Eliot's bluestem	*Andropogon gyrans*	1	partially	√
Little bluestem	*Schizachyrium scoparium*	2	partially	√
Virginia wild rye	*Elymus virginicus*	3	√	√

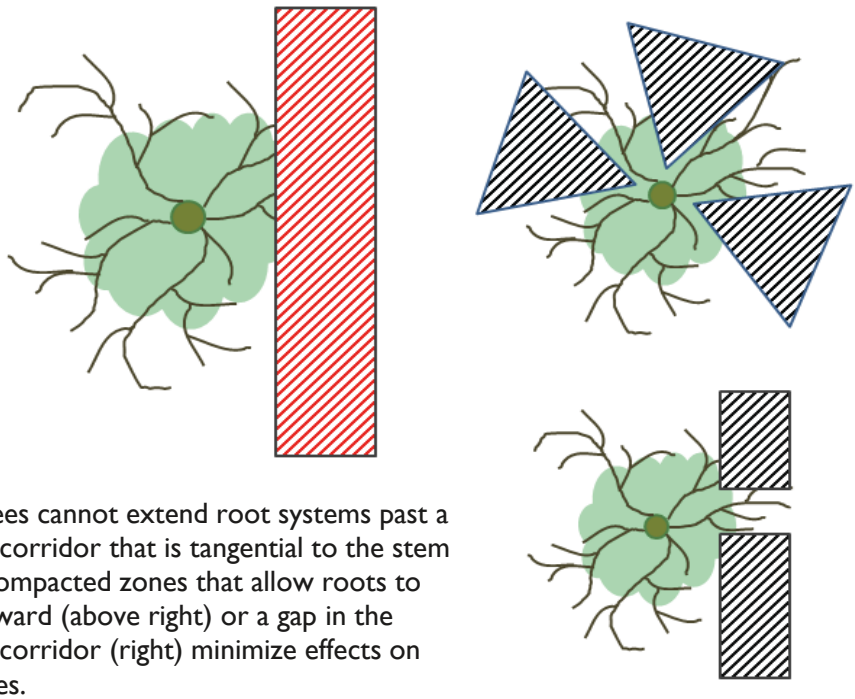


Fig. 3.3 Trees cannot extend root systems past a compacted corridor that is tangential to the stem (above). Compacted zones that allow roots to extend outward (above right) or a gap in the compacted corridor (right) minimize effects on existing trees.

Compaction favors the development of grassy areas, and may be useful in bands along roadsides or at the base of structures where woody vegetation is not wanted. An adequate degree of compaction can be accomplished by repeated passes by wheeled vehicles (Unger and Kaspar 1994). The depth of compaction increases with the size of tire, and weight of the load, with a one-ton vehicle applying 6 psi directly under the tire to a depth of 0.4 m (16 inches) (Adams et al. 1982). A greater compaction at depth can also be accomplished when soils are moist but not saturated, so compaction would preferably be applied the day following a period of wet weather. The degree of compaction increases with the number of passes, particularly in deeper regions of soil, and the vehicle should be driven back and forth over the same spot approximately 10 times before moving over one tire-width and repeating the process. Vegetation should not need to be planted following the compaction treatment, as intolerant species will die and be naturally replaced by compaction tolerant species, primarily short grasses and sedges.

Fire may also be a useful treatment, alone, or in addition to soil compaction. These small areas can be safely burned 1-2 days after rain in late fall, after herbaceous vegetation is brown. With a wet ground and high moisture content in large fuels, only the fine fuels of the herbaceous plants and fallen leaves will burn providing a easily controlled and low-intensity fire. Annual burning of selected areas will not harm larger trees, and will result in herbaceous vegetation dominated by grasses.

4 CAMP PROPER

Camp proper is defined as the main area of Rapidan Camp, excluding areas already described as being immediately adjacent to the cabins and parking area. This area is delineated by the stippled area on the NPS Cultural Inventory Map, which is shown in Fig. 2.2 and Fig. 4.0.

