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# Every Day Is Fire Day: A Study of Historic Fire Towers and Lookout Life in the Great Smoky Mountains National Park

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EVERY DAY IS FIRE DAY: A STUDY OF HISTORIC FIRE TOWERS  
AND LOOKOUT LIFE IN THE GREAT SMOKY MOUNTAINS  
NATIONAL PARK

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A Thesis  
Presented to  
The Graduate Schools of  
Clemson University and the College of Charleston

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In Partial Fulfillment  
of the Requirements for the Degree  
Master of Science  
Historic Preservation

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by  
Laura Beth Ingle  
May 2011

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Accepted by:  
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Barry Stiefel, Ph.D.  
James Liphus Ward

## ABSTRACT

When the Great Smoky Mountains National Park (GRSM) was established in 1931, complete fire suppression was the fire management philosophy and goal in all national parks and forests across the country. Debris and undergrowth was cleared, fire breaks and manways were created, and thousands of fire towers were constructed. The young men of the Civilian Conservation Corps (CCC) provided much of the manpower to complete these tasks, and the group's signature rustic style left its mark on structures throughout the park. Ten towers and nine lookout cabins were built in GRSM between 1934 and 1939, and these sites were manned by lookouts during the two annual fire seasons for decades. The lookout jobs were isolated positions that required the patience to watch the forests daily from sunrise to sunset and the agility to be on alert at a moment's notice during a lightning storm. In the 1970s, fire management techniques and approaches to fire patrol changed, and the fire towers in GRSM were abandoned. Over the next decade, all but four of the towers and one of the cabins were removed from the park. This thesis acknowledges the importance of the utilitarian structures themselves and cultural history they represent and takes into consideration the ever-changing preservation ethic of the National Park Service (NPS). NPS has revised their position from removing towers to avoid the stewardship burden of these historic properties to actively pursuing a National Register listing for all extant towers and lookout cabins within its boundaries. This thesis compiles the evidence for such a pursuit while exploring the cultural and architectural significance of these structures.

To the memory of my dad, who loved these mountains and was always at home in them.

## ACKNOWLEDGEMENTS

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## CHAPTER ONE

### INTRODUCTION

Fire towers are an obsolete building type. They have been vanishing, one by one, from remote mountaintops around the country for the past thirty years as national parks and forests tire of the maintenance costs and liability risks associated with these aging structures which no longer serve their intended purpose. At one time, however, these towers were the guardians of the forests.

In the early part of the twentieth century, wildfires ravaged the woodlands of the West, creating great fear among the people. William Greeley, the third chief of the United States Forest Service, said, “fire was plainly recognized as forest enemy number one...,” and went on to explain, “the first and greatest commandment of American forestry is to keep fire out of the woods.”<sup>1</sup>

In response to this fear and the desire to quell all fires, thousands of fire lookout towers were constructed in areas of high risk. Lookouts, the term used for the fire tower watchmen, were hired to spend lengthy stints of each fire season with their eyes trained on the lands below. The charge given to these lookouts reminded them, “You are the EYES of the fire detection system and the quick suppression of fire depends largely on you reporting a fire as soon as it starts. Your motto should be ‘CONSTANT VIGILANCE AND ALERTNESS.’ Remember that every day is *Fire Day*.”<sup>2</sup>

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<sup>1</sup> William B. Greeley, *Forests and Men* (Garden City, NY: Doubleday & Company, Inc., 1951), 26.

<sup>2</sup> U.S. Department of the Interior, National Park Service, “Lookout Instructions, Introduction,” *Lookout Manual*, 1940, 1. GRSM Park Library.

Just a decade after the creation of the Great Smoky Mountains National Park in 1931, ten fire towers were standing within the park's boundaries and several more were built just over the border to work in cooperation with the National Park Service (NPS). The Civilian Conservation Corps (CCC) provided much of the manpower to create the trails, haul in supplies, and build these structures. Then, many of the men served as lookouts, continuing to improve the park's natural setting by quickly reporting fires so they could be extinguished before burning out of control.

Less than fifty years after the first tower was constructed in GRSM, fire patrolling techniques and fire management policies changed, and these towers became obsolete. NPS was then faced with the decision to continue maintaining these structures or remove them from the landscape. Six towers and eight lookout cabins were removed or demolished by the 1980s, presumably leaving the lands at these sites to revert to their natural state, yet four towers and one cabin were allowed to remain. Two of these towers were connected to GRSM's radio system, one continues to serve as an air-control monitoring station, and the other is a picturesque, favorite hiking destination. Through the years these sites, although neglected and in need of repair, have become tourist destinations and emblems of the park. They have become part of the park's new cultural heritage.

NPS is charged with protecting the natural and cultural heritage of our country. Through the example of defunct fire towers, the park must find a balance of preserving the tangible, cultural structures marking the landscape and conserving the natural environment.

GRSM will soon determine how to approach these towers in the future. They have decided, at least tentatively, to protect them. With this thesis, the research and documentation are compiled to present the Great Smoky Mountains National Park with a completed nomination form for the four extant towers and one lookout cabin to be submitted to the National Register of Historic Places.

## **CHAPTER TWO**

### **METHODOLOGY**

Much has been written on the Great Smoky Mountains National Park, its founding, heritage, natural and wildlife resources, and recreational and tourist attractions. Cultural resources play a large part in the park's story, and these aspects of GRSM history continue to gain attention and garner support. To date, little scholarly research has been compiled on the park's historic fire towers. Several magazine articles and non-academic books exist, but leave little in the way of a research trail. The park library and archives provided primary sources for this thesis, including master plans, maintenance files, manuals, internal memos, and emails. Since more than half of the historic fire towers of the park have been removed, the archives also provided photo documentation of these sites prior to removal.

Firsthand access to the towers was also essential to this thesis. This required lengthy and strenuous hikes, following the same trails the original lookouts would have used to reach their temporary homes nearly three-quarters of a century ago. The Mount Cammerer tower, which was measured and drawn in AutoCAD to the Historic American Building Survey standards, sits six miles from the trailhead via the Low Gap and Appalachian Trails. Six hikes to this site were necessary to gather data necessary to document this picturesque structure. Hikes to the other towers at Shuckstack, Mount Sterling, and Cove Mountain, totaled nearly twenty-one miles and were completed to gather photographic documentation of each structure.

To avoid confusion, throughout this thesis, “tower” or “fire tower” is used when discussing actual tower structures, whether they are steel, wooden, or concrete, while “lookout” is used in reference to the person working in the tower. National Park Service documents from the era of highest fire tower use, refer to both the structure and the person as the “lookout,” but later literature tends to follow the format defined here.<sup>1</sup>

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<sup>1</sup> Information and drawings garnered from this thesis will be used to complete a nomination for the National Register of Historic Places. GRSM officials have expressed an interest in listing these structures on the National Register and will submit any nominations they deem appropriate for the greater park plan.

## CHAPTER THREE

### HISTORY OF THE LANDS OF THE PARK

According to Gifford Pinchot, the first chief of the United States Forest Service, “The forest is a national necessity. Without the material, the protection, and the assistance it supplies, no nation can long succeed.”<sup>1</sup> Pinchot was instrumental in the initial conservation of United States forests, and in addition to the necessity of the forests to the people, he understood the necessity of a balance in preserving the wildness of nature and making it accessible to the public.

#### APPALACHIA’S EARLY HISTORY

The Appalachian Mountains stretch from Canada to Alabama and can be divided into three regions: northern, central and southern. They are believed to be one of the world’s oldest mountain chains and when formed, were likely one of the tallest. Through the years, erosion has worn and smoothed the sedimentary rock, creating the slopes known today. The central and southern regions are the areas most typically considered the “Appalachians,” and they run from Pennsylvania south through West Virginia, Virginia, Kentucky, North Carolina, Tennessee, South Carolina, Georgia, and Alabama (figure 3.1). The Southern Appalachians fall under the physiographic division called Appalachian Highlands, which extend northward from the Gulf Coastal Plain to the St.

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<sup>1</sup> Gifford Pinchot, *The Training of a Forester* (Philadelphia & London: J.B. Lippincott Company, 1917), 22.



Lawrence.<sup>2</sup> They vary in elevation from heights of 800 to 6,600 feet, and their mild climate is conducive to an abundant variety of plant and wildlife.<sup>3</sup>

It is believed that the first migrants came to the Southern Appalachian area from the west nearly fourteen thousand years ago, as descendants of those who had migrated to North America from Asia. Many different Native American tribes thrived in the area, but the Cherokee were the most dominant by the time the first Europeans arrived in the mid-1500s. After American independence, “people flooded into the Appalachian area and suddenly changed the society of the mountains.”<sup>4</sup> These settlers were typically of German and Scotch-Irish descent, and many of them began agricultural endeavors on the lands they acquired, mostly through subsistence farming.

## INDUSTRY AND WAR

After American independence, farming practices grew and the industries of coal and salt mining developed. As the nation faced Civil War in the 1860s, the states in Southern Appalachia seceded from the Union; however, many people in the mountains did not support the cause. Many “mountaineers” actively opposed the Confederacy and fought for the North, leading to even greater isolation of these people after the war.

From the 1880s to the 1920s the logging business thrived in the Southern Appalachians. Throughout the region, trees were logged at a rapid pace for building

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<sup>2</sup> Nevin Fenneman, *Physiography of Eastern United States* (New York: McGraw-Hill Book Company, 1938), 8.

<sup>3</sup> Marguerite Madden, Roy Welch, Thomas Jordan, Phyllis Jackson Rick Seavey and Jean Seavey, “Digital Vegetation Maps for the Great Smoky Mountains National Park” Center for Remote Sensing and Mapping Science, UGA. [http://www.uga.edu/crms/nps/grsm/GRSM\\_Final\\_Report.pdf](http://www.uga.edu/crms/nps/grsm/GRSM_Final_Report.pdf) (accessed February 19, 2011).

<sup>4</sup> Richard B. Drake, *A History of Appalachia* (Lexington, KY: University of Kentucky Press, 2001), 61.

purposes and fuel. This industry marred much of the region's landscape with aggressive practices that often led to fires and left gaping holes in the forest. In the years leading up to the Depression, many mountaineers fled their homesteads and moved to coal towns, lumber mills, or to the valleys for manufacturing jobs. Then in 1929, the Great Depression caused many people to return to their mountain homes and farming.<sup>5</sup>

## NEW DEAL AND CHANGE

With Franklin Delano Roosevelt's inauguration in 1933, the New Deal program was put into place, greatly changing the region. This program created the Tennessee Valley Authority (TVA), which had the goal of generating electricity and controlling natural waterways through damming. Bringing electricity to the mountainous region brought modern conveniences to the people, but it also meant an end to their complete self-sufficiency.

This time period also saw the creation of the Great Smoky Mountains National Park and many national forests. A little more than a quarter century after the first national park was created at Yellowstone, a group of citizens in Asheville, North Carolina, known as the Appalachian National Park Association, proposed a park in the Smoky Mountains. At that time, Congress feared that establishing such a park would violate states' rights and denied the motion in 1899.<sup>6</sup> Other groups attempted to rally support for a park in the area but none were successful until the 1920s. After a summer

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<sup>5</sup> Richard B. Drake, *A History of Appalachia*, 170.

<sup>6</sup> Carlos Campbell, "Successful Movement Which Brought Smoky National Park Began in 1923," *Knoxville Journal*, April 26, 1936, East Tennessee Historical Society.

trip to the national parks of the West in 1923, Willis and Anne Davis, prominent citizens of Knoxville, decided their Smokies were just as attractive and impressive as the western mountains and deserved national park recognition as well.<sup>7</sup> They began to garner support from their friends and colleagues, eventually forming the Great Smoky Mountains Conservation Association (figure 3.2), and called for a park in the area. For three years the group worked to establish the Great Smoky Mountains National Park, and in May 1926, Congress authorized the purchase of lands necessary for this idea to be realized.<sup>8</sup> Seven hundred four thousand acres was the initial goal-size of the Park, but eventually, a 521,086-acre swath of land straddling the border between East Tennessee and Western North Carolina was designated as the Great Smoky Mountains National Park.

Three national forests share borders with GRSM and were established in the same general period (figure 3.3). Pisgah National Forest, to the northeast on the North Carolina-side, was established in 1916 and covers over 510,000 acres. Nantahala National Forest, which lies along the southern border on the North Carolina-side, was established in 1920 and covers more than 531,000 acres. Cherokee National Forest lies totally in Tennessee and is split with portions bordering both the northern and southern tips of the park. It was established in 1936 and with over 640,000 acres, is the largest of the surrounding forests. This massive tract of forest land totaling more than 2.2 million acres, with three national forests and one national park, required extensive land acquisition and created a multi-state, multi-government agency conservation project.

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<sup>7</sup> Ibid.

<sup>8</sup> Ibid.

## ACQUIRING LANDS

Unlike the great parks and forests of the West, the Smoky Mountains and other eastern forests had been inhabited by many generations before NPS reclaimed the lands and made them into a wilderness. Rather than “carving something from the public domain, ... In these eastern forests, virtually all the land for the proposed parks was privately owned and very costly.”<sup>9</sup> The people removed from the lands had strong ties to it and often reacted harshly to its being taken from them, but new legislation made the acquisition possible.

The Weeks Act of 1911 permitted the federal government to “purchase private land in order to protect the headwaters of rivers and watersheds in the eastern United States and called for fire protection efforts through federal, state, and private cooperation.”<sup>10</sup> The power of eminent domain increased in 1924 with the Clarke McNary Act. This act made it easier for the federal government to purchase lands not connected to headwaters of streams and authorized the Forest Service to “devise and recommend an adequate system of forest protection and fire prevention.”<sup>11</sup> These acts did not necessarily make the creation of the park any easier or faster, but they set a precedent for the government to acquire lands for purposes of conservation and extended the fire protection programs.

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<sup>9</sup> Norman Newton, *Design on the Land, The Development of Landscape Architecture* (Cambridge, MA: Harvard University Press, 1971), 536.

<sup>10</sup> The Forest History Society, “U.S. Forest Service History,” <http://www.foresthistory.org/ASPNET/Policy/WeeksAct/index.aspx> (accessed March 5, 2011).

<sup>11</sup> The Forest History Society, “The Land We Cared For... A History of the Forest Service’s Eastern Region (Chapter 3),” <http://www.foresthistory.org/ASPNET/Publications/region/9/history/chap3.aspx#33> (accessed March 5, 2011).

TVA had the right of eminent domain, and essentially so did the National Park Service. If either of these government agencies wanted or needed a mountaineer's land, they could take it with the landowner having little to no say in the matter. The Fifth Amendment does require compensation in such cases, but the locals were essentially forced to take the amount they were offered and were then pushed from their homes. This practice was a highly unwelcome side-effect of the New Deal to a community that was already wary and skeptical of government action.<sup>12</sup> The displaced mountaineers sometimes reacted by setting fire to NPS property. From 1931 to 1988, approximately forty-two percent of all fires in GRSM stemmed from arson.<sup>13</sup> Many of these arsonists were acting out of hostility for being driven from their lands, while others were related to illegal activity concealed in the park, such as moonshining.

A large sum of money had to be raised in order to purchase tracts of land for GRSM, and groups from both Tennessee and North Carolina worked vigorously to obtain the funds. In 1928, John D. Rockefeller, Jr. donated five million dollars to the cause, matching donations given by the residents of both states. This money was used to buy out lumber companies, Champion Fibre Co., the Aluminum Company of America, and residents.<sup>14</sup>

By 1931, the lands were officially deemed a national park, although it would not be dedicated until an elaborate ceremony featuring President Franklin Delano Roosevelt

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<sup>12</sup> Michael Ann Williams, "'When I can Read My Title Clear': Anti-Environmentalism and Sense of Place in the Great Smoky Mountains," in *Culture, Environment, and Conservation in the Appalachian South*, ed. Benita J. Howell (Urbana and Chicago, IL: University of Illinois, 2002), 91.

<sup>13</sup> John Foster Hays, "A History of Incendiary Fire in Great Smoky Mountains National Park, 1931-1988," Thesis, University of South Alabama, August 1993, 1. GRSM Park Library.

<sup>14</sup> Carlos Campbell, "Successful Movement ...," *Knoxville Journal*, April 26, 1936.

was held in 1940 (figure 3.4), and Ross Eakin began his service as GRSM's first superintendent on January 15, 1931. Roads, trails, shelters, and lookout towers all began to take shape, and decades of damage from the logging industry began to mend. Arthur E. Demaray, the Associate Director of the National Park Service in 1930 stated that, "The Great Smoky Mountains National Park is the greatest conservation project the country, and possibly the world, has ever known..."<sup>15</sup> With the growing attainability of automobiles, GRSM was readily accessible to the public. Even in 1936, the park's attendance far exceeded the number of visitors in other parks throughout the nation, and it soon became the most-visited national park in the country.

#### WORK OF THE CCC

Roosevelt's New Deal program provided jobs for thousands of young men through the Works Progress Administration (WPA) and the Civilian Conservation Corps (CCC). "To break the coma into which the economy had sunk," thousands of unemployed young men were hired to work on projects of a public nature.<sup>16</sup> Since work in the national parks required a "relatively small expenditure of raw materials" and a "high employment of labor," these jobs were ideal for the program.<sup>17</sup> The young men of the CCC, also known as the Tree Army, were sent to work on TVA construction sites, as well as camps throughout the national parks and forests.<sup>18</sup> (figure 3.5-3.6) In the Great

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<sup>15</sup> A.E. Demaray, Knoxville, TN Newspaper, November 26, 1930, Davis Collection at GRSM Archives.

<sup>16</sup> Norman Newton, *Design on the Land, The Development of Landscape Architecture* (Cambridge, MA: Harvard University Press, 1971), 539.

<sup>17</sup> Ibid.

<sup>18</sup> Stan Cohen, *The Tree Army: A pictorial history of the Civilian Conservation Corps, 1933-1942*, (Missoula, MT: Pictorial Histories Publishing, 1980), 90.

Smoky Mountains, they built trails, planted trees, and protected these natural areas from wildfire. Between 1933 and 1942, many structures were built by the CCC, in GRSM as well as in other parks. Since these were formative years of the Great Smoky Mountains National Park, a high percentage of the park's structures have the CCC's rustic design aesthetic. Across the country, the CCC built 3,400 fire towers, and in GRSM specifically, they constructed nine of the ten towers and the corresponding cabins.

An early park master plan called for the lands of the park to be a wilderness area kept in a primitive state and for only "foot or saddle trails essential for fire protection and for making the areas accessible to the pedestrian and equestrian," to be incorporated into the landscape.<sup>19</sup> The CCC created many of these foot trails, known as manways, and the saddle or horse trails, keeping the majority of the tree growth untouched. These trails allowed fire fighting teams easy access to protect the forests.

Once the fire towers were constructed in GRSM (figure 3.7), members of the Tree Army were then hired to man them. As part of a larger national policy to keep the public employed, the CCC paid these young men to sit in remote locations watching for and reporting smoke for lengthy spans of time. This all changed with the United States' entry into World War II when all manpower was redirected to the war effort. After the attack on Pearl Harbor, the CCC transferred all of its workers to military projects and war emergencies, with one exception – forest fire fighting. Aside from fire fighting, "all conservation work off military reservations was cancelled on January 1, 1942."<sup>20</sup>

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<sup>19</sup> Great Smoky Mountains National Park Master Plan, 1940, 1. GRSM Park Library.

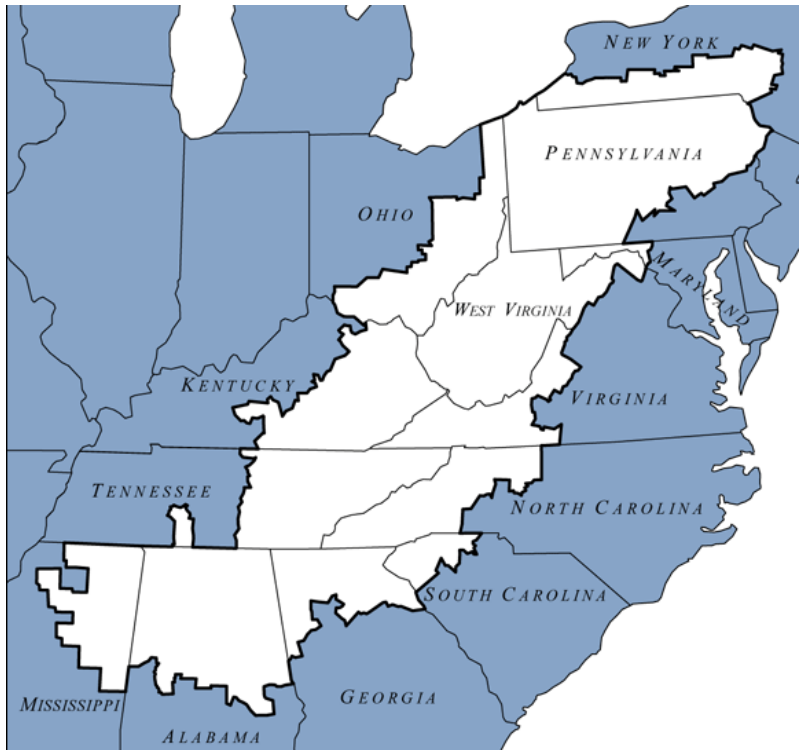
<sup>20</sup> Stan Cohen, *The Tree Army: A pictorial history of the Civilian Conservation Corps, 1933-1942* (Missoula, MT: Pictorial Histories Publishing, 1980), 145.

For the next thirty years towers continued to be manned by NPS staff, after the CCC was abolished. During that time, the forests of the Great Smoky Mountains persisted in regeneration after years of use by the logging industry and farmers. And since that time the park, its natural setting and its man-made structures, became part of the public's collective heritage rather than the merely the heritage of its Appalachian descendants. It has come to represent a time of the United States' cultural history and tangible landscape. The melding of these two resources, cultural and natural, is a delicate balance. Arno Cammerer, the director of the National Park Service from 1933 to 1940 and the namesake of one of GRSM's well-known peaks, said, "In any area in which the preservation of the beauty of Nature is a primary purpose, every proposed modification of the natural landscape, whether it be by construction of a road or erection of a shelter, deserves to be most thoughtfully considered."<sup>21</sup> The Great Smoky Mountains National Park was created because of the natural beauty of its landscape and forests, yet it has only been enjoyed and appreciated by millions of people because of the modifications that allowed accessibility and safety. The nation may no longer rely on forests for the same reasons Pinchot proclaimed, but they are no less necessities in our lives.

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<sup>21</sup> Arno Cammerer, foreword to *Park and Recreation Structures*, by Albert H. Good (New York, NY: Princeton Architectural Press, 1938 & reprint 1999), vii.

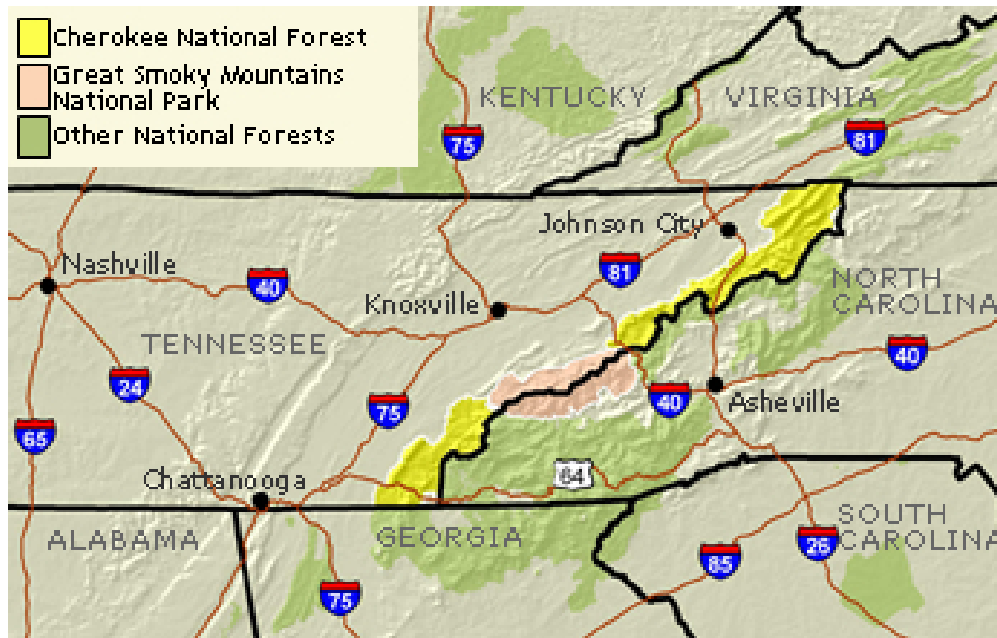




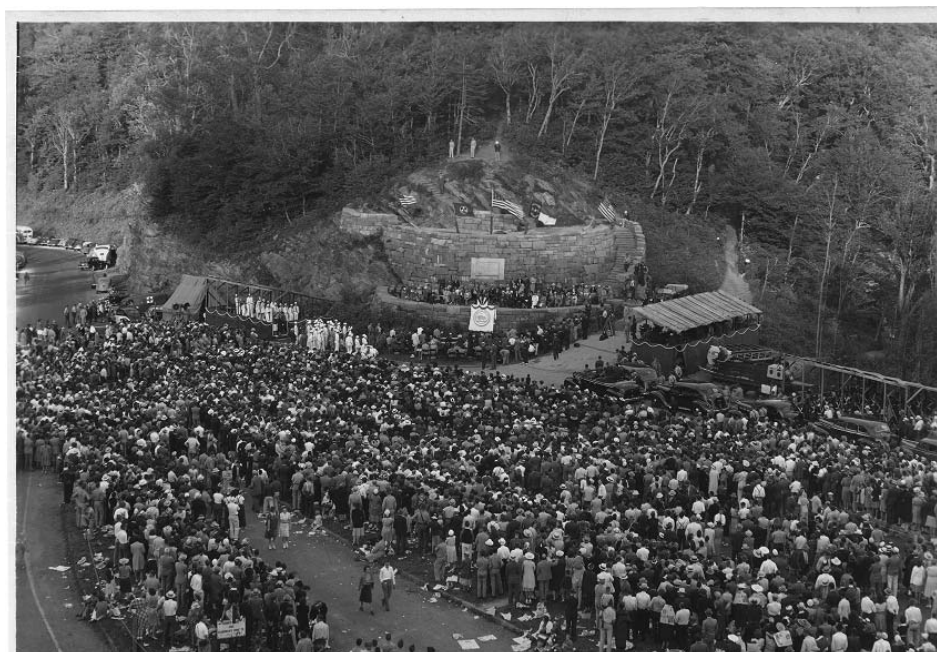
**Figure 3.1:** Map showing central and southern Appalachian Mountains. Courtesy of Appalachian Regional Commission website, [http://www.arc.gov/appalachian\\_region/MapofAppalachia.asp](http://www.arc.gov/appalachian_region/MapofAppalachia.asp).



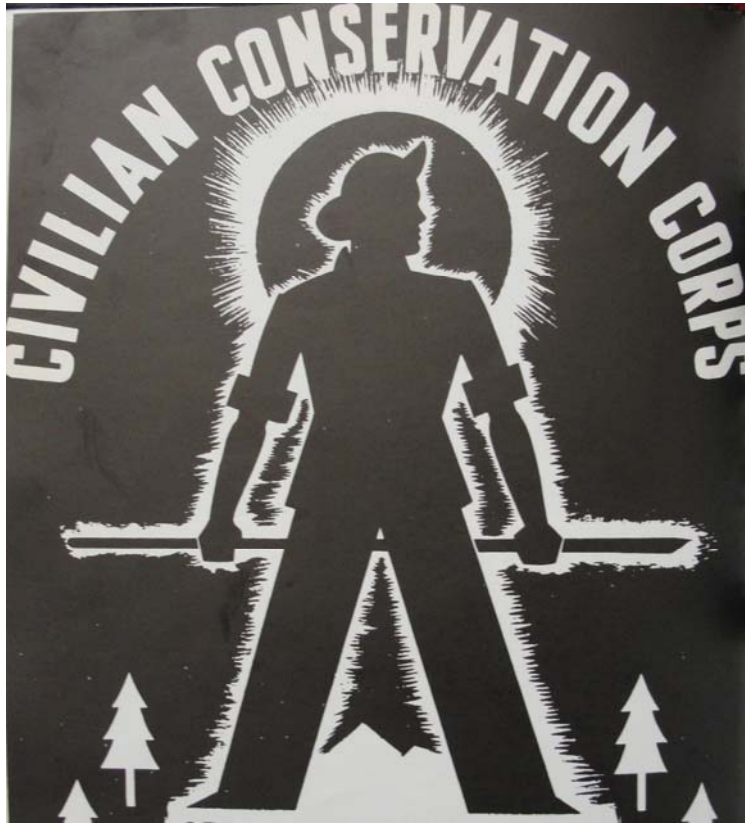
**Figure 3.2:** Members of the Great Smoky Mountain Conservation Association. Courtesy of University of Tennessee Library, Thompson Brothers Image Collection.



**Figure 3.3:** Map showing Great Smoky Mountains National Park and surrounding national forests. Courtesy of United States Department of Agriculture, Forest Service, Cherokee National Forest website, <http://www.fs.usda.gov/>.



**Figure 3.4:** Great Smoky Mountains National Park dedication ceremony by President Franklin Roosevelt, September 1940. Courtesy of University of Tennessee Library, Thompson Brothers Image Collection.



**Figure 3.5:** Advertisement for Civilian Conservation Corps. From Stan Cohen, *The Tree Army: A pictorial history of the Civilian Conservation Corps, 1933-1942*.



**Figure 3.6:** CCC Camp at Greenbrier. Courtesy of University of Tennessee Library, Albert "Dutch" Roth Digital Photograph Collection.



**Figure 3.7:** CCC men constructing fire tower in GRSM. Courtesy of GRSM Library, Mount Cammerer Fire Tower (White Rock) file, photo by Marshall Fox, 1936.

## CHAPTER 4

### FIRE MANAGEMENT

“Of all the foes which attack the woodlands of North America, no other is so terrible as fire.”<sup>1</sup> This statement by Gifford Pinchot summarizes the government’s stance on wildfire management for much of the twentieth century. The Forest Service and the National Park Service both strived for complete suppression of wildfires for decades, and, at times, the goal seemed attainable. From the Forest Service’s inception in 1905 until a change in policy in the mid-1970s, “fire control” was the ultimate goal in fire protection. Fires were seen as dangerous forces of nature that had to be stopped at all costs. Pinchot went so far as to claim, “The first duty of the human race is to control the earth it lives upon.”<sup>2</sup> If fires could be controlled, the landscape, wildlife, and human visitors to these forest regions would be protected. Safety seems an obvious and admirable goal, but in suppressing all wildfires, the Forest Service actually increased danger when fires did break out. Despite ongoing debates regarding the use of prescribed burns and fire maintenance since the 1910s, the Forest Service changed its attitude on the subject by 1974. At the Tall Timbers Fire Ecology Conference, the Forest Service officially changed its approach from “fire control” to “fire management,” acknowledging that some fires were indeed healthy for an ecosystem.<sup>3</sup> By 1978, the idea was so widespread that the “use of fire finally became part of a national ‘total fire management’ policy on all

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<sup>1</sup> Gifford Pinchot, *A Primer of Forestry*, U.S. Department of Agriculture, Division of Forestry, Bulletin No. 24 (Washington: Government Printing Office, 1900), 77.

<sup>2</sup> Gifford Pinchot, *The Fight for Conservation* (Seattle: University of Washington Press, 1910 & 1967), 16.

<sup>3</sup> David Carle, *Burning Questions, America’s Fight with Nature’s Fire* (Westport, CT: Praeger Publishers, 2002), 180.



federal public lands.”<sup>4</sup> Fires, now seen as beneficial, were allowed to burn rather than being put out immediately. Doubts about this approach linger on today, but the management of fire in national parks, forests and preserves plays a vital role in the shaping of the rural landscape.

Wildfire is part of the life cycle of a forest or rural area and is one of the oldest natural phenomena. It often starts with a lightning strike and spreads quickly to surrounding areas. An estimated 1,800 thunderstorms are active around the world every hour, and with lightning strikes playing a prominent role in the majority of these, it is not surprising that lightning accounts for more than ten percent of the fires per year in the United States.<sup>5</sup> Fire is an inevitable part of nature. Many plants have adapted to its natural cycles and actually require fire to flower, decompose, recycle nutrients, and carry out other critical functions. By suppressing the natural fire cycle, the ecosystem of a forest is negatively impacted and the resulting buildup of dead wood and brush lead to hazardous fire conditions.

## EARLY CONSERVATION EFFORTS

In the mid to late 1800s, lands in the western United States were rapidly purchased or freely given to the timber industries and railroad tycoons. Forests were cleared for lumber, tracks were installed, and small towns sprouted in remote areas across the West. Quick action was needed on the part of conservationists to save the lands.

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<sup>4</sup> David Carle, *Burning Questions, America's Fight with Nature's Fire* (Westport, CT: Praeger Publishers, 2002), 181.

<sup>5</sup> Stephen J. Pyne, *Fire in America, A Cultural History of Wildland and Rural Fire* (Princeton, NJ: Princeton University Press, 1982), 3.

During Grover Cleveland's second term in office in the mid-1890s, the President set aside large portions of land as forest preserves, but prescribed no way for their policing or protection. Cleveland's successor, William McKinley, continued their preserved status, but also provided no real protection for them. When Theodore Roosevelt assumed office in 1901, after McKinley's assassination, the nature-lover and conservationist planned to protect the lands of the West he cherished. "There is nothing more practical in the end than the preservation of beauty," Roosevelt proclaimed in reference to the wild lands of the West.<sup>6</sup>

Roosevelt was friends with another man-of-means and fellow conservationist, Gifford Pinchot (figure 4.1). Both men craved adventure in the outdoors and wanted to protect nature for future generations. The two became confidants while Roosevelt was serving as governor of New York, often hiking, boxing, and horseback riding together. Pinchot, a graduate of the Yale School of Forestry, was eager to help maintain the beautiful, untamed forests of America. Even though they both came from wealthy families, neither man believed the rich minority should receive all the spoils of the country. Roosevelt commented, "Rights of the public to national resources outweigh private rights,"<sup>7</sup> and, "The forest reserves should be set apart forever for the use and benefit of our people as a whole and not sacrificed to the shortsighted greed of a few."<sup>8</sup> Claiming massive tracts of land for the forest preserves upset many of the wealthy robber barons, as the President referred to them, who logged trees as quickly as possible.

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<sup>6</sup> Timothy Egan, *The Big Burn* (Boston: Houghton Mifflin Harcourt, 2009), 42, from a speech at Stanford, May 6, 1903, from Hart and Ferleger, eds., *Theodore Roosevelt Cyclopedia*.

<sup>7</sup> Timothy Egan, *The Big Burn*, 42.

<sup>8</sup> *Ibid.*

Not long after Roosevelt took over the presidency, he named Pinchot Chief of the U.S. Forest Service, (USFS) and through Pinchot's guidance, the lands started to be somewhat protected. A group of young foresters, mainly from Pinchot's alma mater Yale, were assigned large sections of the American landscape and given the enormous task of monitoring it. Roosevelt and Pinchot managed to get an additional 16 million acres of forestlands, reaching a grand total of 180 million acres under the forest system's purview.

In 1905, Pinchot knew there was one major obstacle they still needed to conquer – wildfire. It was the one thing that “remained in the wild to stir primordial fear.”<sup>9</sup> Despite his belief that fire was essential to forest health, Pinchot sold Congress on the idea that he could contain and suppress all wildfire. Just five years later the largest known wildfire in history swept through many of the preserve lands, ravaging stretches of forest, ruining small towns, and killing 85 people.

#### CALL FOR TOTAL FIRE SUPPRESSION

In August 1910, the wildfire that is now known as the Big Burn occurred in the preserve areas of Idaho, Montana and Washington (figure 4.2). The lands were dry and combustible after an extended drought, and many small fires were already burning. Adding to this dangerous mix were hurricane force winds, which whipped up flames, forming one massive blaze that could not be stopped (figure 4.3). Nearly 10,000 men gathered to fight the fire, and as towns were evacuated, the male residents were ordered

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<sup>9</sup> Timothy Egan, *The Big Burn*, 51.



to stay behind and help. The bravery and dedication shown by the forest rangers during this record-breaking fire won the support of the public, and the national forests and parks were buoyed by the people. Not only did the fire change the perception of the conservation movement, it also fortified the government's and the people's belief that all wildfire should be stopped. If fires could cause this much destruction, they should never be allowed to start. The Forest Service and the National Park Service both wanted to have the wildness of nature preserved while subduing the fires that organically occurred there. This was a dichotomy in philosophy that carried on for decades. One reason the Fire of 1910 burned as rapidly as it did was the enormous amount of "fuel" on which the fire could feed. Years of suppressed and controlled wildfires meant flammable undergrowth, dead plants, and trees had gone unchecked and were prime for burning.

Legislation known as the Forest Fires Emergency Act passed in 1908 and encouraged continuation of an agenda promoting complete fire suppression. This act stipulated that any funds used in the suppression of a "fire emergency" be reimbursed by Congress. "Such a policy provided little motivation either for the Forest Service to determine optimal level of fire suppression or to pursue the level selected efficiently."<sup>10</sup> This led to extensive spending for fire control and suppression of any evidence pointing to the value of controlled burns.

In the 1930s, with the establishment of the CCC and the WPA, the attack on wildfire continued as large numbers of unemployed men were put to work preventing

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<sup>10</sup> Alison Berry, "Forest Policy Up in Smoke: Fire Suppression in the United States," Property and Environment Research Center, 5, <http://www.perc.org/pdf/Forest%20Policy%20Up%20in%20Smoke.pdf> (accessed March 15, 2011).

forest fires, building fire towers, and clearing the way for fire lanes on public lands.<sup>11</sup>

These workers built the structures that allowed for continuous monitoring of wildfires and better access to those fires once spotted (figure 4.4). Many projects for fire prevention and control were completed with the help of these two programs.

## CHANGING APPROACH TO FIRE MANAGEMENT

By the 1980s, NPS moved to a policy of prescribed fires to achieve resource management. With the public continuously encroaching on rural space, the safety of these fires became an issue. The previous policy of suppression for all fires led to accumulating debris and undergrowth, which in turn provided more “fuel” for fires and even more dangerous situations when fires did start. In Margaret Fuller’s *Forest Fires, An Introduction to Wildland Fire Behavior, Management, Firefighting, and Prevention*, the history of natural fires is conveyed as well as the application of controlled burns to shape the landscape. Fuller defines the three types of burns as *wildfire*, *prescribed fire*, and *prescribed natural fire*. Wildfires must be suppressed because they do not meet the burn prescription; prescribed fires have been intentionally set with a planned ignition or a control burn; and a prescribed natural fire is caused by lightning but is allowed to burn as long as it does not threaten its surroundings.<sup>12</sup> The fire management philosophy subscribed to by NPS and USFS has had mixed results. At the beginning of the fire

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<sup>11</sup> National Park Service, “NPS Fire History Timeline,” Department of the Interior , [http://www.nps.gov/fire/utility/uti\\_tl\\_policytext.cfm](http://www.nps.gov/fire/utility/uti_tl_policytext.cfm) (accessed November 29, 2010).

<sup>12</sup> Margaret Fuller, *Forest Fires, An Introduction to Wildland Fire Behavior, Management, Firefighting, and Prevention*, (New York: John Wiley & Sons, Inc., 1991) 165-66.

season of 2000, for example, a prescribed burn escaped the control of the rangers and burned hundreds of houses in Los Alamos, New Mexico.<sup>13</sup>

With continued exposure to fire and a new mindset on its effectiveness, man continues to discover new ways to manipulate it and use it to his advantage.