4.1 CURRENT CONDITION

Vegetation in this area can be characterized as a young hardwood forest. Numerous species are found as young seedlings, however trees surviving to sapling height are much less diverse (Table 4.1). The number of yellow birch and black cherry, and low survival of maple from the seedling to sapling stage, suggests deer browsing is affecting forest regeneration in this area. Both chestnut oak (*Quercus prinus*) and northern red oak (*Quercus rubra*) were present but not common, and did not survive into larger size classes. Eastern white pine has not established naturally, but have been planted along the main path between the parking lot and the President's

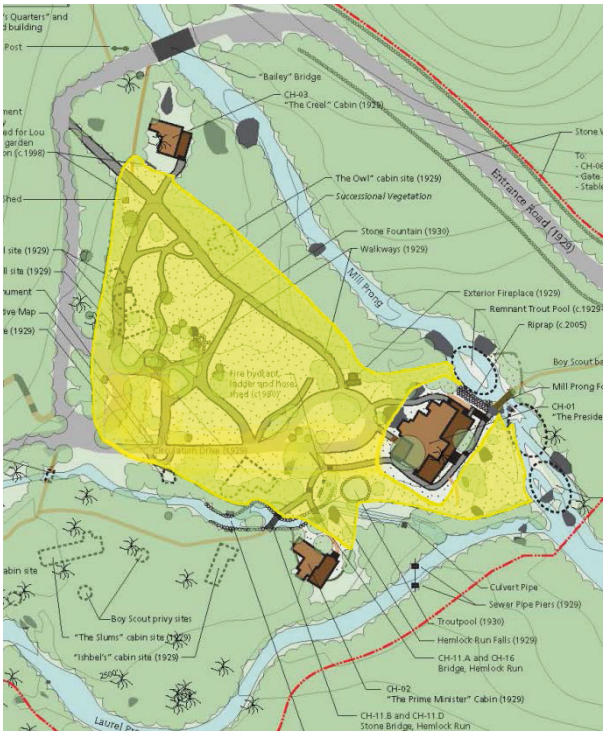


Fig. 4.0 Cabin proper area shown in yellow. Map from NPS Cultural Landscape Inventory of Rapidan Camp.

Cabin. This makes the stocking rate for this species appear to be much higher than would be expected. These young pine trees have moderate to severe stem damage from wildlife, but later assessment shows that these had recovered well, and were showing good growth. There is a good growth and stocking of yellow poplar saplings. Most of these are similar in size, and likely established around the same time. They are currently the dominant overstory species, and are likely to remain so as these are a very fast-growing species. Red maple, while dominant at the young seedling stage, appears to be limited by deer browse as few individuals survive to the sapling stage. A few mature trees are found in the area, including some eastern hemlock (Fig. 4.1.2). Total basal area is currently 10-25.

Herbaceous cover is a mixture of non-native and species. Non-native cool season grasses are common in the more open area around the parking lot. A number of native woodland species such as ferns, mayapple (*Podophyllum peltatum)* and trilliums (*Trillium* spp.) and violets (*Viola* spp.), were also present, particularly around the edges of the camp area, and where the overstory of poplar is beginning to close (Fig. 4.1.1).

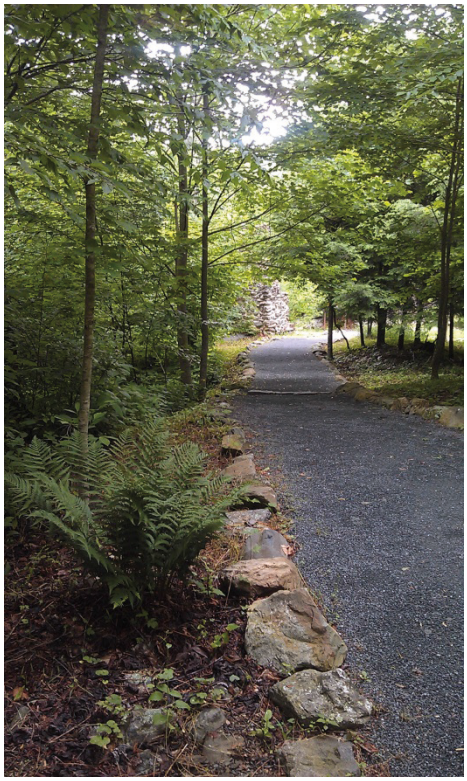


Fig. 4.1.1 Woodland understory developing along the walkway between Creel and President's cabins. Photo taken in summer of 2013.

Table 4.1. Stocking of seedlings and saplings, by species, within the Camp Proper.

Species	Common name	1st year seedlings (stems/acre)	Established seedlings (stems/acre)	Saplings (stems/acre)
***Malus* species**	Apple	82	0	14
Prunus serotina	Black cherry	543	54	54
***Quercus* sp.**	Oak	190	0	0
Acer rubrum	Red maple	2418	245	14
Fraxinus americana	Ash	380	0	0
Betula alleghaniensis	Yellow birch	462	353	109
Liriodendron tulipifera	Tulip poplar	543	0	326
Pinus strobus	Eastern white pine	0	0	136
Acer saccharum	Sugar maple	353	136	27
Robinia pseudoacacia	Black locust	0	0	41
	Other	0	0	54
Total		5027	788	747



Figure 4.1. Current condition of the vegetation in the immediate vicinity of Rapidan Camp, taken in early spring of 2012. Top: view from the parking area looking toward the President's Cabin. Bottom: young stand of yellow poplar between the President's and Creel cabins.

4.2 DESIRED CONDITIONS

The goal for this area is a closed canopy forest of large trees, with little mid-story. This type of forest is typical of many of the "destination forests" of the past and present, such as the "Limberlost" and the Redwood National Forest. Even-aged, closed canopy, and often single species forests with a low-diversity understory dominate the images in an internet search for the terms "beautiful forest". These forests typically have a basal area of 80-150. The appearance of forests differing in basal area is shown in Appendix B. Based on tree counts, using a technique analogous to prism measurements of variable-radius plots, a basal area of 80-100 was estimated from historic images of Rapidan Camp (Fig. 4.2.2). A regular and dense canopy creates dense shade that inhibits the growth of plants on the ground. The result is often an understory dominated by one or several species. Ferns, moss, and clubmoss are common. Basal areas below 80 allow greater amounts of light to reach the ground, resulting in a dense mid-story and understory that restricts visibility, which is less desirable. Figure 4.2.1 shows an even-