Man can deliberately alter wild land fuels to modify fire behavior; he can create ignition patterns unlike those found in nature, which can magnify burning intensities; and he can initiate fires under extreme weather conditions, when natural ignition sources would be rare. Man can halt a fire that under natural circumstances would make the transition to mass fire, and he can promote mass fire when natural conditions might not have allowed for the transition.<sup>14</sup>

#### FIRE MANAGEMENT IN GRSM

Although it does not suffer from the big burns of the West, the Great Smoky Mountains National Park has its own fire risks. According to park records an average of two lightning-ignited fires occur in GRSM every year, usually in May or June.<sup>15</sup> Forest fires in the Smokies region are most common at low and mid-level elevations, especially where pine and oak forests predominate. The history of fires in GRSM is carefully logged and detailed on annual Forest Fire Report Summaries, and a Fire Almanac of maps is also kept on file in the GRSM Archives. This almanac includes a collection of maps, dating back to the late 1930s, which have been manipulated to show an assortment of information related to fire protection throughout GRSM's history. Park employees

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<sup>13</sup> David Carle, *Burning Questions, America's Fight with Nature's Fire*. (Westport, CT: Praeger Publishers, 2002), 5.

<sup>14</sup> Stephen J. Pyne, *Fire in America, A Cultural History of Wildland and Rural Fire*, 28.

<sup>15</sup> National Park Service, "Great Smoky Mountains National Park – Fire Regime," U.S. National Park Service, <http://www.nps.gov/grsm/naturescience/fire-regime.htm> (accessed March 7, 2011). Information on fire specific to GRSM comes from this website and the Forest Fire Report Summaries.

created maps showing the “seen area” from each fire tower; travel time from fire-fighting stations to remote areas of the park; and the different types of vegetation in each area, to help determine areas at high risk (figure 4.5-4.6).

GRSM has had a fire management plan since the Park’s creation. In fact, “all parks with vegetation that can sustain fire must have a fire management plan.”<sup>16</sup> The Fire Management Plans from 1934 until nearly the end of the 20<sup>th</sup> century prescribed complete suppression of all fires in the Great Smoky Mountains. In the 1970s, when the Forest Service moved towards true fire management and away from fire control, the National Park Service did the same. Both NPS and USFS removed lookouts from the towers and began using more modern fire observation techniques such as aviation management, which utilized planes to spot fires from the sky.

In coordination with this change in fire policy, Congress repealed the Forest Fires Emergency Act. As of 1978, government agencies were no longer reimbursed for every expense associated with fire suppression, meaning money could no longer be poured into fire control techniques and different approaches to firefighting were necessary. Topography and natural barriers began to be used to contain fires, which kept suppression costs down and allowed more acres to burn.<sup>17</sup>

With the 1996 Fire Management Plan, GRSM moved ahead with fire management goals typical for every National Park in the country. “Prescribed natural fires are the preferred means for achieving resource management objectives in natural zones,” and

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<sup>16</sup> Department of the Interior, National Park Service, *Fire Management Plan, Great Smoky Mountains National Park*, draft, Fire Management Plan, 1 (Gatlinburg, TN: Fire Management Plan, 1995).

<sup>17</sup> Alison Berry, “Forest Policy Up in Smoke: Fire Suppression in the United States,” Property and Environment Research Center, 6, <http://www.perc.org/pdf/Forest%20Policy%20Up%20in%20Smoke.pdf> (accessed March 15, 2011).

only low-impact suppression techniques should be considered.<sup>18</sup> GRSM is actively implementing this management plan, and the reliance on controlled burns appears to have increased over the past decade. Under the policy that allows lightning-caused fires posing no risk to “valuable property or human life” to continue to burn naturally, approximately one thousand acres burned in GRSM between 1997 and 2000.<sup>19</sup> The second week of November 2010, a prescribed burn treated seven hundred acres in the Cades Cove area (figure 4.7), reducing the intrusion of hardwood trees in historically maintained meadows and promoting the growth of native grasses and other native plants. Through this policy, GRSM’s ecosystem will eventually be restored to a natural condition, similar to how it existed prior to European settlement. All the while, fire fighting methods, such as tree-falling and bulldozers used for cutting fire lines, will be kept to a minimum to reduce impact on the lands. Suppression practices will continue to protect populated areas, as natural, remote areas return to their original state.

Fire management techniques and prescribed burns have been successful in the Great Smoky Mountains National Park but face challenges in other parts of the country with less temperate climates and larger affected areas. After a century of aggressive suppression of natural wildfires, it could take a significant amount of time to regain an ecological balance. Fire management and a less stringent suppression approach are still new tactics for the Forest Service and the National Park Service and will likely take a while to perfect.

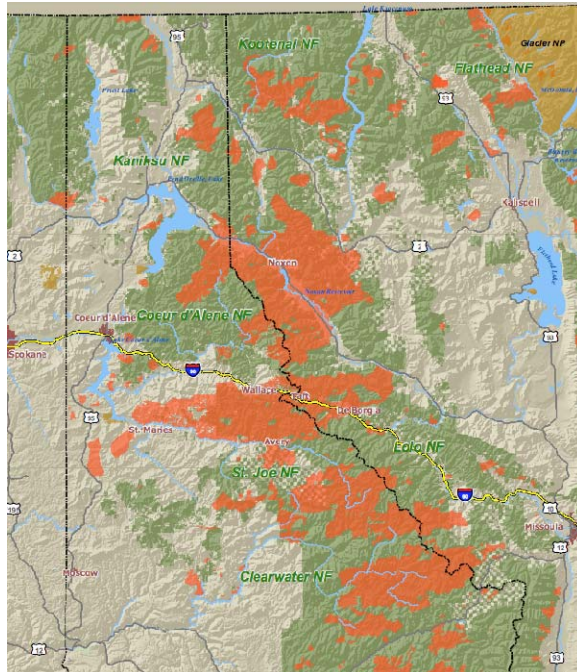
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<sup>18</sup> Department of the Interior, National Park Service, *Fire Management Plan, Great Smoky Mountains National Park*, draft, Fire Management Plan, 3 (Gatlinburg, TN: Fire Management Plan, 1995).

<sup>19</sup> National Park Service, “Great Smoky Mountains National Park – Fire Regime,” U.S. National Park Service, <http://www.nps.gov/grsm/naturescience/fire-regime.htm> (accessed March 7, 2011).



**Figure 4.1:** President Theodore Roosevelt and first U.S. Forest Chief Gifford Pinchot. Courtesy of U.S. Fish & Wildlife Service, Training & Education website, <http://training.fws.gov/History/HistoricImages/RooseveltPinchot.html>



**Figure 4.2:** Area damaged by Big Burn of 1910. Courtesy of U.S. Forest Service website, <http://www.fs.fed.us/>.

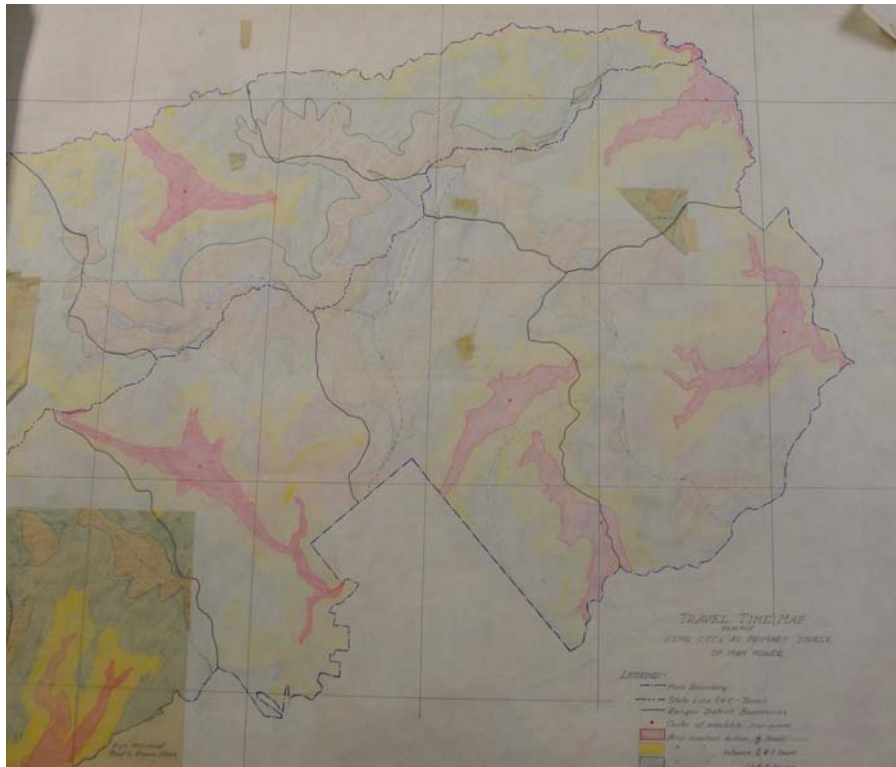


**Figure 4.3:** Forest ravaged by Big Burn of 1910. Courtesy of The Forest History Society, website <http://www.foresthistory.org/ASPNET/Policy/Fire/FamousFires>

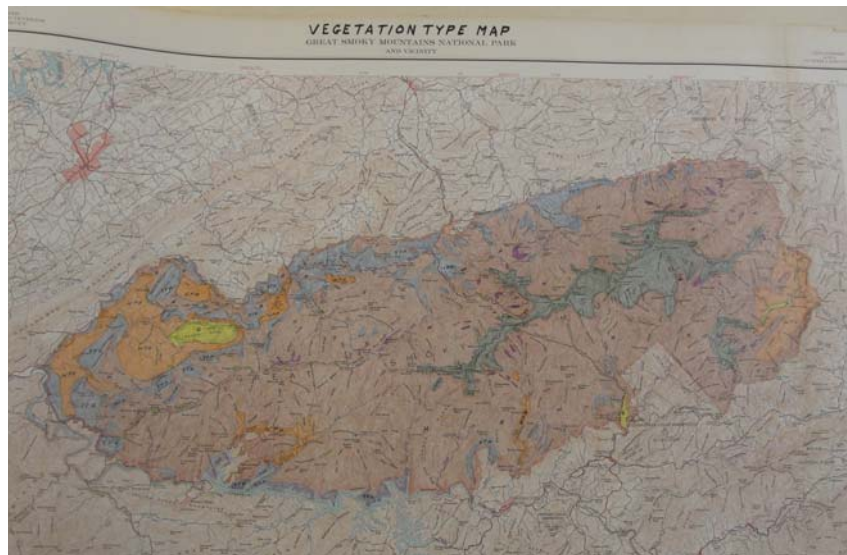


**Figure 4.4:** CCC men building a fire break to aide in fire suppression. From Stan Cohen, *The Tree Army: A pictorial history of the Civilian Conservation Corps, 1933-1942*.





**Figure 4.5:** “Travel Time Map, Using CCC’s as Primary Source of Man Power.” Map from GRSM Fire Atlas showing approximate travel time from CCC camps to locations throughout park. Courtesy of GRSM Library, Fire Atlas.



**Figure 4.6:** “Vegetation Type Map.” Map from GRSM Fire Atlas showing vegetation types throughout the park, which is helpful in determining burn paths. Courtesy of GRSM Library, Fire Atlas.





**Figure 4.7:** Prescribed burn in GRSM's Cades Cove, November 2010. Fire utilized to maintain meadows and promote growth of native grasses and other native plants. Courtesy of the National Park Service, Fire Regime website, <http://www.nps.gov/grsm/naturescience/fire-regime.htm>.

## CHAPTER FIVE

### LIFE AND DUTIES OF A LOOKOUT

Quick response to a forest fire is the best way to prevent it from spreading out of control, which foresters and park rangers realized after the unchecked fires of the West grew into unmanageable infernos. In order to prevent the same devastation from occurring in government-managed forests across the country, fire towers were established to survey lands vigilantly and send out warnings to groups of men ready to fight fires when flames were spotted. Logging companies had utilized lookouts for a number of years to protect their timber holdings. Reportedly, the first lookout hired by the government was Mabel Grey, a timber-camp cook, whose duties “manning” the tower at the North Fork of Clearwater River in Idaho began in 1903.<sup>1</sup> After the Big Burn of 1910, towers were constructed on mountaintops across the country, and then in 1933, with the advent of the Civilian Conservation Corps, over three thousand more towers were built.<sup>2</sup>

#### TOWER PLACEMENT

Sites for fire towers were carefully selected and not arbitrarily based on the highest points of an area.<sup>3</sup> However, an uninhibited viewshed was a necessity for a good tower location. In GRSM, the highest peaks were often ruled out as ideal tower locations because of weather conditions. According to the Park’s Master Plan, “the highest points

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<sup>1</sup> Kevin Grange, “The Art of Mountain Watching,” *National Parks Magazine*, Fall 2009, National Parks Conservation Association, <http://www.npca.org/magazine/2009/fall/the-art-of-mountain-watching.html>, accessed February 6, 2011.

<sup>2</sup> Stan Cohen, *The Tree Army: A pictorial history of the Civilian Conservation Corps, 1933-1942* (Missoula, MT: Pictorial Histories Publishing, 1980), 88.

<sup>3</sup> Albert H. Good, *Park and Recreation Structures* (New York, NY: Princeton Architectural Press, 1938 & reprint 1999), 155-156.

are undesirable as they are frequently under clouds.”<sup>4</sup> Lands were surveyed in each park to find the most efficient locations for fire towers. Each site was positioned so that its viewshed would overlap with at least one other tower, assuring that multiple sets of eyes were surveying all high-risk sections of the forest (figure 5.1-5.2). Ten to fifteen miles of visibility is the most effective range for a lookout tower. Greater distances tend to form hazy conditions and possibly cause unreliable readings.<sup>5</sup> Due to the curvature of the planet, the distance a human eye can see varies based on height above sea level. The formula for determining how many miles an individual can see at higher levels is the square root of his altitude times 1.225.<sup>6</sup> On a clear day, from Mount Cammerer at 5,025 feet above sea level, for example, a person could theoretically see 86.8 miles.

Key to efficiency is the close proximity of the lookout’s living space. If a tower exceeded sixteen feet in height, the lookout’s living quarters would be separate from the tower, but as near to the base as possible. The lookout did not reside in the tall towers for reasons of safety and comfort. Protection of the lookout’s housing from lightning, wind, storms and sun was essential. In towers with less height, the lookout quarters were often a part of the structure, ensuring the lookout would always be close-at-hand for surveying duties. Only two of the towers in the GRSM tower system included living quarters for the lookout, Mount Cammerer and Frye Mountain. The other towers were tall steel structures with lookout cabins nearby.

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<sup>4</sup> National Park Service, “Fire Towers or Fire Lookouts,” GRSM *Master Plan*, November 1940, GRSM Park Library.

<sup>5</sup> Good, *Park and Recreation Structures*, 155-156. Info about standards for tower placement and lookout housing comes from this source.

<sup>6</sup> *Time Magazine*, “Science: How Far Can You See?” *Time Magazine*, June 21, 1943, <http://www.time.com/time/magazine/article/0,9171,766761,00.html#ixzz1E3BLbWg3> (accessed February 8, 2011).

Although the official working hours for lookouts of the Smokies ran a standard eight-hour workday, they were unofficially on duty twenty-four hours a day, seven days a week and were required to notify a supervisor before leaving their posts. Even mealtimes were scheduled in rotation so that at least one set of eyes was always trained on each part of the terrain (figure 5.3).

Typically the lookout was a young man, but not always. In fact, husband and wife teams were welcomed in GRSM. The wife was expected to take over duties if the husband needed to chase smoke or fight fires and to keep up the watch on her husband's days off. Husband-wife teams meant "the distraction of living alone is eliminated" since "many young people find that living alone for several weeks or months is almost unbearable."<sup>7</sup> The isolation of the lookout's job was extreme, and the stress of this seclusion was a serious concern. Early lookouts hiked, or packed, in for the fire season, which ran from February to May and then again from October to December. Often they did not see another person for the majority of their stay.

## WATCHING THE FORESTS

When a new lookout arrived at his or her station for the fire season, he was expected to study the topography of the land and learn the names and locations of all features of their surroundings, such as streams, ridges, trails and roads.<sup>8</sup> Such familiarity allowed the lookout to pinpoint and identify fire locations more easily and alert the

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<sup>7</sup> U.S. Department of the Interior, National Park Service, Chapter 1, "The Lookout Observer," *Lookout Manual*, GRSM 1940, GRSM Park Library.

<sup>8</sup> NPS, Chapter 3, "Learning the Country," *Lookout Manual*.

dispatch office below to send out smokechasers when fires were spotted. Lookouts were advised to study maps, panoramic photographs, and obtain information about the surrounding topography any way they could. Each tower had a set of three panoramic photographs showing the expected views for the lookout on duty (figure 5.4). When placed together, they created a three hundred and sixty degree picture, which was also helpful in determining origins of a fire.

The tools included in every tower of the park were binoculars, goggles for safety and sun protection, a metal stool with swivel back, a stove for heat, a two-way radio, and a fire-finder with canvas cover.<sup>9</sup> The fire-finder, known as the Osborne Fire-Finder (figure 5.5), was the essential tool in fire detection and is a type of alidade used to determine the cardinal direction and exact location of a fire. The fire-finder consists of a large, round metal plate, measuring twenty-four inches in diameter, placed on tracks on a rectangular base.<sup>10</sup> A map of the area is attached to the surface with the fire tower at the exact center. Front and rear sights sit perpendicular to the plate and on opposite sides. The crosshairs of the front sight work in conjunction with the sliding peephole of the rear sight allowing the lookout to hone in on a fire's location (figure 5.6). A scale runs along the circumference of the fire-finder and as the lookout sights the fire, this scale can be used to determine the angle of horizontal deviation from north or south, which is known as the azimuth (figure 5.7). Once the azimuth is established, the vertical angle of the fire must be found. This measurement and the use of topographical maps help determine the

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<sup>9</sup> U.S. Department of the Interior, National Park Service, "Fire Equipment and Suppression," Office Order No. 33, 8/16/1946.

<sup>10</sup> NPS, Chapter 4, "Operation of Fire-Finder," *Lookout Manual*. All info in Osborne Fire-Finder paragraph comes from this source.

elevation of the fire. If the fire-finder was out of balance, errors in the readings occurred. Even errors as small as one degree would result in sending fire crews to locations a quarter-mile to a mile from the fire they were chasing. Oftentimes, two towers reported readings on the same fire, and their measurements were used to triangulate the location. Lines drawn from the two towers to their sightings intersected at the most accurate location of the fire.

Lookouts were constantly monitoring the area surrounding their towers. There were two types of observation methods – general observation and check look (figure 5.8). General observation was “without strain” but “sufficiently alert to detect the first signs of a fire.”<sup>11</sup> In this type of observation, the lookout would pay closer attention to the high-risk areas near logging operations, campgrounds, and high-traffic roads. During a check look, “an intensive part-by-part examination of the entire seen area” was undertaken. The seen-area was divided into 45-degree sectors and each one was thoroughly scanned to “make sure that no fire exists.” The Lookout Manual advises that this systematic observation method should be carried out at each fire tower soon after sunrise and shortly before sunset. The Manual also warns, “It is human nature to ‘see how far you can see.’ Watch out for fires at your feet. A number of lookout posts have burned because the lookout failed to note the smoke ‘right under his nose.’” The lookout must also consider that not all smoke is from a dangerous fire. Legitimate smoke, which comes from sources such as locomotives, sawmills, and campfires and is authorized by law or permit, is one type of smoke that can be misleading to a lookout. This type of smoke is under

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<sup>11</sup> NPS, Chapter 5, “Systematic Observation,” *Lookout Manual*. All info in observation methods paragraph comes from this source.

control and should not be considered a threat. False smoke can also fool a lookout, but it is often steam, fog, or stirred-up dust. Legitimate and false smokes were logged by every tower and kept on file so as not to confuse hazardous fires with controlled or misleading smokes.