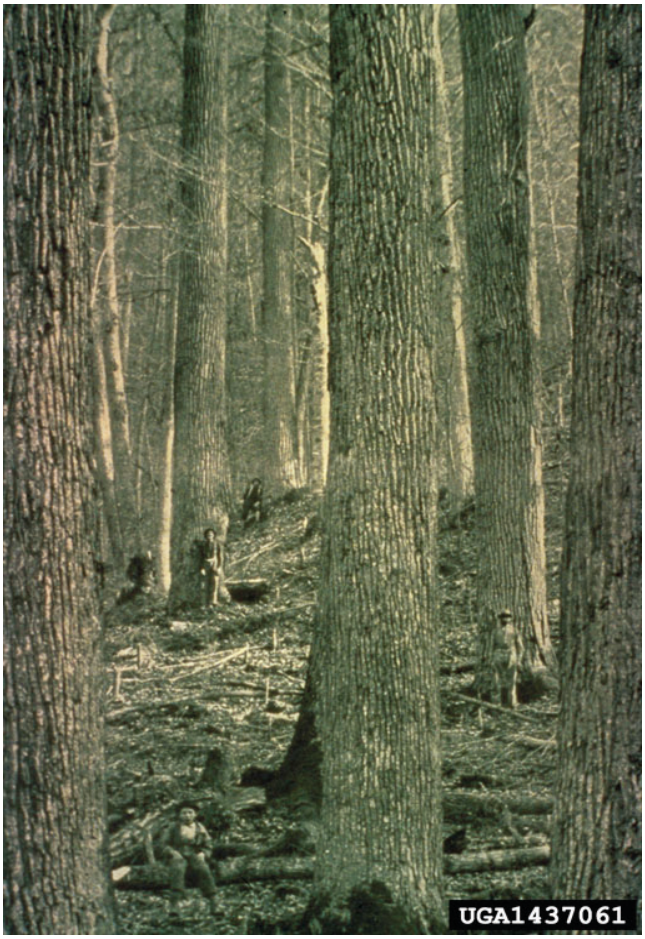


Fig. 4.2.1. Desired conditions in the Rapidan Camp area. Left: students walking in a 30-year-old pure stand of yellow poplar at the research forest at Bent Creek, NC. Right: a mature stand of pure yellow poplar, estimated at 120-150 years of age. National Park Service archival photo, Forestry Images. Note tree diameter in relation to figures in both photos.

aged yellow poplar forest at an age of 25 to 30 years, and at maturity. If the forest is composed of long-lived species, the general appearance will be maintained over many years unless struck by insects or disease. As the forest matures, basal area changes little but smaller diameter trees die, leaving fewer, but larger diameter trees.

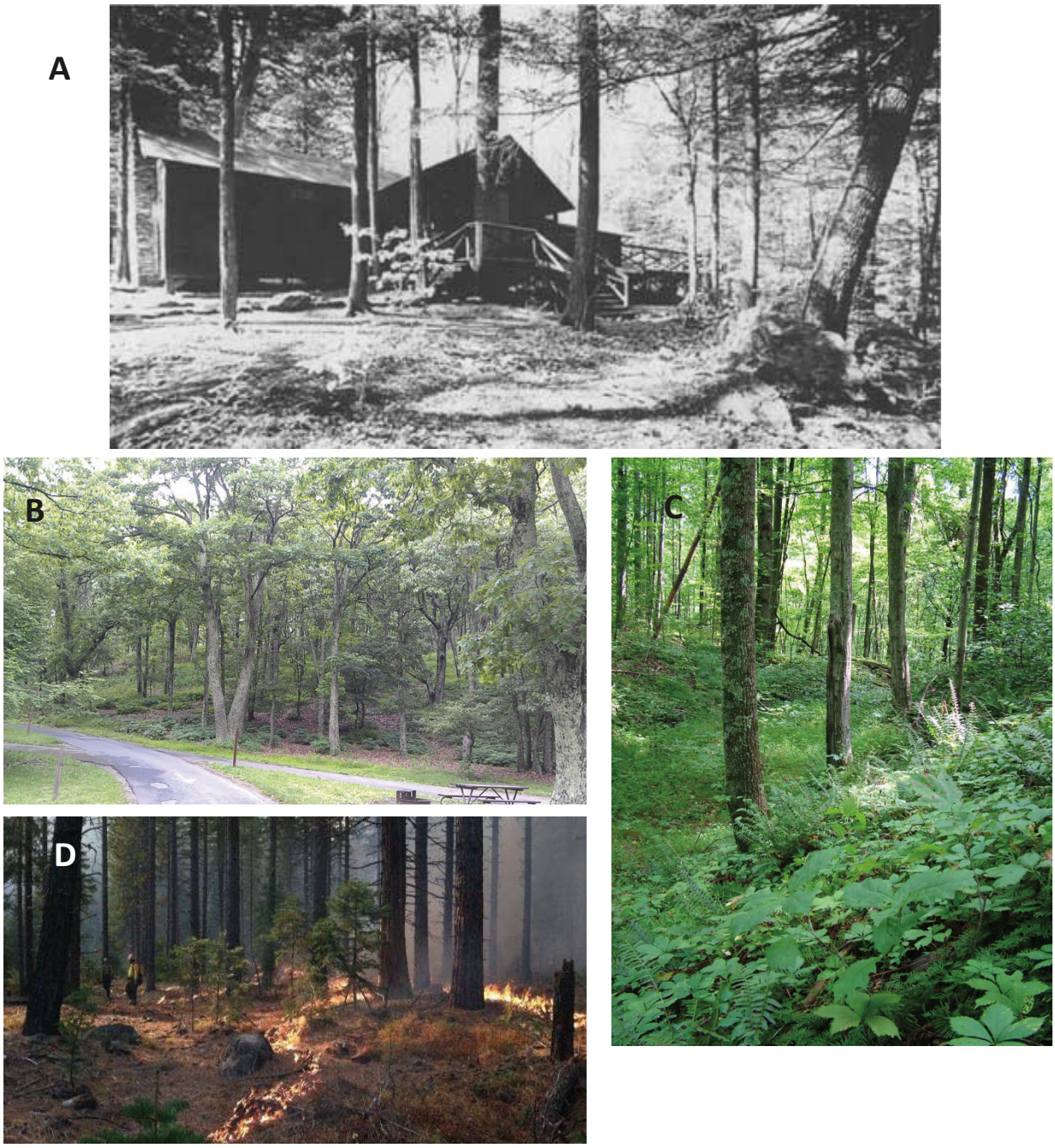


Fig. 4.2.2 Comparison of forest structure in historic imagery and present-day forests: all are mature even-aged stands with basal area around 80. A: Rapidan Camp, 1933 (Photo from NPS). B: mixed species stand dominated by oak at Big Meadows campground, 2013. C: 50 year old yellow poplar stand in Tennessee. D: pine stand in Shasta-Trinity National Forest (photo from USFS).

4.3 MANAGEMENT RECOMMENDATIONS



Fig. 4.3.1 Oak stump sprout in front of President's Cabin. Photo taken in summer of 2013.

The primary goal is to create an even-aged stand of long-lived overstory trees. This requires the removal of short-lived trees (typical span of less than 100 years) that will die and create gaps, resulting an in un-even aged stand (See appendix in Big Meadows report for images). Yellow poplar is already dominant over much of the area, grows quickly, is long-lived, and provides dense shade, and so would be an excellent choice as a species to favor. In order to obtain a stand of tall, straight trees (such as those seen in Fig. 4.2.1 and 4.2.2 C and D), and provide shade for woodland understory species, a canopy should be established as quickly as possible, and a closed canopy should be maintained as the stand ages.

Black locust (*Robinia pseudoacacia*) in this area can be cut immediately. These grow quickly and will occupy canopy positions early in the stand history, however they produced a light rather than the heavy shade allowing understory species proliferate below. They have a short life span and will usually decline within 30 years, leaving gaps in the canopy that result in an uneven-aged forest structure. Other tree species to target for removal are birch and red maple. There are several considerations regarding the young planted pine. These are currently growing well, will assist in quick closure of the canopy, and are a fairly long-lived species. However they may not be consistent with the development of a tall, uniform canopy, and have high flammability of pine needles which is not desirable given the close proximity to the President's Cabin.

The same points may apply to the mature hemlock better in the area, however these should be retained. The flammability of these is lower and so is less fire risk, and it's also very important to retain a seed source from which hemlock can re-establish in the area if the threat of adelgid diminishes following this initial mortality event. Recent studies have shown that imidacloprid and it's metabolites remain in the foliage for at least 4 years after treatment (Dilling et al. 2010). Treatment with imidacloprid is very successful at reducing infestation levels, therefore it is recommended the trees be treated every four years. Treatment of seedlings along the edges of this area may promote the eventual return of a hemlock dominated forest.