## STORMS ON THE MOUNTAIN

Lightning storms were the busiest and most dangerous times for a lookout, as every lightning bolt hitting the ground was a potential fire.<sup>12</sup> Lookouts were on high alert as lightning storms approached. They were instructed to record every lightning strike visible in their area, day or night. These locations were later reviewed for smoke and possible fires. Many towers had glass-legged stools for the lookout to stand on during storms because of the danger of being struck by lightning (figure 5.9). One lookout described this frightening experience: “During a storm, the lookout rangers must stand atop their glass-legged lightning stools, crouching, flinching, praying, and watching over the mountains, sacrificing their own fear in service of the forest.”<sup>13</sup>

## REPORTING FIRE

If a fire was spotted after a lightning storm, or any other time, the lookout contacted the dispatcher at a central location via radio or telephone with the details of the blaze. In the Great Smoky Mountains, this dispatch office was located at Park Headquarters in Gatlinburg, Tennessee (figure 5.10). The lookout provided fifteen points

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<sup>12</sup> NPS, Chapter 5 “Systematic Observation,” *Lookout Manual*.

<sup>13</sup> Kevin Grange, “The Art of Mountain Watching,” *National Parks Magazine*.

of information about each reported fire that were also formally submitted in a Lookout's

Fire Report Form (figure 5.11). The items reported included:

- location by landmarks;
- azimuth and vertical angle reading;
- distance to fire in miles from lookout;
- location by legal subdivision;
- size of fire and perimeter;
- smoke color and volume;
- wind direction and velocity;
- probable cause;
- date of last rain;
- if the base of smoke could be seen;
- aspect;
- slope position;
- slope steepness;
- type of cover;
- any other pertinent information.<sup>14</sup>

All of this information was expected to be given to the dispatcher within five minutes of initial sighting of the fire.

## FIGHTING FIRE

The dispatcher then contacted the camps nearest the fire and supplied all the details necessary for locating it. These crews of men ranged in size from three-man outfits to fifteen-man outfits. They used manways, or rough footpaths, which were created throughout the Park, to access the remote locations where fires often originated.

The groups of men in a fire camp included a fire boss, who had “full authority and responsibility for managing a fire control operation;” a line boss, who directed suppression action, or the actual fighting of fire; a plans chief, who collected data

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<sup>14</sup> NPS, Chapter 6 “Locating and Reporting Fires,” *Lookout Manual*.



concerning the fire; a service chief, who supervised all services such as communication, transportation and supply management; a sector boss, who outlined the areas for each crew to work; a crew boss, who was “responsible for the performance of his crew, their safety and their welfare;” a pumper boss, who operated a pumper unit, which included pumps, hose lines, and a hose crew; and a variety of people who did not work on the front lines of firefighting, such as the records boss, communication officer, transportation officer, and supply officer, whose duties are implied by their titles.<sup>15</sup> In the 1943 fire season, these men’s pay rates were between 30 and 50 cents per hour for common laborer fire fighters to skilled foreman respectively (figure 5.12).

Equipment for these outfits varied based on size of the team, but standard items included axes, buckets, canteens, flashlights, hammers, hoes, first-aid kits, lanterns, pumps, rakes, saws, shovels, and files. One firefighting tool known as the Pulaski, which was created by Ed Pulaski after the fire of 1910, is a combination axe and an adze in one tool, good for chopping wood and digging, and used to create fire breaks (figure 5.13). These materials were kept at ranger stations and warden stations throughout the park. Some twenty-seven stations are listed in the 1946 district plans for the area, providing many outlets for equipment pickup and quick fire suppression.<sup>16</sup>

Because of the remote locations of the majority of the fires, water was not always available for fighting the flames. Water, hoses, and pumps were used, and the back-pump, a backpack-like contraption, was an effective method for firefighting in many

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<sup>15</sup> U.S. Dept. of Interior, NPS, “Organization for Large Fire Suppression,” *Fire Equipment and Suppression*, Morrell II-6, Office Order No. 33, August 16, 1946, GRSM Park Library.

<sup>16</sup> *Ibid.*

instances, but with numerous forest fires, the crews had to turn to other methods for extinguishing the flames. One of the most common and effective means of fighting fires was the use of fire lanes and breaks. Fire lanes were strips of land, known as “clean-up strips,” which were cleared of slash, dead trees, and down timber and varied in width from fifteen to twenty-five feet depending upon the steepness of the slope, while firebreaks were larger versions of this approach, often stretching between one hundred to two hundred feet wide.<sup>17</sup> (figure 5.14) As fires approached these breaks, they would run out of fuel to burn. This technique was used in all-sized fires. “Even small fires can generate too much heat to be extinguished directly; they must be contained along the perimeter by interrupting the transfer of heat or by breaking the continuity of fuels.”<sup>18</sup> Another similar approach was to “dig a line down to mineral earth, encircling the fire, and eventually it burns itself out.”<sup>19</sup> One concern with the method was the risk that the fire would continue to burn in the root channels beneath the earth’s surface. Occasionally a firefighter would remove his shoes and with his bare feet, check for “hot-spots” on the trenched fire line.<sup>20</sup>

None of these techniques were effective unless sufficient manpower was available. As Gifford Pinchot said, “But without men to do the fighting, they were of as

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<sup>17</sup> NPS, “Fire Lanes,” *GRSM Master Plan*.

<sup>18</sup> Stephen J. Pyne, *Fire in America, A Cultural History of Wildland and Rural Fire*. (Princeton, NJ: Princeton University Press, 1982), 28.

<sup>19</sup> Morrell, John O., *The Mirth of a National Park*. (Tennessee: J.O. Morrell, 1981), 23-24. East TN Historical Society, McClung Collection.

<sup>20</sup> *Ibid.*

little use against really dangerous fires as forts without soldiers against invading armies.”<sup>21</sup>

Using water, firebreaks, fire lanes, and perimeter control, firefighting units would work tirelessly to control the burns and protect forestlands. The Park Service and the Forest Service had a 10:00 a.m. policy in effect from 1935 to 1978 in hopes of controlling every fire quickly. This policy “stipulated that a fire was to be contained and controlled by 10:00 a.m. following the report of a fire,” and if that goal was not met, then it would be controlled by 10:00 a.m. the next morning and so on, until it was truly contained.

## FIRE RECORDS

Once a fire was controlled or extinguished, every detail, from its first report to the total cost of suppression, was recorded in the Individual Forest Fire Report Summaries (figure 5.15). The Park Service has logs of every fire inside its boundaries from its beginnings in 1931 to the present. These logs assign each fire a name and number, and then document the start date, point of origin, cause, size of fire upon discovery and upon arrival, how it was discovered and reported, the number of men initially sent to fight it as well as the maximum number fighting at any given time, and the distance traveled to reach it. Timeliness, of course, is exceptionally important in battling forest fires, so an entire section of the logs is dedicated to the elapsed time from discovery to reporting to getaway of the firefighting crew to time spent hunting the fire to the first attack and

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<sup>21</sup> Gifford Pinchot, *A Primer of Forestry*, U.S. Department of Agriculture, Division of Forestry, Bulletin No. 24. (Washington: Government Printing Office, 1900), 88.

finally to getting the fire to a controlled state.<sup>22</sup> These logs go on to report the damage caused to forest, brush and grass lands, the total acreage affected, and the cost in supplies, man-hours and equipment to suppress the fires.

## LOOKOUT AND PUBLIC RELATIONS

Another integral part of the lookout's duties, in the Great Smoky Mountains especially, was public relations and education of visitors. Their towers and cabins were often located just off hiking trails, and it was not unusual for a hiker or vista-seeker to make their way to a tower and encounter an on-duty lookout. The Lookout Manual gives explicit instruction on welcoming any visitors/hikers and talking to them about fire safety. According to the manual, a lookout should "know the fire history of the area" and when talking to guests, "impress upon them the importance of being careful with fire."<sup>23</sup>

In connection with public relations and education on forest fire is the long-running Smokey the Bear campaign from the National Advertising Council. This campaign started out as a scare-tactic, playing on peoples' fears during World War II, encouraging them to suppress all forest fires.<sup>24</sup> As the war wound down, the Council, in cooperation with the U.S. Forest Service, turned to Walt Disney and borrowed the famous Bambi cartoon to evoke citizens' empathy with the animals and beg them to do their part in forest fire prevention. By 1945, the campaign focused on Smokey the Bear, the Forest Service's mascot, who famously tells people of all ages that, "only you can

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<sup>22</sup> U.S. Department of the Interior, Form 10-400, "Individual Forest Fire Report Summary," Great Smoky Mountains National Park, Region 1, 1952. GRSM Park Library, Fire Atlas.

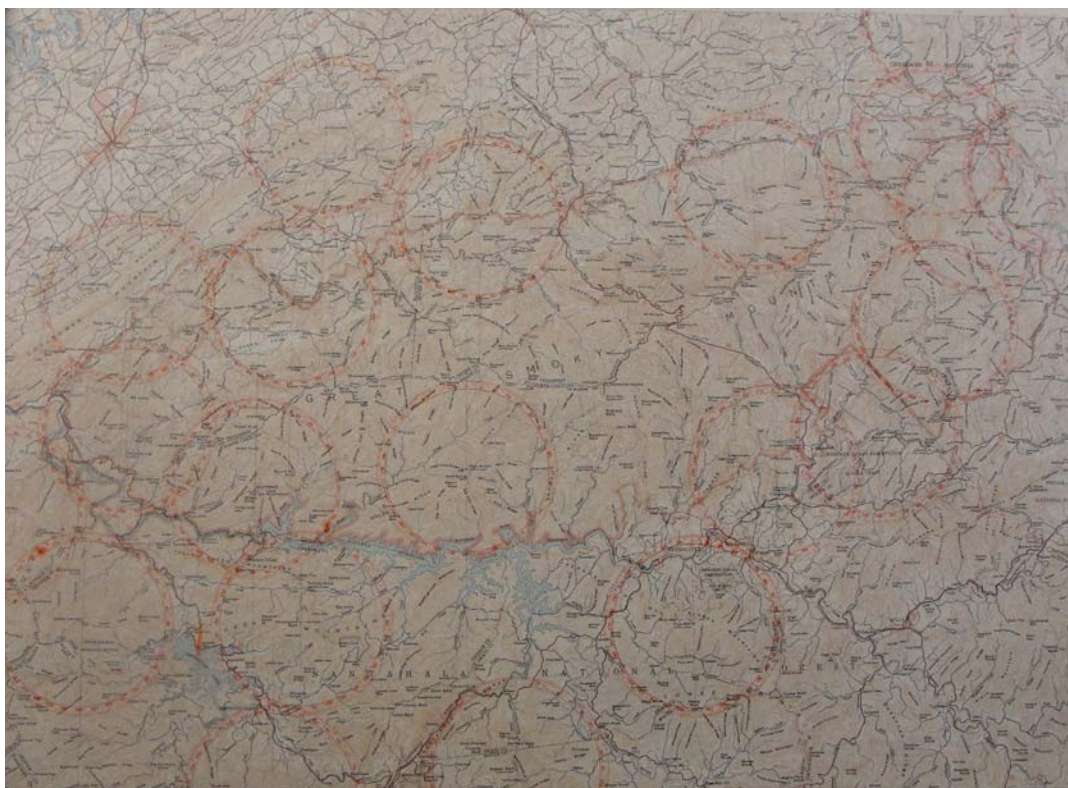
<sup>23</sup> NPS, Chapter 8 "General," *Lookout Manual*.

<sup>24</sup> David Carle, *Burning Questions, America's Fight with Nature's Fire*. (Westport, CT: Praeger Publishers, 2002), 4.

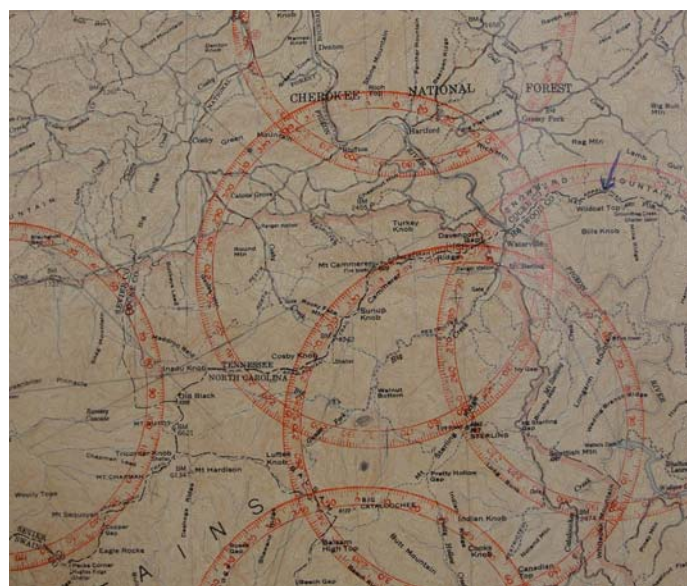
prevent *forest fires*.” (figure 5.16) Sixty-five years later, Smokey the Bear still deliver a similar message, but it has been slightly altered to reflect the new fire management approach and now reads, “only you can prevent *wildfires*.” (figure 5.17)

A lookout was also responsible for evaluating his or her performance through the completion of Lookout Inspection Forms, which ranked everything from lookout’s attitude to the condition and balance of their fire-finder (figure 5.18). Lookouts were advised to complete these forms periodically to insure they were meeting the requirements of their position.

Despite the sometimes agonizingly long hours of a lookout’s job, duties filled their days and occupied their time. Without their valuable work, countless acres of forestland would have been lost to fire. A lookout’s ability to spot such fires relied heavily on their mountaintop perches. These towers represent the fire prevention ethic of the majority of the 20<sup>th</sup> century, and give insight into the everyday life of a lookout. It is difficult to capture the solitude of a day spent constantly scanning the trees for smoke in a 7’x7’ box atop a 60-foot steel tower, or the adrenaline and fear of a lightning storm spent in just such a box. Fire towers have evolved through the years from functional structures to symbolic architecture. They illustrate how small man is compared to nature, giving scale in an otherwise wild and expansive landscape. They are also visual reminders of the importance of fire safety in the park system and show how man has intervened on the landscape and left his mark. Saving and protecting these towers will provide some of the only references to early Park architecture in their remote locations.



**Figure 5.1:** Map showing seen-area from fire towers of the Great Smoky Mountains National Park. Courtesy of GRSM Library, Fire Atlas.



**Figure 5.2:** Detail of map showing seen-area from fire towers. Courtesy of GRSM Library, Fire Atlas.

<u>MEAL TIME SCHEDULE FOR LOCKOUTS</u>		
<u>LOCKOUT</u>	<u>LUNCH TIME</u>	<u>SUPPER TIME</u>
Mt. Sterling	11:00 - 12:00	5:00 - 6:00 p.m.
Spruce Mountain	12:00 - 1:00	6:00 - 7:00 p.m.
Barnett Knob	11:00 - 12:00	5:00 - 6:00 p.m.
Frye Mountain	no time	no time
High Rocks	12:00 - 1:00	6:00 - 7:00 p.m.
Shuckstack	11:00 - 12:00	5:00 - 6:00 p.m.
Bunker Hill	12:00 - 1:00	6:00 - 7:00 p.m.
Lookrock	11:00 - 12:00	5:00 - 6:00 p.m.
Rich Mountain	12:00 - 1:00	6:00 - 7:00 p.m.
Cove Mountain	11:00 - 12:00	5:00 - 6:00 p.m.
Greenbrier	12:00 - 1:00	6:00 - 7:00 p.m.
Mt. Cammerer	no time	no time

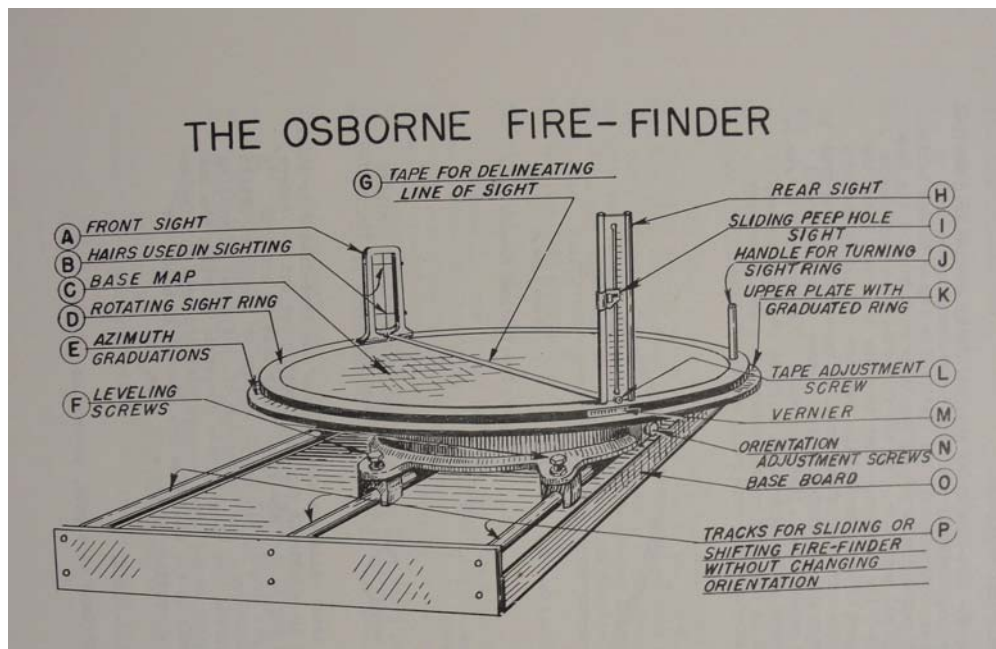
**Figure 5.3:** Meal schedule for lookouts, insuring that at least one set of eyes was always trained on the forest. "1960 Lookout Communication Guide," Y-Fire Management Records 1938-1999, Box 1, "Fire Towers." Courtesy of GRSM Park Library.



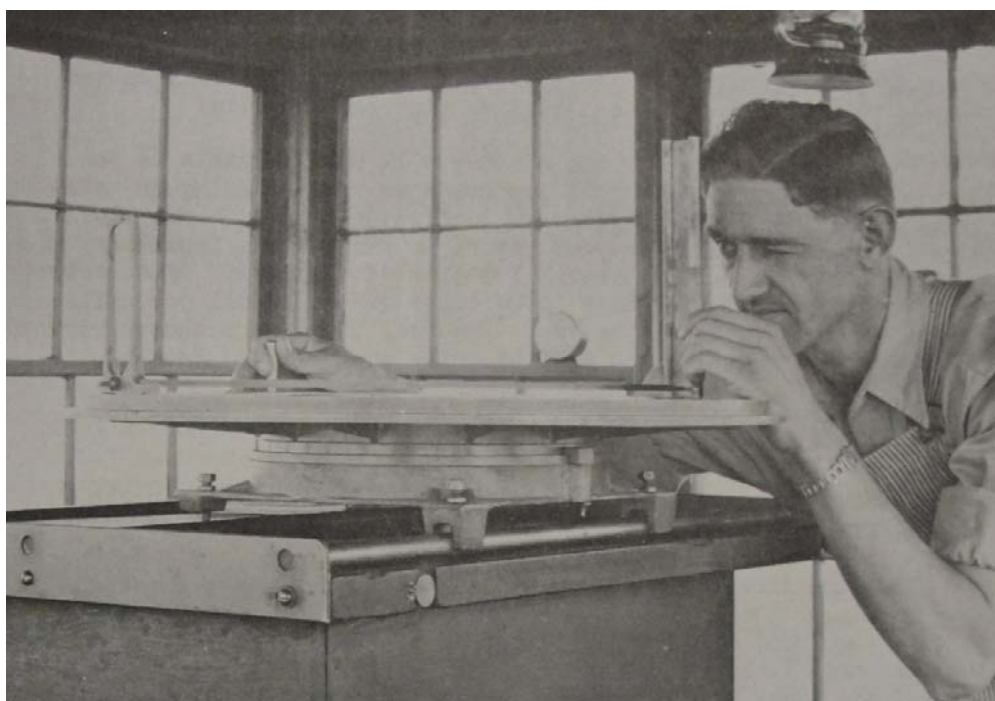


**Figure 5.4:** Set of panoramic photographs from White Rock/Mount Cammerer Tower. Each fire tower in GRSM had a set of panoramic photos that when placed together, captured 360 degrees around tower. Courtesy of GRSM Library, photos by L. Moe, 1936.