Some areas currently have no saplings, probably the result of regular weeding. A bare area in front of the President's Cabin has a stump sprout that will grow quickly into a desirable tree, if protected from deer and maintenance workers. This will develop multiple stems, which should be allowed to develop for 3-6 years, at which time all but the largest stem should be removed. Young yellow poplar saplings can be transplanted into areas that are currently bare. To increase transplantation success, roots should be cut in the fall prior to transplanting, and phosphate fertilizer (P only, not NPK) applied inside the cut to stimulate the growth of roots inside the root ball that will be lifted.

No other management should be done until tree crowns fully contact each other. At that time, trees other than the desired overstory species can be removed, and the crowns of yellow poplar will quickly fill in the gaps. Thinning may be needed as the stand ages, but should be done gradually, always leaving the largest trees and never removing more than 25% of live trees. Removal of too many trees at once will cause lower branches to persist on the remaining trees, reducing the height of the canopy.

The heavy litter layer and shade produced by the yellow poplar will control herbaceous vegetation within a few years, allowing native woodland species to colonize. It may be desirable to treat red and sugar maples with herbicide in addition to cutting, as these are very shade tolerant and are likely to re-sprout, creating a persistent mid story. Soils are compacted over part of the area, and any horticultural plantings will benefit from digging larger than normal holes during planting.

5 RIPARIAN ZONE

The riparian are is defined as the stream bed, banks, and vegetation at the top of the banks that provides canopy cover to the stream. This zone is approximately 20 m wide. The shapefile delineation of the riparian zone and location of sampling points are shown in 2.2, and the relation of this to the study area is shown in Fig. 5.

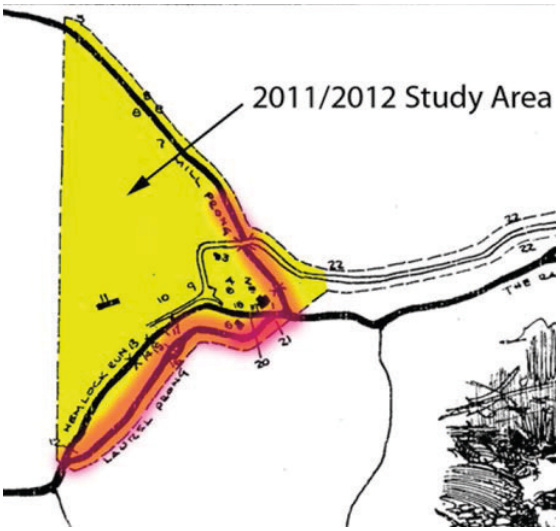


Fig. 5 The surveyed area of the riparian zone shown as a pink band overlain on a map of the study area (W.M.J. Wagner, 1987).

5.1 CURRENT CONDITION

Both prongs were surveyed , as shown on the figure above. Sampling points were located to each cover a visible reach of the stream, such that the entire length of the stream was covered by the sample points. Each region assessed for degree of shading, presence of coarse woody debris, and forest regeneration in the riparian zone.



Fig. 5.2. Current conditions of Laurel Prong, showing a deep pool in the foreground with swiftly moving water beyond, and a debris pile crossing the stream in the background.

The remnants of hemlock forest that once stood in this area were apparent when surveying the stream. The majority of hemlock that once lined the stream banks have toppled, and many fell on or across the stream bed. The majority of the reaches surveyed contain at least one large degree pile composed of one or more large downed hemlock and accumulated debris. 52% of reaches contained at least one large log jam, 22% had a moderate amount of coarse woody debris, and 26% had fewer than three pieces of woody debris in the stream.

The stream bed is highly variable with sections of rapidly moving water tumbling overexposed bedrock alternating with the stretches in which water slows as it moves through deep pools. Several shallow areas were found where the stream widens and moves more slowly over a sand and silt bottom, but these areas were less frequent . Deep pools were found within 26% of sampled reaches, 37% was mainly

swiftly moving water over rock, 22% was primarily slow-moving water over sand or gravel.

Where the hemlock had fallen, a young mixed hardwood forest is now established. Forest regeneration was excellent, with a diverse native hardwood forest quickly filling gaps left by hemlock. Yellow birch is dominant on the stream banks, and along the top of the banks a very diverse regeneration was noted that included seedlings and saplings of northern red oak, chestnut oak, white oak (*Quercus alba*), red maple, sugar maple, and white ash. Several small eastern hemlock seedlings were observed, however all appear to have adelgid infestations. Death of the hemlock left large canopy gaps directly above the stream. However in the time that is passed since the death of the hemlock, the gaps have closed considerably as the crowns of existing birch and red maple have expanded to fill much of a gap area. Overstory shading was estimated at 30-80% over the sampled region. Birch, likely present in the understory prior to hemlock mortality, have produced a low canopy cover over much of the stream. This was not included in the canopy cover estimate shown. This low cover, in conjunction with the upper canopy cover, are likely to provide a nearly complete canopy cover over the majority of the stream during the summer months.

Demise of the hemlock and toppling of the trees created some areas of exposed soil on the stream bank. For the most part, these areas have been colonized by vegetation and are now stable . One area was noted where erosion is occurring what sediment was moving into the stream. This is on the eastern most point of the surveyed portion of Laurel prong near where it meets hemlock run, where bare soil was exposed on the outside of a long curved stream bank. The bank is relatively steep, and water from both up slope and upstream creates erosion which prevents the growth of vegetation.

5.2 DESIRED CONDITIONS

Mill prong has a reputation as a premiere trout fishing stream. The main concern is the potential impact the loss of hemlock may have had on the trout habitat. There is a strong desire to provide and maintain a stream bed, and vegetative cover that will continue to support a high population of trout. In the north and at higher elevations, populations of trout are very dependent on the availability of habitat in which to overwinter. The availability of overwintering habitat has been found to be the most important factor in determining trout population levels. During winter, fish require deep pools where the water does not freeze, and within the pool they require cover to protect them from predators. Rock overhangs may be used as cover by trout, but the most preferred winter cover is coarse woody debris that is partially submerged or at the stream surface. In the summer, vegetative cover keeps water temperature cool, although this may be more important in lower reaches of the stream, and of little importance near the headwaters. Low vegetative cover is as effective at providing shading as is tall and canopy cover for fish habitat.

Waterfalls and the swift movement of water as it flows overexposed bedrock oxygenates the water which is also very important for fish health. Erosion of the stream banks and deposition of silt in the stream bed is detrimental to fish habitat. Sedimentation within the stream reduces the available habitat

for aquatic invertebrates that are a food source for fish. Sedimentation can also interfere with fish reproductive success.

5.3 MANAGEMENT RECOMMENDATIONS

The occurrence of deep pools and sections of swift water was similar to that which has been measured as being excellent trout habitat. In smaller streams such as these, shading by a forest canopy has been found to be less important than the presence of deep pools and swift water, and so the forest currently found in the riparian zone should provide enough cover for good trout habitat. Trout have been found to use submerged structures and accumulations of debris such as log jams for winter cover. The numerous log jams may serve to temporarily improve trout habitat. When debris accumulates to form a natural dam, this eventually fails and the resulting pulse of water scours out the sediment and gravel to maintain the deep pools that trout require as their primary habitat. Therefore, no management of woody debris is needed.