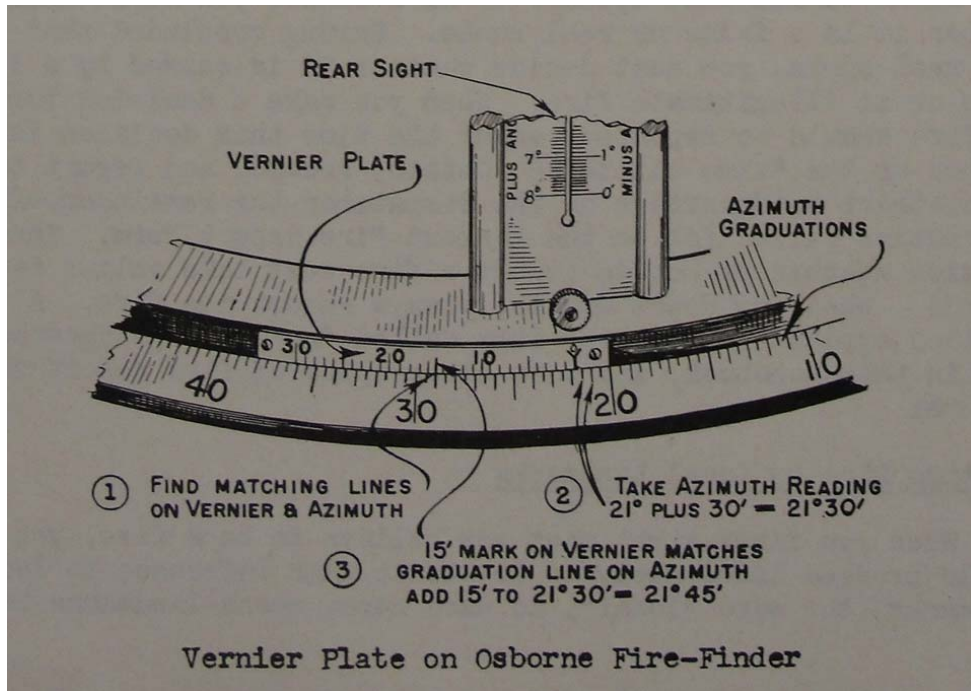




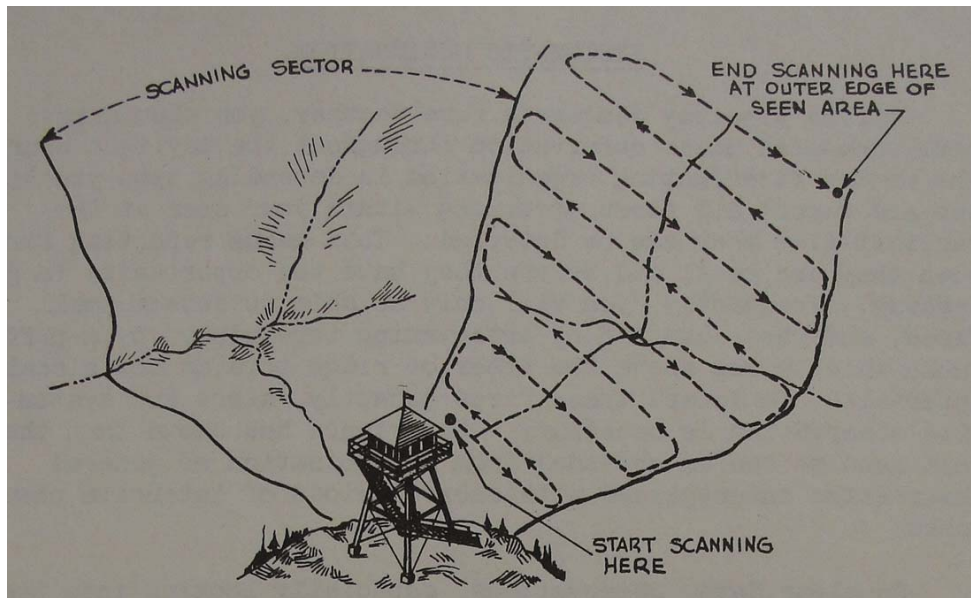
**Figure 5.5:** Osborne Fire-Finder, the essential tool in pinpointing fire location. Chapter 4, "Operation of a Fire-Finder," *Lookout Manual*, 1940. Courtesy of GRSM Library.



**Figure 5.6:** Lookout demonstrating use of sliding front and rear sights to locate fire. Chapter 6, "Locating and Reporting Fires," *Lookout Manual*, 1940. Courtesy of GRSM Library.



**Figure 5.7:** Scale used in determining horizontal angle from true north to a fire, or the azimuth. Chapter 6, "Locating and Reporting Fires," *Lookout Manual*, 1940. Courtesy of GRSM Library.



**Figure 5.8:** A lookout's observation methods – general observation and check look. Chapter 5, "Systematic Observation," *Lookout Manual*, 1940. Courtesy of GRSM Library.



**Figure 5.9:** Glass-legged stool for protection against lightning during a storm. From John Suiter, *Poets on the Peaks, Gary Snyder, Philip Whalen & Jack Kerouac in the North Cascades*.



**Figure 5.10:** GRSM dispatch office, located at Park Headquarters in Gatlinburg, Tennessee. Photo from GRSM Photo Collection, January 1935. Courtesy of GRSM Library.



UNITED STATES  
 DEPARTMENT OF THE INTERIOR  
 NATIONAL PARK SERVICE

Lookout's fire No. \_\_\_\_\_ Date \_\_\_\_\_  
 Ranger's fire No. \_\_\_\_\_  
 Fire chief's fire No. \_\_\_\_\_  
 Name of fire \_\_\_\_\_ (National park or monument)

**LOOKOUT'S FIRE REPORT**

Time sighted \_\_\_\_\_ { a. m.  
 p. m.  
 Time reported \_\_\_\_\_ { a. m.  
 p. m.

**COMMUNICATE FOLLOWING INFORMATION TO DISPATCHER IMMEDIATELY**

- Lookout station \_\_\_\_\_ Lookout observer \_\_\_\_\_
- Azimuth \_\_\_\_\_ Vertical angle ( $\pm$ ) \_\_\_\_\_ Size \_\_\_\_\_
- Location by local landmarks \_\_\_\_\_ S. \_\_\_\_\_ T. \_\_\_\_\_ R. \_\_\_\_\_
- Distance to fire from lookout \_\_\_\_\_ miles. Estimated size of fire \_\_\_\_\_ acres.
- Type of cover burning \_\_\_\_\_
- Direct or indirect visibility \_\_\_\_\_
- Other pertinent information \_\_\_\_\_

**SUPPLEMENTAL INFORMATION**  
(Underline or fill in the appropriate terms below)

- Topographic location: Level terrain. Center of valley. Foot of slope. One-fourth way up slope. One-half way up slope. Three-fourths way up slope. Top of ridge. End of ridge. Center of ridge. Timber line.
- Wind direction: North. Northeast. East. Southeast. South. Southwest. West. Northwest.
- Wind force: 0-7 m. p. h. 8-12 m. p. h. 13-18 m. p. h. 19-24 m. p. h. 25-38 m. p. h. 39-55 m. p. h.
- Base of smoke: Seen. Not seen. Estimated distance seen from base \_\_\_\_\_ feet.
- Volume of smoke: Light. Medium. Dense. Color of smoke \_\_\_\_\_
- Smoke rising: Gently. Fast. Swift. Rushing and swirling.
- Type of vegetation: Deciduous. Coniferous. Mixed. Grassland. Brush. Woodland.
- Condition of forest: Mature. Middle-age. Reproduction. Old burn. Cutover. Bug- or disease-killed. Single snag.
- Which way does slope face: North. East. South. West.

**Additional Data**

- Rain at seat of fire within \_\_\_\_\_ { day. \_\_\_\_\_ How long \_\_\_\_\_ { hours.  
hour. \_\_\_\_\_ minutes.
- Estimated number of men needed \_\_\_\_\_
- Cause of fire \_\_\_\_\_ Unknown \_\_\_\_\_
- Fire-behavior notes and times: Run made at \_\_\_\_\_ Died down \_\_\_\_\_ Crowned \_\_\_\_\_  
Spot fire(s) noted at \_\_\_\_\_ Other similar information \_\_\_\_\_  
(Use reverse side for additional information)
- Time crew first noted working on fire if visible \_\_\_\_\_ { a. m.  
p. m.
- Time smoke disappeared \_\_\_\_\_ { a. m.  
p. m.

**Final Check With Dispatcher**

- Reportability of fire: Inside park \_\_\_\_\_ Outside park \_\_\_\_\_ False alarm \_\_\_\_\_
- Final size of fire \_\_\_\_\_ acres.
- Exact location \_\_\_\_\_

6-10009

**Figure 5.11:** Lookout's Fire Report Form. Provided all information necessary for dispatcher to disperse fire fighters. "Form No. 10-424," Y-Fire Management Records 1938-1999, Box 1, "Fire Towers." Courtesy of GRSM Park Library.

<u>Labor Classification</u>	<u>Recommended Base Hourly Rate</u>
Fire Fighter (Unskilled)	\$1.05
Fire Fighter (Semi-skilled)	1.09
FF Straw Boss	1.20
FF Crew Boss	1.29
FF Pump Operator	1.20
FF Bulldozer Operator	1.88
FF Cook	1.20
FF Second Cook	1.09

**Figure 5.12:** Pay rates for fire fighters during 1943 fire season. “Form No. 10-424,” Y-Fire Management Records 1938-1999, Box 1, “FF Wage Schedule No. 59-31-1.” Courtesy of GRSM Park Library.



**Figure 5.13:** Pulaski, a combination of axe and adze used in firefighting. Courtesy of Forest Pathology website, <http://www.forestpathology.org/hazard.html>.



**Figure 5.14:** Fire lane, or “clean-up strip,” to aide in firefighting. From Stan Cohen, *The Tree Army: A pictorial history of the Civilian Conservation Corps, 1933-1942*.

GREAT SMOKY MOUNTAINS NATIONAL PARK  
THREAT INDEX 1971-1979

INDIVIDUAL FOREST FIRE REPORT SUMMARY  
Region 2 Year 1934 (Part 1)

A IDENTIFICATION OF FIRE												B PHYSICAL CONDITIONS			C ELAPSED TIME RECORD							D ACTION RECORD				E ADDITIONAL DATA					
DATE	TIME	NAME OF FIRE	LOCATION BY LANDMARKS OR TWP-R-S	CLASS OF FIRE				POINT OF ORIGIN		CAUSE OF FIRE			CHARACTER OF FIRE AT ARRIVAL	WIND VELOCITY	WIND DIRECTION	WIND FORCE	ELAPSED TIME RECORD							ACTION RECORD				REMARKS			
				A	B	C	D	1	2	3	4	5					6	7	8	9	10	11	12	13	14	15	16				
10/1	11	Adams Creek	A-8	X				X	Secondary	✓							✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
10/1	18	30-mile Highway		X				X	"	✓							✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
10/1	18	Round Mt.		X				X	Misc (Shed)								✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
10/1	18	Scarp Ridge		X			X	X	Misc (Shed)								✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
10/1	18	Hemlock Ridge		X				X	Secondary	✓							✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
10/1	18	Spencer Ridge		X			X	X	Misc (Ridge)								✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
10/1	18	Mule Alley		X			X	X	Campfire	✓							✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
10/1	18	Calloway		X				X	Secondary	✓							✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
10/1	18	Tuckersville		X				X	"	✓							✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
10/1	18	Becker Place		X			X	X	Debris Burning	✓							✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
10/1	18	Gravel Area		X				X	Smoker	✓							✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
10/1	18	Green Hill		X			X	X	Secondary	✓							✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
10/1	18	Acorn Br.		X				X	"	✓							✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
10/1	18	Maple		X				X	Debris Burning	✓							✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
10/1	18	Hone Ridge		X			X	X	Debris Burning	✓							✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
10/1	18	Spruce Knob		X			X	X	Secondary	✓							✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
10/1	18	Becky Br.		X			X	X	"	✓							✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
10/1	18	Darwin Br.		X			X	X	"	✓							✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
10/1	18	MT Noble		X			X	X	"	✓							✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
10/1	18	Home Cove		X				X	"	✓							✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
10/1	18	Dixie Br.		X				X	"	✓							✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
10/1	18	Troutburg		X				X	"	✓							✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
10/1	18	Walden		X			X	X	Campfire	✓							✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				

**Figure 5.15:** Individual Forest Fire Report Summary, 1934. Report from GRSM Fire Atlas showing summarizing all aspects of the fire and its suppression. Courtesy of GRSM Library, Fire Atlas.



**Figure 5.16:** Smokey the Bear campaign, circa 1948. "Only you can prevent forest fires." Courtesy of Smokey Bear website, <http://www.smokeybear.com>.

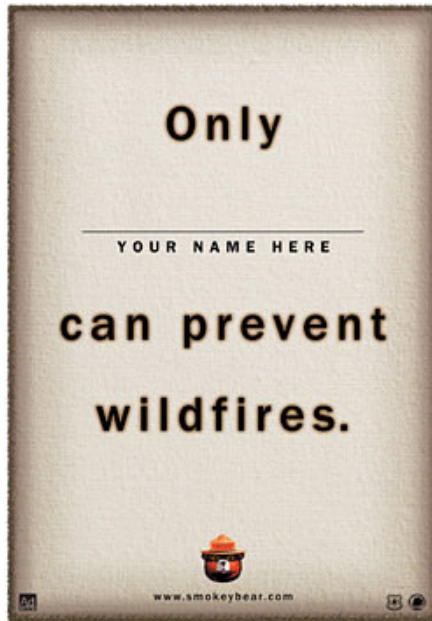


Figure 5.17: Smokey the Bear campaign, circa 2004. “Only you can prevent wildfires.” Courtesy of Smokey Bear website, <http://www.smokeybear.com>.

INSPECTION REPORT LOOKOUT-FIREMAN-GRAND			
District	Station	Park	Subsequent Transactions
L. O.		Date	Initials
(Name of Lookout)	(Inspector)		
		ITEM	CHECK
		<b>A. LOOKOUT QUALIFICATIONS</b>	<b>7. FIRE EQUIPMENT</b>
1		1. Previous Experience	41. Firefighter - complete? Std. 7
2		2. Previous Training	42. Solidly Properly Placed?
3		3. Physical, Hearing, Eyesight	43. Latest Map Condition?
4		4. Personal Appearance, Clothes	44. Map Properly Loaded?
5		5. Education	45. Fire S. I. B. Plainly Marked?
6		6. Ambition	46. Clock Working Free?
7		7. Personality	47. Extra Green Bags?
8		8. Attitude	48. Night Light Working?
9		9. Initiative	49. Telephone-Radio Installation
10		10. Ability	50. Batteries, Tested, Recharged?
11		11. Knowledge, Complete?	51. P.O. Book, Complete Std.
12		12. Self Training	52. Tools Sharp, Serviceable?
13		13. Observation, How? When?	53. Hammie Tight?
14		14. Tides, Hooks, How Determined?	54. Extra Book
15		15. Size, Distances, Bearings, Test	55. Extra Battery?
16		16. Strike Record, How Obtained?	56. Other Fire Tools
17		17. Fire Location, How Made?	57. S. G. Maps, Compass, Reports
18		18. Accuracy of Location, Test	58. Car, Horse, Motorcycle
19		19. Patrols, Scheduled? Made?	59. S. I. B. Inventory/Active Tools
		<b>C. MAP READING</b>	<b>60. Condition</b>
20		20. Readability, Bearings, Sections	61. Well Cared For?
21		21. Trailman	62. Knowledge of Use
22		22. Contours, Topography	63. INSPECTION EQUIPMENT
23		23. Land Subdivisions	64. Calibratory, First Aid Equipment
24		24. Legends	65. Beds, Stove, Table, Cupboards
25		25. Adaptability, Test	66. Food Supplies, Adequate?
26		26. Orientation, Test	67. Wall Stored, Cared For?
27		27. Complete Information on Fire?	68. Clock, Watch, Time Checks
28		28. Selection of Route to Fire Test	69. Lights-Extra Parts
29		29. Compass Demonstration, Test	70. Case, (S), Proper Storage?
30		30. Self Location with Compass Test	71. "INSPECTION"
31		31. Suppression Technique Methods	72. Matt, Clean?
32		32. Performance on Fire	73. L. Protection Std. Maintained?
33		33. Under Fire Worked on	74. Roof
34		34. Review Action, "One Fire"	75. Floor
		<b>B. DECKS</b>	76. Windows, Clean? Obstructions?
35		35. Completeness	77. Paint
36		36. Accuracy	78. Other Buildings, Vent, Repaired?
37		37. Bearings	79. Vent Clean?
38		38. Heavy, Well-Knot, Smoothie	80. Wood, Water, Adequate?
39		39. Test Calls	81. Walls Maintained?
			82. Tools, Trail Sign in Place
			83. Telephone Line Maintained?
			84. Clearing Needs
			85. Fire Breakfire & Delineator
			86. Latrine, Std. Clean?
			87. Garbage Disposal

Check B, Satisfactory; S, Unsatisfactory; O, Other reasons. Items listed V or O and needing classification should be explained on back of this sheet. (See detailed instructions contained in Lookout Handbook)

Figure 5.18: Lookout Inspection Form. Annex 1, “Lookout Inspection and Form,” *Lookout Manual*, 1940. Courtesy of GRSM Library.

## CHAPTER SIX

### FIRE TOWER HISTORIES AND STATISTICS

Fire and lookout towers were an essential part of the fire management plan of the Great Smoky Mountains National Park (GRSM) from its earliest days. At the height of tower usage, GRSM utilized lookouts at sixteen locations. Ten of these were located inside the park's boundaries and seven stood outside the park but worked under cooperative agreements to report fires spotted on park lands.<sup>1</sup> The historic towers classified on the north side of the park were at Bunker Hill, Rich Mountain, Blanket Mountain, Cove Mountain, Greenbrier Pinnacle, and White Rock/Mount Cammerer. Outside the park's north side boundary were towers at Look Rock Cooperative, Hall Top Cooperative, and English Mountain Cooperative. On the south side of the park, there were towers at Shuckstack, High Rocks, Spruce Mountain, and Mount Sterling. Outside the park's perimeter on the south side, there were towers at Frye Mountain, Mount Noble, Barnett Knob Fire Tower Indian Service Cooperative, and Sutton Mountain Cooperative. Maps showing locations of GRSM's historic fire towers can be found in Appendix A.

Typically the tower was a sixty-foot steel structure with a small "cab" on top, and situated nearby would be a simple, log cabin to house the lookout when his or her eyes were not trained on the landscape. Towers were often pre-fabricated and were purchased from industrial sources, such as International Derrick Equipment Company or the Aermotor Windmill Company (figure 6.1). Towers from either of these industrial

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<sup>1</sup> National Park Service, "Fire Towers or Fire Lookouts," GRSM *Master Plan*, November 1940, GRSM Park Library.



vendors could be easily modified to functions as fire towers and were used widely by both NPS and the U.S. Forest Service in the 1920s and 30s. The cab, where the lookout was stationed with an Osborne Fire Finder, binoculars, and radio, was usually a square box walled with tilting windows and accessed through a trap door in its floor. The towers at Shuckstack and Mount Sterling are from the International Derrick Equipment Company (IDECO), which was based in Columbus, Ohio and Torrance, California. This company claimed to be the “largest company devoted exclusively to the manufacture of equipment for the oil, gas and artesian industries.”<sup>2</sup> (figure 6.2) Yet, they were also one of the major suppliers of towers to NPS and the U.S. Forest Service. The towers at Mount Cammerer and Frye Mountain are the two exceptions to this type in GRSM. Both of these towers had larger “cab” areas on lower towers with living space built directly beneath the base of the tower. Prototype drawings of the tower types found in GRSM can be found in Appendix B.