However, woody debris will diminish over time due to decomposition. The deposition of new large woody debris into the stream is likely to be very low for 40-50 years or longer, until the riparian forest reaches maturity. In order to maintain fish populations at high levels in this local area of the stream over the long term, it may be necessary to provide additional habitat. Created habitat should consist of deep pools with low overhanging vegetation, and areas where water tumbles or falls over rock to provide aeration. A small waterfall as water enters the pool, or water tumbling over bedrock directly upstream from the pool supplies should provide sufficient levels of oxygen for fish living within the pool. Rock weirs have been found to be an effective way to increase populations of trout in a specific section of stream (Roni et al. 2006). However, waterfalls and weirs can also create impassable barriers to fish movement, and genetic studies have found that trout do not move easily past potential barriers. The detailed design of original rock weirs at Rapidan Camp is unknown, but photos suggest that upstream movement of fish was likely limited by the height of the weir. If removable planks on the outflow were only in place during the summer when fish rarely migrate, to create a temporary deep pool for fishing, the outflow rise may have been low enough to allow fish passage the remainder of the year.

Barriers to upstream fish movement may be desirable when populations of native species are threatened by the upstream movement of non-native species. In most cases however, the passage of fish across man-made structures is now thought to be desirable, and allows fish displaced during flood events to return to their origin. A great deal of research has been done since the 1930's on the creation of "fishways", structures that facilitate movement of fish around man-made barriers such as dams. The shape and dimensions of inflow, outflow, and pools are designed using fluid mechanics, and the capabilities of various fish species. An excellent summary from 1984 (Powers et al. 1984), containing data and recommendations for several trout species, and a more recent publication by the Food and Agriculture Organization of the United Nations (FAO 2002) are worth consulting during the design of the weir. Recommendations gleaned primarily from these documents are: to round inner and outer edges and avoid sharp angles that create turbulence and could injure fish, maintain flow velocity within the pool at less than 1.6 m/sec, and to keep the height of steps that fish must swim or jump up to less

than 0.2 m. The scale of a weir constructed at Rapidan Camp would be smaller than most structures discussed in the literature. A weir and pool structure detailed in figure 18 of the above publication may appropriate, and could be made similar in appearance to the original weir. This uses a semicircular notch that regulates the water level behind the weir, and can handle a range of flow velocities. Very similar is the pool and chute fishway. Another alternative, if a structure similar to the original weir is wanted, would be to create a by-pass channel for fish movement. Some examples, many at a small scale, are shown in a publication by American Rivers

Siltation does reduce habitat quality for trout by reducing the number of stream-bottom organisms. A fairly large section of exposed bank was found near Laurel dam. This likely was exposed when tree roots of dead hemlock tipped up, and fell into the stream. The placement of large branches or other woody debris on the exposed bank will slow erosion, and will accumulate organic matter allowing vegetation to establish and stabilize the bank.

The area between Laurel Prong and Hemlock Run would be an excellent location for a hemlock re-introduction project. This is within the area formerly dominated by hemlock (see Fig. 2. 1.1). The forest is un-even aged, and would provide shade to nurture this shade-tolerant species then allow them to move into the overstory.

6 FOREST

6.1 CURRENT CONDITION

The current forest is a diverse mixture of hardwoods dominated by yellow poplar, yellow birch, and sugar maple. Basal area varies from 70 in more disturbed areas of the floodplain to 130 on the mature forest of the hillside. On the slope above Hemlock Run, the forest is overmature and dominated by few very large trees, some of which are in a state of decline. The establishment of late successional tree species was observed in the canopy gaps, and the forest structure is changing to that of an uneven aged forest. The mosaic of forest types, from dense, young stands to older ones with canopy gaps creates a wide variety of habitat types for wildlife.

6.2 DESIRED CONDITION

It would be desirable to maintain a healthy forest, similar in structure to that which is currently found on the site.



Fig. 6.1. A diverse young hardwood forest in the bottomland area along Hemlock Run. Native understory includes numerous wildflowers including *Trillium* species such as the one seen in the foreground.

6.3 MANAGEMENT RECOMMENDATIONS

No management is required to maintain the forest area. Monitoring for invasive species should be conducted on a regular basis along roads and trails.

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