Only two towers inside the park stand at an elevation below four thousand feet, and most required a hike of at least three miles of steep and rocky terrain to access. Construction at such remote locations was difficult. After construction there was still the issue of installing communication systems, stocking towers with supplies and hiring reliable lookouts. Even determining the ideal location for each tower presented a challenge. Survey work had to be completed, and occasionally temporary towers were

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<sup>2</sup> International Derrick and Equipment Co., 1928 advertisement for IDECO gas oil field found on vintage ad and book site, <http://vintageadsandbooks.com/international-derrick-and-equipment-co-vintage-1928-ideco-oil-field-ad.html> (accessed March 14, 2011).

constructed to take panoramic photos of an area, which would be used for pinpointing fire locations and choosing tower sites (figure 6.3).

Several floorplans were standard for the cabins associated with these towers, and these designs can be found in the drawings of Appendix C. The most common cabin-type could be found at Shuckstack, Mount Sterling, Cove Mountain, High Rocks, Blanket Mountain, and Greenbrier Pinnacle. These sites had one-room, log structures with an interior space of 17'x17'. A simple shed roof covered a 6'x17' porch. This shed roof was supported by three evenly spaced columns with the front door off-center. The cabin at Spruce Mountain had a similar floor plan but featured a wraparound porch covering two facades. Bunker Hill was a significantly more refined plan with a three-room design. It included a living space with room for two beds, a kitchen, and a bathroom.

Each site was monitored and maintained by NPS during its thirty-odd years of active use, but most have been neglected, if not removed, since their service was abandoned in the 1970s. The four towers and one cabin standing in the park today can be found at Shuckstack, Mount Sterling, Cove Mountain, Mount Cammerer, and High Rocks.<sup>3</sup>

## SHUCKSTACK

Overlooking the Fontana Dam, the Shuckstack tower stands in Swain County, North Carolina, at an elevation of 4,020 feet. It was built in 1934 by PWA and was manned by NPS until decommissioned in the late 1960s. It is a steel structure with a

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<sup>3</sup> A spreadsheet containing the basic facts on each tower can be found in Appendix D.

seven-foot-by-seven-foot metal cab atop a sixty-foot tall steel structure (figure 6.4). A stamp of “Carnegie C USA” in the post closest to the remains of the lookout cabin reveals the steel manufacturer for this tower (figure 6.5). It sits two and half miles from the Twentymile truck trail, and any communication to the dispatcher relied on a two-watt, battery-powered radio. The cabin, which once stood at this site, was built simultaneously with the tower also by the PWA and NPS. It was constructed with chestnut logs, a composition shingle roof, and a 1,000-gallon cistern with hand pump sink and pit toilet.<sup>4</sup> In 1987, following the annual assessment of backcountry structures, this cabin was removed. Only the chimney and the cistern remain as relics of the cabin that once sheltered this tower’s lookout (figure 6.6).

## MOUNT STERLING

The Mount Sterling tower in Haywood County, North Carolina, was built in 1935 by the Civilian Conservation Corps (CCC). It is a sixty-foot tall, steel structure with a cab on top (figure 6.7). The steel members of this structure also bear the name of their manufacturer, Carnegie C USA (figure 6.8). The tower sits at an elevation of 5,835 feet, the highest of any tower in the Park, and it is just under three miles from service roads to Mount Sterling Gap by trail. The log cabin that previously sat at this location was actually built a year before the lookout tower, with construction finished in 1934. It had a

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<sup>4</sup> National Park Service, General Master Plan, November 1940, “Fire Lookouts.” This section of the plan lists tower statistics such as elevation, year of construction, group in charge of construction, tower height, building materials, cost, communication systems, and proximity to trail. It also lists information about the lookout cabin such as building materials, year of construction, group in charge of construction, cost, and size of cistern or other plumbing features. Statistical information in this chapter comes from this source.

composition roof, stone chimney, and 1,000-gallon cistern that functioned a hand-pump sink and a pit toilet. This tower had a ten-watt radio, windcharger, and a telephone.

## COVE MOUNTAIN

The fire tower at Cove Mountain stands in Sevier County, Tennessee, at an elevation of 4,091 feet and was constructed in 1935 by the CCC at a cost of \$2,328. It is a sixty-foot tall steel tower with cab on top and is a four-mile hike off Fightin' Creek Gap Road (figure 6.9). This location housed a ten-watt radio with storage batteries, a windcharger, and a telephone. The cabin at this location was built at a cost of \$1,718 by the CCC and had a 2,000-gallon cistern and a pit toilet. This cabin was a log construction with composition roof. After the towers were decommissioned in the late 1960s, this site was revitalized as an air quality monitoring station.

## MOUNT CAMMERER

Practically straddling the Tennessee-North Carolina border, this fire tower sits at an elevation of 5,025 feet on the northeastern corner of the park. It is in Cocke County, Tennessee, but is often claimed by Haywood County, North Carolina as well. When this tower was built, the mountain was known as White Rock by Tennesseans and Sharp Top by North Carolinians. It was later renamed to honor NPS director, Arno B. Cammerer, who was influential in the formation of GRSM.

Construction of the stone and log octagonal tower began in 1937 and was completed in 1939 (figure 6.10). At a cost of \$15,585, it was by far the most expensive

tower built in the park, as it was actually constructed on-site rather than ordered and erected as the other pre-fabricated towers were (figure 6.11). The site, which had a fourteen-hundred gallon cistern, could be reached via a five-mile horse trail from the truck trail in Cosby, Tennessee. The lookout at the Mount Cammerer tower stayed in contact with the dispatch office through a ten-watt radio. Extra batteries were kept onsite, but there was also a windcharger, which generated power through winds abundant on the mountaintop and stored their power for later use in charging batteries.

Thomas Vint, the chief landscape architect at NPS from 1927 to 1938, is credited with design of this tower. Vint was a 1920 graduate of the University of California and worked under rustic-architects, Gilbert Stanley Underwood and Herbert Maier who were instrumental in the designs of Yosemite National Park.<sup>5</sup> The rustic style made popular by these two mentors is apparent in the timber and stone design found in the Mount Cammerer tower and many other NPS structures of the period.

When the Mount Cammerer tower was proposed in the mid-1930s, there was great debate regarding the tower style used at this location. A steel tower similar to the others in GRSM was originally suggested for the site but because of its location on a rocky outcrop and the belief that a tower in this section of the park would have high tourist traffic, the visually pleasing octagonal structure was chosen (figure 6.12).

After fire towers were abandoned in the 1970s, the Mount Cammerer tower fell into disrepair as did other towers in the park (figure 6.13). In the early 1990s, a group of

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<sup>5</sup> Mary Shivers Culpin, "Thomas Vint," *National Park Service: The First 75 Years, Biographical Vignettes*. [http://www.cr.nps.gov/history/online\\_books/sontag/vint.htm](http://www.cr.nps.gov/history/online_books/sontag/vint.htm) (accessed April 11, 2011).

hiking enthusiasts rediscovered the Cammerer in a sense, and successfully lobbied and raised funds for its restoration (figure 6.13). In July 1995, the Mount Cammerer restoration was complete and remains in good condition today (figure 6.14).

## HIGH ROCKS

At High Rocks, the lookout tower has been removed, but the log cabin that provided housing for the on-duty lookout remains. The cabin is in Swain County, North Carolina, and sits at an elevation of 5,185 feet. Both the tower and the cabin were constructed from 1935 to 1936 by the CCC. The cabin was originally built with a chestnut-shake roof and a stone chimney (figure 6.15). A 1,000-gallon cistern with hand-pump sink and a pit toilet are the amenities that once served this cabin. A park document initially written on October 9, 1935, shows that seventeen men were sent to work on the “erection of Fire tower and cabin” at the High Rocks site.<sup>6</sup> Six tents, ranging in size from 7’x9’ to 12’x14’, provided shelter for the men during their stay. It is thirty-eight miles from the truck trail to Bear Creek, making this tower one of the most remote and difficult to reach lookout sites in the park. The steel tower that once stood on this site was only forty-six feet tall, which was relatively lower than the standard sixty feet found elsewhere in the park. The lookout at this location relied on a two-watt, battery-powered radio to report findings to the dispatch office.

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<sup>6</sup> U.S. Department of the Interior, National Park Service, “Side Camp Data,” from High Rocks file, GRSM Park Archives.

## TOWER REMOVAL

By the mid-1980s, the superintendent of GRSM decided the abandoned fire towers were a liability and should be removed from the park. The remote locations of the towers made the logistics of removal significantly more challenging than removal of a typical structure. Heavy machinery could not access many of the sites and would not be appropriate in the backcountry environments. The superintendent at the time contacted TVA Aviation Services to see if they could do the job at an appropriate cost.<sup>7</sup> This group's primary duties included inspecting thousands of miles of transmission lines, aerial photography, laser mapping, survey work, and construction support, but they also sold their services to other federal agencies and businesses. A team from TVA flew over the sites and determined they could complete removal with the use of helicopters, but they would need a crew on the ground to "bundle" the towers, something another TVA team could do. GRSM stipulated, "no ground vehicles could be used and no trees were to be cut." Once all details had been clarified, TVA construction crews made their way to the tower sites by hiking, being ferried by helicopter, or riding pack animals. Supplies, such as rigging cables, acetylene torches, and gas tanks, were delivered to the sites by helicopter and lowered to the ground using hundred-foot cables while the aircraft hovered over the peaks. Each tower was then felled to a predetermined spot and cut into segments. Bundled tower pieces were attached to TVA's Bell 204B Huey helicopter and

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<sup>7</sup> Buel Springer, "You Can't See the Smokies from These Towers Anymore," *tvara News, The TVA Retirees Association*, March 2006, 6, directed to this source by Walter Wunderlich, *The Lookout Towers of the Great Smoky Mountains and Surrounding Area*, Knoxville, TN: Wunderlich, 1998, 533-534. Unpublished work.

transported to staging areas at Cades Cove, Cosby, or Oconaluftee to be loaded onto trucks and transported out of the park. The towers at Greenbrier Pinnacle, Rich Mountain, and High Rocks were recorded as being removed in this way. Towers at Blanket Mountain, Spruce Mountain, and Bunker Hill may have been removed in a similar fashion, but park documents do not clarify.

## BLANKET MOUNTAIN

An early wood tower at Blanket Mountain in Sevier County, Tennessee, preceded the steel structure noted in the 1940 Master Plan and provided some protection to park lands during the height of the logging industry of the 1920s. Due to a devastating fire that occurred over several months in the summer of 1922, awareness of the effects of fire was renewed.<sup>8</sup> Thousands of acres of timber were burned in this fire after sparks from operations on the Little River Lumber Company lands spread across the mountain. This fire might well be the most extensive fire in GRSM's history. In 1927, the state of Tennessee built a thirty-five foot tower and a lookout cabin at the Blanket Mountain site, and it soon became a popular hiking destination (figure 6.16).

In 1934 a sixty-foot steel tower replaced the original timber structure (figure 6.17). This tower was built by the CCC at an elevation of 4,609 feet at a cost of \$1,854. The CCC also erected a new lookout cabin at this site a year later at a cost of \$2,271. It was a log cabin with a shake roof, a 2,000-gallon cistern and a pit toilet. The lookout

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<sup>8</sup> Walter Wunderlich, *The Lookout Towers of the Great Smoky Mountains and Surrounding Area*, Knoxville, TN: Wunderlich, 1998, 537-540. Unpublished work. Info on Blanket Mountain's history comes from this source.



could contact the dispatch office through a three-watt, battery powered radio or a telephone grounded directly to Park Headquarters. It was three miles from the tower and cabin to the Jakes Creek truck trail.

## GREENBRIER PINNACLE

The tower at Greenbrier Pinnacle stood at an elevation of 4,585 feet in the northern portion of the park in Sevier County, Tennessee. It was a sixty-foot steel tower with a cab on top and was built by the CCC in 1934 at a cost of \$2,620. A two-room log cabin provided shelter for the lookout at this location. The cabin was also constructed by the CCC but was built a year after the tower at a cost of \$1,783. It had a 2,000-gallon cistern and a pit toilet. A private individual purchased this cabin in the early 1980s, but was unable to remove it from its location. In 1987, “in compliance with the Backcountry Management Plan, Section 4,” a committee reviewed all backcountry structures, including this cabin to “ascertain the justification for continued intrusion on the wilderness of the Park.”<sup>9</sup> The committee recommended removal of the cabin. The tower and cabin were located four miles via a horse trail from the closest truck trail. The lookout was provided a three-watt radio for communication with the dispatch office (figure 6.18).

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<sup>9</sup> Memorandum to GRSM Superintendent from Chairman of the Backcountry Use Committee, dated March 25, 1987. Subject: “Annual Assessment of Backcountry Structures.”

## RICH MOUNTAIN

The Rich Mountain tower was located in Blount County, Tennessee, at an elevation of 3,662 feet. It was a sixty-foot steel structure built in 1934 by the CCC at a cost of \$1,711. The tower had a three-watt battery-powered radio and a telephone grounded to nearby Cades Cove. The cabin at this location was the typical log construction with a composition roof, and with a price tag of \$1,824, it cost little more to build than the tower. It had a 2,000-gallon cistern and a pit toilet. This tower sat on the northern boundary of the park about halfway between Townsend and Cades Cove. It was one-and-a-half miles from the cabin and tower to the closest truck trail at Indian Grave Gap.

## SPRUCE MOUNTAIN

In 1935, the CCC built a lookout tower and cabin on Spruce Mountain in Swain County, North Carolina, at an elevation of 5,590 feet. The tower was a sixty-foot steel structure and was located 1.7 miles from the Spruce Mountain Truck trail (figure 6.19). It held a two-watt battery-powered radio and a telephone. The nearby cabin was built with logs, spruce boards, a stone chimney, and fireplace. The lookout at this location had a 1,000-gallon cistern, a hand-pump sink and a pit toilet. This lookout also had the luxury of a spring located just five hundred yards away.

## BUNKER HILL

At 2,767 feet, the Bunker Hill tower sat at the lowest elevation of any tower in the park by nearly a thousand feet. It was constructed in 1941 by the CCC and was a steel structure standing sixty feet tall in Blount County, Tennessee (figure 6.20). The lookout tower had a two-watt radio to contact dispatch and could be reached via a tote road.

Although the log cabin at this site was built by the CCC, as were most others in the park, its three-room plan with a bathroom set it apart. The 1940 Master Plan lists the cabin at this site as a “five-room” structure, but plans and later drawings reveal it as a three-room cabin. It had a cistern tank in the attic and a hand-pump sink.

## COOPERATIVES – OUTSIDE PARK BOUNDARY

In addition to the ten towers inside the park’s boundary, GRSM also relied on several lookout towers outside the perimeter to detect and report fires across the park’s vast expanse of forestland. Towers at Barnett Knob and Frye Mountain are two such examples. Lookouts at these sites and others worked in cooperation with GRSM to protect lands inside and outside the park. These two particular towers had especially close ties to the park, and records on their construction are kept in park archives along with the other GRSM towers.

## BARNETT KNOB

The Barnett Knob tower in Jackson County, North Carolina, sits outside the southeastern portion of the park at an elevation of 4,600 feet. This tower is just off the

Blue Ridge Parkway on what was an “Indian Service Road” in 1940, making it fairly accessible. The sixty-foot steel tower and the frame cabin, with composition shingles and a tile flue, were both built by NPS in 1932. This tower had a two-watt radio and a telephone for communicating fire details. The cabin had no cistern, but there was a pit toilet and natural spring located just one-quarter mile from the tower. The tower and cabin at this site continue to stand today, and the tower is occasionally manned on days with extreme haze or high fire danger.<sup>10</sup>

## FRYE MOUNTAIN

The Frye Mountain tower also sits to the south of the park and is located in Swain County, North Carolina, at an elevation of 4,750 feet. It is the only other tower, in addition to Mount Cammerer, that combined the lookout tower and lookout living space into one structure (figure 6.21). This tower was built by the CCC in 1935 as a frame house covered in shingles with a cast iron flue. It was a square tower with a catwalk encircling the upper floor. Four windows covered each side of this upper floor, and a ladder propped on the catwalk allowed the lookout to climb to the roof for an even better view of the surrounding forest. If a fire was spotted inside the park boundary, a twelve-watt, battery powered radio with a windcharger or a telephone could be used to contact

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<sup>10</sup> Barr, Peter J. *Hiking North Carolina's Lookout Towers*. Winston-Salem, NC: John F. Blair Publisher, 2008, 133-134.

dispatch. The site had a 1,000-gallon cistern, a hand-pump sink, and a pit toilet. Despite a restoration in the 1990s, vandalism forced this tower's removal in 2005.<sup>11</sup>

#### DISPATCH OFFICE – HUB OF THE FIRE SYSTEM

All towers of the fire management system in GRSM reported into a central dispatch office, which fell under the Protection Division of park management.<sup>12</sup> This office was located in the Park View Hotel in Gatlinburg, Tennessee. Park Headquarters was situated in this hotel until the current Headquarters building was completed in 1940. At that time, the dispatch office moved to the new location and continued to be operated by CCC men until the program was abolished in 1942. During fire season, two men operated the dispatcher's office on a rotating schedule. With only two men running the office and each allotted two days off each week, there were many hours the dispatch desk was unmanned. In addition to any fire reports, lookouts also contacted the dispatch with weather readings three times throughout the day and any time the lookout post was abandoned, if even for a short while. The dispatch office also kept tabs on the location of fire crews and was in close communication with the fire chief and district rangers. If a lookout missed two consecutive report-times, the dispatch office would immediately send a ranger to check on that location.

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<sup>11</sup> Peter J. Barr, *Hiking North Carolina's Lookout Towers*, Winston-Salem, NC: John F. Blair Publisher, 2008, 133-134.

<sup>12</sup> National Park Service, "Fire Season Routine, 1958-58," Lookout Manual, GRSM Library. Information regarding the dispatch office comes from this source.

## MODERN TOWERS

In the 1960s as the National Parks across the nation prepared for the Mission 66 campaign, two modern towers were designed for GRSM. One stands at Clingman's Dome, the highest point in the park, and the other at Look Rock. Both towers are the sites of previously removed historic towers. The tower at Clingman's Dome was a heavy-timber construction, about forty feet tall, and built in 1937 by the CCC.<sup>13</sup> (figure 6.22) This tower was created for the public's use as a view platform, which is the modern tower's function as well. The design of the tower at Clingman's Dome is in stark contrast to the rustic park architecture found elsewhere at GRSM, and its plan in 1955 was met with much debate. Finally the sweeping concrete structure, standing forty-five feet tall with a 375-foot circular ramp, was built, and it has been a popular tourist destination ever since (figure 6.23). The modern tower at Look Rock replaced one of the typical sixty-foot steel towers found at many other tower locations in the 1960s. The new tower stands eighty feet high and has an observation deck (figure 6.24).

## TOWERS TODAY AND FUTURE PLANS

Today, several towers have found new relevance completely removed from the fire management system they once supported, but many are simply hiking destinations and powerful reminders of the park's past. The rarity of remote, man-made structures in the expansive wilds of the park make a lasting impression on the passing park visitor. The skeletal metal towers, the picturesque octagon of stone and timber, and the

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<sup>13</sup> Barr, *Hiking North Carolina's Lookout Towers*, 93-95.

dilapidated simple log cabin, are some of the only signs of human interaction in backcountry regions of the park. To some, they represent the hard work of thousands of young men during the Depression, and to others they show how man interacts with the wilderness, attempting to control and tame it. The Great Smoky Mountains National Park walks a fine line with its historic fire towers, as the park was put in place with the goal of protecting both the natural beauty of the mountains and the cultural heritage of the region.

**INSTALLATION  
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WINDMILL CO., INC.**  
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SAN ANGELO, TX U.S.A. 76902

MONDAY through FRIDAY  
8AM - 5PM C.S.T.

**Figure 6.1:** Aermotor Windmill Company advertisement. Courtesy Aermotor Windmill Company Inc. website, <http://www.aermotorwindmill.com/>.

THE POPULARITY AND ESTABLISHED SUCCESS OF IDECO  
DERRICKS HAVE CAUSED THEM TO BE EXPLORED UP TO THE  
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PROGRESS. THE IDECO MANUFACTURING COMPANY HAS SUCCESSFULLY PRODUCED  
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**INTERNATIONAL  
STEEL DERRICKS  
(GALVANIZED)**

**Figure 6.2:** International Derrick Equipment Company (IDECO) advertisement. Courtesy of Vintage Ads and Books website, <http://vintageadsandbooks.com/international-derrick-and-equipment-co-vintage-1928-ideco-oil-field-ad.html>.





**Figure 6.3:** Temporary tower constructed at proposed tower site in order to obtain panoramic photographs. Photo by L. M. Moe, November 1935. Courtesy of GRSM Library.



**Figure 6.4:** Shuckstack tower and cabin.  
Courtesy of GRSM Library



**Figure 6.5:** Carnegie stamp on steel tower at Shuckstack. Photo by author.



**Figure 6.6:** Chimney and cistern at Shuckstack. Photo by author.



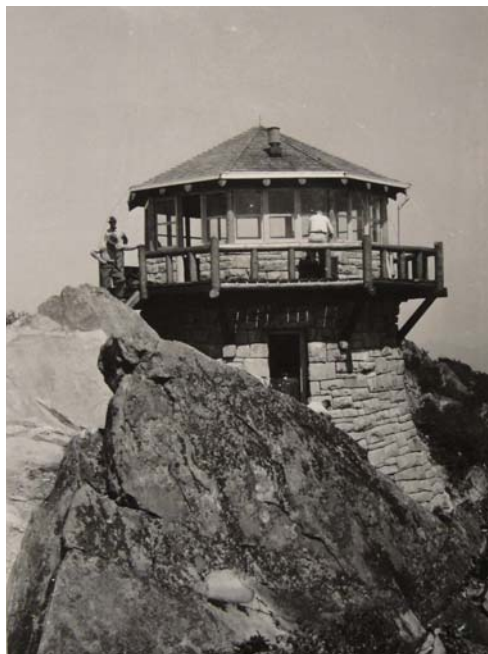
**Figure 6.7:** Steel cab atop Mount Sterling tower. Photo by author.



**Figure 6.8:** Carnegie stamp on steel member of Mount Sterling tower. Photo by author.

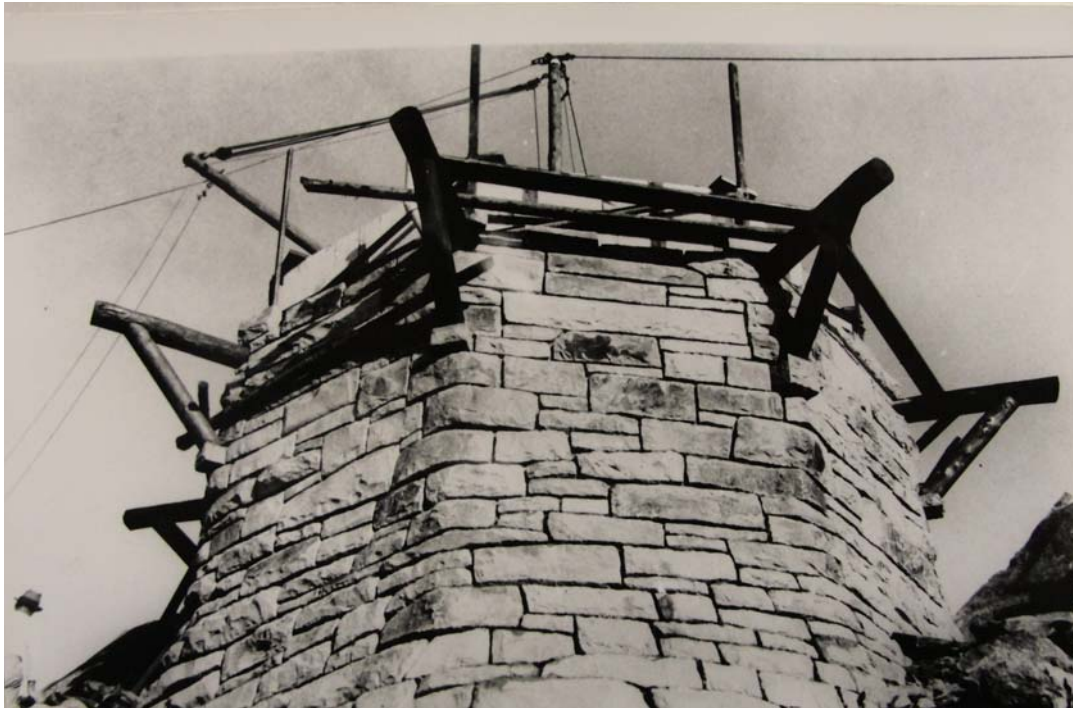


**Figure 6.9:** Fire tower at Cove Mountain.  
Courtesy of Walter Wunderlich.



**Figure 6.10:** Mount Cammerer fire tower.  
Photo by P.M. Wentworth, August 1939.  
Courtesy of GRSM Library.





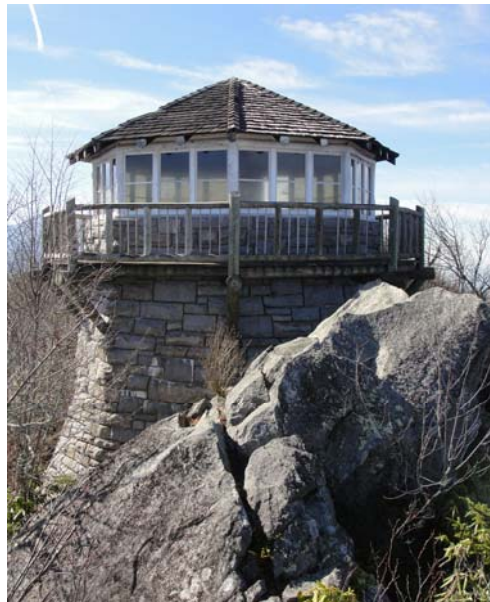
**Figure 6.11:** Construction of Mount Cammerer fire tower. Photo by Marshall Fox, CCC stonemason, 1936. Courtesy of GRSM Library.



**Figure 6.12:** Fire tower atop rocky outcrop on Mount Cammerer. Photo by D. Hammer, 1985. Courtesy of GRSM Library.



**Figure 6.13:** Mount Cammerer in state of disrepair, October 1989. Courtesy of GRSM Library.



**Figure 6.14:** Mount Cammerer tower, November 2010. Photo by author.



**Figure 6.15:** Lookout cabin at High Rocks, from south. Photo by HABS photographer, James Rosenthal, May 2009. Courtesy of GRSM Library.



**Figure 6.16:** 1927-tower at Blanket Mountain. A popular hiking destination. Photo circa 1928. Courtesy GRSM Library.





**Figure 6.17:** Blanket Mountain lookout cabin and 1934-steel tower. Courtesy of GRSM Library.



**Figure 6.18:** Radio at Greenbrier Pinnacle tower, with Osborne Fire-Finder above. Courtesy of GRSM Library.





**Figure 6.19:** Spruce Mountain tower and lookout cabin. Photo by J.T. Shanklin, October 1938. Courtesy of GRSM Library.



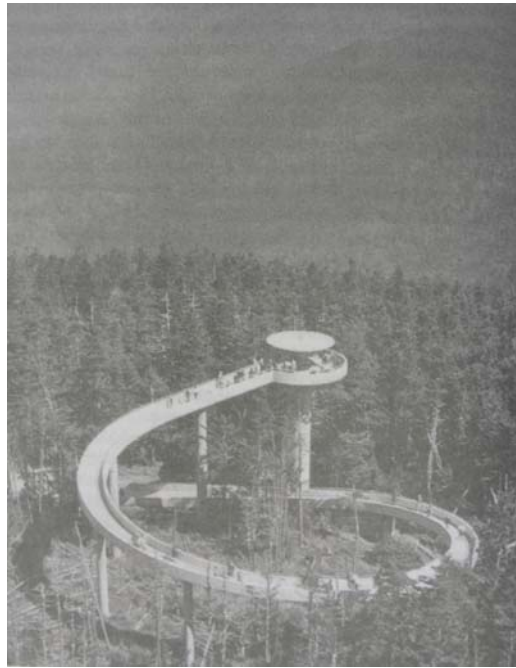
**Figure 6.20:** Lookout cabin at Bunker Hill. Photo by J. C. Clabough, November 1968. Courtesy of GRSM Library.



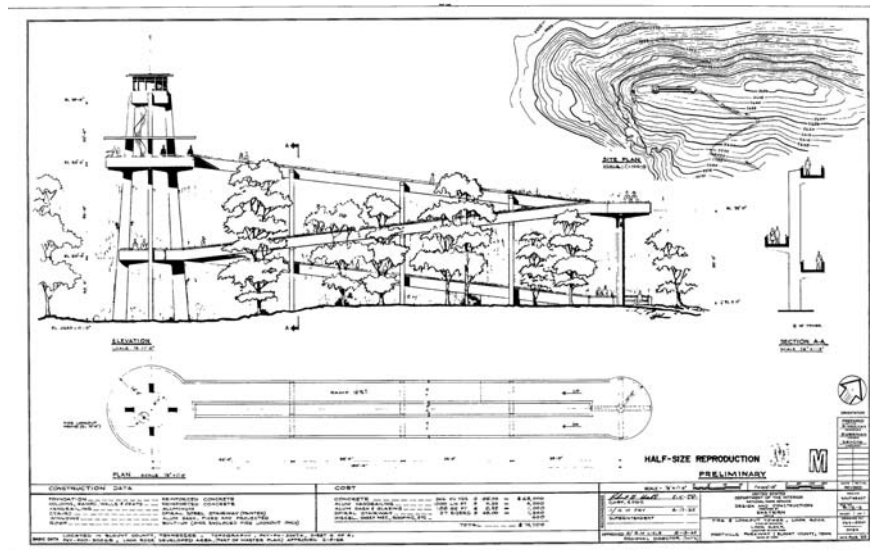
**Figure 6.21:** Fire tower at Frye Mountain. Combined lookout tower and living space at this location. Photo by L. M. Moe, October 1935. Courtesy of GRSM Library.



**Figure 6.22:** Timber tower at Clingman's Dome, 1937. Courtesy of GRSM Library.



**Figure 6.23:** Modern concrete tower at Clingman's Dome. Photo courtesy of GRSM Library.



**Figure 6.24:** Drawings of modern tower at Look Rock. Courtesy of NPS Denver Service Center.

## CHAPTER SEVEN

### CHANGING PRESERVATION PHILOSOPHY

In 1916, the National Park Service was created under legislation known as the National Park Service Organic Act. Although Yellowstone was designated as the first national park in 1872, no federal bureau supported a national parks program for nearly half a century until this act was in place. When NPS was established in August 1916, it was entrusted with duties to:

promote and regulate the use of the Federal areas known as national parks, monuments, and reservations... which purpose is to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.”<sup>1</sup>

So in addition to conservation of the wild and natural areas of park lands, NPS was also charged with protecting and preserving historic structures in these areas. Throughout its history, this responsibility has proven to be a delicate balancing act, and one the NPS does not always accomplish.

The National Park Service is the largest preservation organization in the country. It runs the National Register of Historic Places; educates preservation professionals and the public through its informative *Preservation Briefs*; documents historic sites through the Historic American Building Survey (HABS), Historic American Engineering Record (HAER), and Historic American Landscapes Survey (HALS) programs; and is the protector of 27,000 significant structures in national parks, 66,000 archeological sites,

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<sup>1</sup> National Park Service, “The National Park Service Organic Act\*”— Our Mission,” ParkNet, National Park Service, <http://www.nps.gov/legacy/organic-act.htm> (accessed March 4, 2011).

and 115 million objects in park museum collections.<sup>2</sup> It is further tied to preservation through its link to the Department of the Interior, under whose purview it falls. The Department of Interior dictates the Secretary of the Interior's Standards for the Treatment of Historic Properties, which "promote responsible preservation practices that help protect our Nation's irreplaceable cultural resource" through the four treatment approaches: preservation, rehabilitation, restoration, and reconstruction.<sup>3</sup> With such a wide range of preservation-related obligations, it is not surprising that there are conflicts of interest and shifts in preservation philosophies and policies within this large organization.

When the Great Smoky Mountains National Park was established in 1931, it, like most other parks in the eastern United States, was created on lands that had been used as communities, homesteads, and farms for generations. Many man-made cabins, mills, churches, barns, and schoolhouses existed on these lands, yet these structures were not necessarily a part of the National Park Service's vision for a natural space promoting wildlife. Therefore, a large number of these structures were removed and some were even burned to "re-create" the natural atmosphere sought by the park. However, these lands were not "wild" before the Park's creation. They had been populated and

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<sup>2</sup> National Park Service, "National Park Service, Discover History: Preservation," ParkNet, National Park Service, <http://www.nps.gov/history/preservation.htm> (accessed March 4, 2011).

<sup>3</sup> U.S. Secretary of the Interior, "The Secretary of the Interior's Standards for the Treatment of Historic Buildings: Choosing an Appropriate Treatment for the Historic Building," National Park Service, [http://www.nps.gov/hps/tps/standguide/overview/choose\\_treat.htm](http://www.nps.gov/hps/tps/standguide/overview/choose_treat.htm) (accessed March 7, 2011).

manipulated for centuries, but the park service, fairly successfully, erased signs of prior habitation to create a fictitious “wild east” similar to the wilds of the West.<sup>4</sup>

Since the majority of demolition activities were not recorded, the pieces of cultural history lost to create this wild east may never be known. As preservation philosophies have evolved over the last fifty years, more effort is given to recognize all layers of history rather than to a single vision. In 1934 the practice of preservation was still fairly new in the United States. It is difficult to evaluate the actions of the government officials who removed these buildings because they had a different mindset from preservationists of today. In 1974 the National Park Service submitted a “wilderness recommendation” to Congress, identifying different levels or types of “Natural Zones” throughout the park. Depending on the level, all buildings might need to be removed or all traces of human intervention might need to be wiped out.<sup>5</sup>

#### PRECEDENT THROUGH ELKMONT DEBATE

The preservation of the Elkmont community is probably the most well-known example of the Great Smoky Mountains’ conflicts in conservation and preservation. Elkmont was essentially a mountain resort community in the 1910s, a collection of cabins, a hotel, a clubhouse, nestled into the southwestern portion of the Smokies. When the Park was created, the owners of cabins in Elkmont managed to gain lifetime leases on

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<sup>4</sup> Margaret Lynn Brown, *A Biography of the Great Smoky Mountains, The Wild East*, (Gainesville: University Press of Florida, 2000).

<sup>5</sup> National Wilderness Policy 6.3.5 – 6.3.8. Policies are stated in “High Rocks Fire Cabin (Building #44) restoration issue,” High Rocks file at Park Archives, document not dated, but post-2004 and referencing a policy circa 1982, which could not be found.

their properties and were allowed to remain on the Park lands. The fact that a select group of people was allowed to keep their properties while others were so quickly dismissed has been a longstanding point of contention for all parties involved, especially considering those permitted to stay had money and political connections.

The Park's 1982 General Management Plan called for the cabins at Elkmont to be razed after the last of the leases ended in the late 1990s so that the lands could return to their original state.<sup>6</sup> Yet in 1994, the properties were listed on the National Register of Historic Places as a historic district after a survey completed by the National Park Service itself proved the area's significance. This development created a dramatic conflict of interest that resulted in decades of mediation. Demolition of a Register-listed property using federal funds is prohibited unless a Section 106 review is completed and no other mediation technique is possible. Section 106 compliance calls for a review of any historic properties impacted by actions of the federal government and attempts to find the best mediation approach possible. Such a review was done, as well as Environmental Impact Statements, and input from the public was accepted. Finally in 2010, a decision was made to restore nineteen of the structures contributing to the Elkmont historic district and demolish the remaining fifty-odd cabins, which were deemed non-contributing. NPS will continue to manage these properties and will make two of them available for tourist day-rental.<sup>7</sup>

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<sup>6</sup> Ethiel Benjamin Garlington, "Elkmont: A National Park Service Community in Limbo: Conservation versus Preservation" (master's thesis, University of Georgia, 2004) 3.

<sup>7</sup> Morgan Simmons, "Elkmont restored: Decaying park buildings salvaged as history sites," *Knoxville News Sentinel*, February 14, 2011.

The Elkmont fiasco caused the park to take National Register nominations less casually and to consider the full impact of their historic charges. The Park was forced to make a decision, a compromise, which upset people on both sides of the argument. Saving the cabins was in direct conflict with Park's the mission to conserve the natural beauty of the region; however, "because Elkmont is listed as a historic district in the National Register of Historic Places, Section 106 of the National Historic Preservation Act requires NPS to take into account historic preservation values when making decisions that would affect this property."<sup>8</sup> The National Park Service's difficult role in natural and cultural preservation requires NPS to be on both sides of the preservation argument.

#### FIRE TOWERS AND LOOKOUT CABINS OF THE SMOKIES

The fire towers of the Great Smoky Mountains provide several other examples of the changing preservation ethic of NPS. From 1934 to 1939, over a dozen fire towers were constructed in the Park or just outside its border. These were functioning lookout towers for over thirty years until modern fire management techniques made the duties of a lookout obsolete. The towers and their corresponding cabins were abandoned, and because of their remote location, were often the target of vandalism and neglect.<sup>9</sup> In the 1980s, the majority of the towers throughout the park were removed, as they no longer served an active purpose. Many were approaching the fifty-year mark, which would have

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<sup>8</sup> National Park Service, Great Smoky Mountains National Park, "Elkmont Historic District: Final Environmental Impact Statement and General Management Plan Amendment, Vol. 2, 15.

<sup>9</sup> Walter Wunderlich, *The Lookout Towers of the Great Smoky Mountains and Surrounding Area* (Knoxville, TN: Wunderlich, 1998), 531-532. Unpublished work.



entered them into the category of historic park structures. An internal park document summarizing the situation of remaining fire management structures states that the removal of the fire lookout cabins, “appears to have been a deliberate decision to avoid having to deal with them as historic structures.”<sup>10</sup> This document goes on to say “there was nothing illegal about the demolition of the fire cabins between 1982 and 1985, but the decision to remove the cabins does provide further evidence of the Park’s long-term lack of commitment for historic preservation.”<sup>11</sup> These are strong words about the Park’s preservation ethic, especially since the National Park Service would ideally lead by example in the stewardship of historic properties.

The maintenance files for the towers are limited, with few documents recording their repairs or rehabilitation from installation to removal, and there is even less information on their current condition. It appears that most of the towers had been “completely overhauled” in 1962 by the maintenance department, yet their use was essentially abandoned in the Park by 1968.<sup>12</sup>

## MOUNT CAMMERER DEBATE

In a letter dated December 20, 1985, Park Historian Edward Trout informed the Chief of the Resource Management Division of his belief that the Mount Cammerer tower lacked historic value and pointed out its legacy of controversy. “It is doubtful that

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<sup>10</sup> National Park Service, “High Rocks Fire Cabin (Building #44), High Rocks file at Park Archives, not dated, but post-2004.

<sup>11</sup> Ibid.

<sup>12</sup> Edward Trout, letter to Park Superintendent, December 20, 1985, from NPS Maintenance Dept. Mount Cammerer Fire Tower file.

any park structure has been the subject of such heated controversy (except, perhaps, the present Clingman's Dome tower) as the subject building."<sup>13</sup> When the tower's plan was chosen in 1936, there was great debate regarding its design. At first a metal tower, similar to the others in the Park, was suggested, but that proposal was dismissed. The structure finally constructed uses a design found in the parks of the West, but better suited to the rocky outcrop along the ridge at Mount Cammerer than the standard metal tower. There was also great debate about the height of the structure and the building materials.

Trout goes on to point out that "This structure is not unique. People toss that word around without understanding it, usually what they really mean is 'rare' or 'unusual.'" The basic design of the Mount Cammerer tower does come from a standard plan for lookout towers and is known as Type No. 9 (Octagonal), yet there are differences between the standard plan and the resulting tower at Cammerer. Despite Trout's claim, this design is quite unusual for the Southeast. The tower at Mount Cammerer is the only one of its type east of the Mississippi River.<sup>14</sup>

Trout states that he thinks the Cammerer tower is the only historic tower left in the park at the time, and it was allowed to remain because of "its lovely design." It is surprising the Park Historian did not realize three additional towers remained within the

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<sup>13</sup> Edward Trout, letter to Park Superintendent, December 20, 1985, from NPS Maintenance Dept. Mount Cammerer Fire Tower file. All quoted text in this section is from Trout's letter, unless otherwise noted.

<sup>14</sup> Barr, Peter J. *Hiking North Carolina's Lookout Towers*. Winston-Salem, NC: John F. Blair Publisher, 2008.

park boundaries, but his admission that what he thought to be the only tower standing should be removed is unexpected. If, in fact, only one tower stood in the park, it would have been the sole representative of an era of park history that one would assume the historian would want to preserve.

Trout brings up an interesting point when he states, “From a professional standpoint, I must admit that it has no historical value in the context of Appalachian culture, which is what we are charged with preserving and interpreting here.” Indeed, the main focus of the Park’s cultural and historical interpretation is the Appalachian region, but much of that culture was removed from the Park to convert the area into a natural/wild setting. The Mount Cammerer tower was put in place to protect that natural setting, so almost ironically, it would seem even more indicative of the park’s mission. The CCC and fire management stories represented by the tower are now integral parts of the Park’s history and should be considered in any measurement of historical value.

Near the close of Trout’s letter, the historian poses the philosophical question, of whether or not to preserve management structures “if they happen to have architectural merit.” He explains there is precedent for such an approach, citing lighthouses, customhouses and even the Parthenon as examples. Trout appears to be questioning the logic that architecturally important buildings must be built with a lofty purpose. The examples he cites were originally utilitarian structures, as are the fire towers, but over time, their architectural merit became apparent.

Despite his lack of professional enthusiasm for retaining the Mount Cammerer tower, Trout does say, “from a purely personal standpoint, I think it might be a shame to

lose it.” His opinion here reflects the mindset of many hikers, nature enthusiasts, and visitors of the Smokies. When a Sevierville judge and Gatlinburg architect made their way to the rundown tower in 1990, its picturesque nature caused them to start a movement for full restoration of the tower. It took five years and many fundraising campaigns, but their mission was successful and a restored Mount Cammerer tower was re-opened to the public in July 1995.

While a push for the restoration of the Mount Cammerer tower was in motion, the same historian, Ed Trout submitted the tower to the National Register of Historic Places, showing a dramatic shift in the value of the tower’s restoration.<sup>15</sup> In the winter of 1992, the nomination was submitted but not accepted, because of inconsistencies in the nomination form, including a “failure to provide satisfactory context for evaluation of the significance of the tower” as it applies to Criterion A and C, and more in depth narrative overall.<sup>16</sup> The nomination form lists “Broad Patterns of our History (CCC)” as the area of significance for Criterion A and “Characteristic of a Style” for Criterion C.<sup>17</sup> Neither of these are options listed in the “Data Categories for Areas of Significance” as listed in *National Register Bulletin 16A*, “How to Complete the National Register Registration Form.” The comments in this preliminary review direct GRSM to helpful documents and provide many hints on how the nomination could be improved and possibly accepted, but

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<sup>15</sup> Ed Trout, “National Register of Historic Places Registration Form – Mount Cammerer Fire Lookout (Bldg. #48, GSMNP), Park Archives, Mount Cammerer file.

<sup>16</sup> U.S. Department of the Interior, Chief Historian, letter to Chief of Registration, Interagency Resources Division, “Preliminary Review of Draft National Register Nomination, Mount Cammerer Fire Tower Lookout, Building No. 48, Great Smoky Mountains National Park,” December 11, 1992. GRSM Library

<sup>17</sup> Ed Trout, “National Register of Historic Places Registration Form.”

it does not appear that any further steps were taken on GRSM's end. There is no record of revision in the library's file.

## HIGH ROCKS DEBATE

An email discussion from 2004 provides another example of NPS's divided feelings on preservation of its historic structures. In February 2004, a donor offered funding to repair the lookout cabin at High Rocks. The fire tower at this remote North Carolina site was previously removed, but the original log cabin that housed the tower's lookouts remained and was in a state of disrepair. In addition, this lookout cabin is the only one still standing in the park, as the others had all been removed or destroyed in the 1980s. The donor was told there were no plans for a restoration of the High Rock cabin, "ie, no matter how much money was out there we couldn't justify neglecting other structures to work on this very remote one."<sup>18</sup> The donor offered to do the work himself, and after the Park Service turned down this proposal, asked if he could at least use a tarp to protect the cabin from further deterioration until stabilization work could be done. GRSM staff admitted that the cabin is eligible for the National Register and deserving of preservation, but that funding and personnel limitations prevented them from the necessary restorations. They went on to discuss the need for Section 106 compliance and state that when the cabin "falls to the ground, the Park will have serious problems with the SHPO and the Advisory Council."<sup>19</sup> They also discuss mitigation measures and the

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<sup>18</sup> Bob Miller, email to David Chapman and Shawn Bengé, 2/10/2004.

<sup>19</sup> David Chapman, email to Bob Miller, Shawn Bengé and Larry Hartmann, 2/18/2004.

possible requirement of HABS documentation. There is constant mention of the resources required for such rehabilitation, even though the donor has offered labor and funding. During this email chain, the chief of Resource Management and Science for the park, Larry Hartmann, goes so far as to say “it’s easier for us to just hope this all goes away” and later wonders if they could divert the donor’s attention and funding to another project. By March NPS decided it was best to complete a Section 106 review in order to come up with a plan for the High Rocks cabin, but Park records do not contain such a review. HABS documentation of the cabin was completed in May 2009, creating a permanent record of the structures.

There are two internal documents in the Park Library’s High Rocks file pertaining to the cabin. These documents discuss general lookout cabin history and the restoration issue of the High Rock cabin. The first document states, “while it is not impossible for us to go through the Section 106 process to remove the High Rocks Fire Cabin, I believe that it will be difficult.”<sup>20</sup> It goes on to give five reasons demolishing the cabin will be challenging. First, “preserving the fire cabin is the right thing to do.”<sup>21</sup> Second, the Section 106 Coordinator at the North Carolina SHPO “has a particular interest and fondness for historic structures” and the Park will need a strong reason for removal. Third, because the cabin was built by the CCC, it is nationally significant, and again the Park will need a strong reason not to preserve it. Fourth, they will have to come up with a good reason for turning down the donor’s offer for funding the rehabilitation. Finally,

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<sup>20</sup> National Park Service, “High Rocks Fire Cabin (Building #44),” High Rocks file at Park Archives, not dated, but post-2004.

<sup>21</sup> Ibid. All five reasons for challenges of a Section 106 Review are from this document.

the Park has been criticized by multiple groups for not being good stewards and this project could be used as further proof. Despite all of these challenges, the second document explains why restoration is not a viable or resource-worthy option and defends this stance with adherence to the Wilderness Resource Management General Policy.<sup>22</sup> Evidently, the High Rocks cabin stands in Natural Zone, type 1, which means that “conditions will be reinstated to the dynamic that would have existed without interference by modern technological man.”<sup>23</sup> This document also states that due to the area’s zone type, only non-mechanized tools and non-motorized access would be allowed for maintaining the site. It goes on to say that the 1982 General Management Plan did not indicate that the High Rocks cabin should be saved for any reason, and that none of the cabins were considered significant cultural resources; their historic and educational value was questionable; and their administrative value was obsolete. It concludes by saying the wilderness resource and historic preservation crews are already too busy and cannot take on another restoration project of such little value.

Neither of these two internal documents on the High Rocks cabin lists an author, but with such opposing viewpoints, it seems they could not have been written by the same person. This is an example of a common preservation conflict within NPS – preserve a cultural resource that no longer serves its function, or allow nature to regain control of the area. An all-accommodating answer does not seem to exist at this time.

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<sup>22</sup> National Park Service, “High Rocks Fire Cabin (Building #44) restoration issue,” High Rocks file at Park Archives, not dated, but post-2004.

<sup>23</sup> Ibid. Remainder of paragraph is from this document.

## CHAPTER EIGHT

### POPULAR SENTIMENT OF TOWERS

By the 1970s, fire towers were no longer the standard medium for fire patrol in the Great Smoky Mountains, and during the next decade, the majority of towers and their respective cabins were removed or demolished. A similar trend was occurring across the country. With towers no longer in use, they were viewed as liabilities, structures which attracted crime and vandalism, and unnecessary maintenance responsibilities. It is estimated that more than five thousand lookout towers once stood in the United States, but approximately one-fifth of these stand today.<sup>1</sup> In the Smokies, the metal towers at Shuckstack, Mount Sterling, and Cove Mountain were spared in the removal process, as was the stone and timber tower at Mount Cammerer.

### TOWERS AND THE PUBLIC

These towers continue to deliver outstanding views of the landscape; provide a link to the park's past; and are some of the few examples of man-made structures in the natural environment, especially at their remote locations. When park visitors remember their time or visualize the park, it is often the few man-made features that ground those images. Of course, the vistas, wildflowers, and babbling creeks create mental pictures, but the visitor's mind more easily latches onto a built structure. The towers supply those visual landmarks helpful in making memories.

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<sup>1</sup> American Resources, Inc., "Former Fire Lookout Sites Register," <http://www.fflos.com/> (accessed March 15, 2011), and National Historic Lookout Register, "National Historic Lookout Register," <http://www.nhlor.org/Lookouts/lookoutlinks.aspx> (accessed March 15, 2011).



A significant amount of public support exists for the restoration of lookout towers, both in the Smokies and in parks and forests across the country. The restoration of the Mount Cammerer tower in 1995 is a good example. Citizens “rediscovered” the tower in 1990 and spent the next five years raising funds and awareness to make the restoration possible. Support is currently rallying for another tower in the through Peter Barr’s campaign to “Save Shuckstack.”<sup>2</sup> These efforts show the public’s desire to keep these structures intact, and the website for the Shuckstack campaign has raised over three thousand dollars for the cause.

In addition to these individual pushes for restoration, several public organizations have been created to raise awareness of the value of historic fire and lookout towers. One of these groups is the Forest Fire Lookout Association (FFLA), which was founded in 1990 and encourages restoration and research of former forest fire lookout sites, ground cabins, and early fire detection methods.<sup>3</sup> Twenty-five states have their own chapters of the FFLA, and within these chapters are local groups, which meet periodically in support of an individual tower or a small area. Members include “lookout enthusiasts, hikers, conservationists, forest fire personnel, foresters, story writers, and members of the environmental community.”

Another effort at bringing awareness to the significance of historic towers is the National Historic Lookout Register, a collaborative effort of the Forest Fire Lookout Association, the National Forestry Association, the National Woodland Owners

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<sup>2</sup> Peter Barr, “Save Shuckstack,” <http://peterontheat.com/save-shuckstack/>, (accessed March 15, 2011).

<sup>3</sup> Forest Fire Lookout Association, “About,” <http://www.firelookout.org/about.htm>, (accessed March 15, 2011), info on FFLA comes from the association’s website.

Association, the United States Forest Service, state foresters and Interior agencies (figure 8.1 ). This register is maintained to recognize historic fire and lookout towers across the United States. Unlike the National Register of Historic Places, which is managed by the Department of the Interior, the Lookout Register does not exclude towers because of structural changes that might affect their historic integrity. To be eligible for the Lookout Register, a tower must be at least fifty years old and have historic significance. A listing on this registry does not provide protection for a tower. Two goals of the Lookout Register, in addition to awareness and education, are to list all towers available for rental and all towers on the National Register of Historic Places.

Towers in Oregon, Washington, Wyoming, California, and Idaho can be rented for the weekend, giving visitors a small taste of the lookout experience.<sup>4</sup> This practice could be seen as a liability but also a great way to get people involved and raise funds for tower restoration.

Fire towers have long held the public's imagination – the thought of a remote tower and a lone individual keeping watch over the expanse of wilderness is a romantic ideal, but it was also a real part of history. People were stationed in these small outposts in the wilderness, and spending even a short time in a tower makes any visitor realize how challenging the job must have been. The public's continued fascination with these towers should be used to full advantage to bring awareness to preservation of these structures.

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<sup>4</sup> National Historic Lookouts Register, "Lookout Rentals," <http://www.nhlr.org/rentals.aspx> (accessed March 15, 2011).

## LOOKOUTS IN POP CULTURE

The allure of fire towers carries over into popular culture as authors, poets, and artists for generations also have exhibited a fascination with them. They share their thoughts and musings on the towers through books, poems, paintings, songs, and even a video game, to bring these sites to the masses. These creative people attempt to recreate the scenes on a mountaintop, the sense of life as a lookout, or the excitement and fear of fire on a mountain, and they share them with the public at large.

At the height of the Beat generation in the 1950s, several of that movement's most famous authors became intrigued by lookout life. Jack Kerouac, possibly the most famous Beat author, Gary Snyder and Philip Whalen all spent at least one fire season on the peaks of the Cascade Mountains as lookouts (figure 8.2). All three documented their experiences through published poetry and fiction. The isolation and remoteness of tower locations inspired creativity and introspection. These authors used this stimulation from nature to create literature that survives today. The Beat generation thrived on and encouraged spirituality, studying Eastern religions, communion with nature, and freedom from conformity.

In 1958, Jack Kerouac's *The Dharma Bums* was published, telling the semi-fictional, semi-autobiographical story of Kerouac and his social circle of Bohemian friends in San Francisco.<sup>5</sup> The main character, Ray Smith, is based on Kerouac. Smith is guided by Japhy Ryder, a loose interpretation of his friendship with Gary Snyder. Philip Whalen is represented by the fairly minor character, Warren Coughlin. Smith and Ryder

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<sup>5</sup> Jack Kerouac, *The Dharma Bums*, (New York: Penguin Books, 1958).

hike mountains and discuss Smith's assignment to the fire tower on Desolation Mountain. Snyder had already served several stints as a lookout at this point, and his fictional representation, Ryder, advised Kerouac's character on the duties of a lookout. He describes the firefinder, the use of mirrors to contact other lookouts, and the camaraderie that builds between the lookouts over a fire season. From their peaks, lookouts would communicate over their two-way radios, discussing wildlife and how to survive their assignments. Ryder describes it by saying, "there we all were in a high world talking on a net of wireless across hundreds of miles of wilderness."<sup>6</sup>

Kerouac takes the reader through a lookout's training week at Fire School, stating, "we dug fire lines in the wet woods or felled trees or put out experimental small fires..."<sup>7</sup> Then, he leads the reader on the journey up the mountain, and to the fire tower. He describes the moment when a lookout first reaches his or her tower-post for the season. Most likely, no one has been in the tower for months, since the last fire season ended, and the isolation and bleakness of their temporary home is nearly overwhelming. "I was alone on Desolation Peak for all I knew for eternity, I was sure I wasn't going to come out of there alive anyway."<sup>8</sup> He manages to settle into the cabin and despite occasional loneliness and boredom, fills his days with musings and chores. "All I had to do was keep an eye on all horizons for smoke and run the two-way radio and sweep the floor."<sup>9</sup> He watches clouds and sunsets, counts stars, picks flowers, and takes naps. It seems an ideal situation for any artist – unlimited time to think, create and marvel at the world. At

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<sup>6</sup> Jack Kerouac, *The Dharma Bums*, 168-169.

<sup>7</sup> Jack Kerouac, *The Dharma Bums*, 224.

<sup>8</sup> Jack Kerouac, *The Dharma Bums*, 232.

<sup>9</sup> Jack Kerouac, *The Dharma Bums*, 238.

one point, he says, “Okay world, I’ll love ya,” showing his acceptance of the world as it is and his desire to share in the glory he has witnessed atop this mountain.<sup>10</sup>

A few years later, in 1965, Kerouac gave another account of his lookout days in *Desolation Angels*. He described the same stint on Desolation Peak, but this telling focused more on his musings and where his mind traveled while he was stationed at the remote tower. The excitement of a nighttime lightning storm is captured at one point. “It is no longer Tuesday Night August 14 in Desolation but the Night of the World and the Lightning Flash.”<sup>11</sup> He described the action and flurry of activity on the radio during such a storm. Lookouts across the mountain range called out as they detected lightning strikes in the distance and spotted them with firefinders. These types of storms were by far the most active times of a lookout’s stay.

Gary Snyder knew well the highs and lows of lookout life. He spent more time in the fire towers and mountains of the West than either of his fellow Beatniks, serving several seasons as a lookout and previously working in the logging industry. He actually influenced Kerouac and Whalen in taking their lookout jobs and has written several books of poetry and essays based on his experience in fire towers. One such book is *Look Out*, a collection of poetry based on his time in the towers at Crater and Sourdough Mountains (figure 8.3). The poems show both an artistic look at life on the mountain and a first-hand insight of the lookout’s duties.

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<sup>10</sup> Jack Kerouac, *The Dharma Bums*, 239.

<sup>11</sup> Jack Kerouac, *Desolation Angels*, New York: Riverhead Books, 1965, 42.

One section of Snyder's poem, "Burning" describes a fire on Sourdough

Mountain and a fire camp's efforts to control it:

Sourdough mountain called a fire in:  
Up Thunder Creek, high on a ridge.  
Hiked eighteen hours, finally found  
A snag and a hundred feet around on fire:  
All afternoon and into night  
Digging the fire line  
Falling the burning snag  
It fanned sparks down like shooting stars  
Over the dry woods, starting spot-fires  
Flaring in wind up Skagit valley  
From the Sound.  
Toward morning it rained.  
We slept in mud and ashes,  
Woke at dawn, the fire was out,  
The sky was clear, we saw  
The last glimmer of the morning star.<sup>12</sup>

This account shows the hard physical labor and long hours required of fire crews.

Although camps of fire fighters were spread across the landscape and specific locations were typically given for each fire, a significant amount of time might be needed to reach the flames. After hiking miles to a fire, the true work began – creating fire breaks, smothering flames, and hoping for rain. Even in Snyder's poems covering the events of a fire, the poet touches on the environment and the lands around him.

Snyder, like Kerouac, has lofty and spiritual ideas about life as a lookout and the magnificence of solitude on a mountain, but he also is a stout environmentalist and conservationist. In several essays, he expresses his views on the changing role of wildfire and fire management. Snyder explains that as a young man he felt virtuous working as a fire lookout, protecting the earth from ravaging fires rather than contributing to its

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<sup>12</sup> Gary Snyder, "Burning," *Look Out: A Selection of Writings*, New York: New Directions, 1957, 60-64.

downfall in a “wasteful modern economy.”<sup>13</sup> But today, with new information about the benefits of wildfire and its necessity for many ecosystems, he states, “The joke’s on me fifty years later as I learn how much the fire suppression ideology was wrong-headed and how it contributed to our current problems.”<sup>14</sup> He now sees fire as “an ally in the forest, even while recognizing its power to do damage.”

Edward Abbey was another author who spent several seasons in fire towers of the West (figure 8.4). Although he was writing around the same time as the Beat generation and lived a non-conformist lifestyle as they did, he did not follow their beliefs. Instead, Abbey was an environmentalist, a man who fought for the earth in a battle to conserve its natural beauty. He was stationed on the northern rim of the Grand Canyon, and his 1971 novel, *Black Sun*, tells the story of a lookout in love.

In addition to prose and poetry, fire towers are often commemorated in other forms of art. Tennessean artist, Terry Chandler, painted the Mount Cammerer tower in 1994 (figure 8.5). Sales from prints of this piece greatly helped to fund the tower’s restoration and raised awareness of the tower’s history and condition. Examples of the other artists inspired by the industrial starkness of a metal tower on a green mountaintop or the warmth of a wood and stone tower on a rocky outcrop abound. The fascination with fire towers has even spread to the electronic entertainment genre. The video game “The Fire Tower” is an interactive fiction game which leads players up to the Mount

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<sup>13</sup> Gary Snyder, “Lifetimes with Fire,” *Back on the Fire: Essays*, (Emeryville, CA: Avalon Publishing Group, 2007) 83.

<sup>14</sup> *Ibid.*

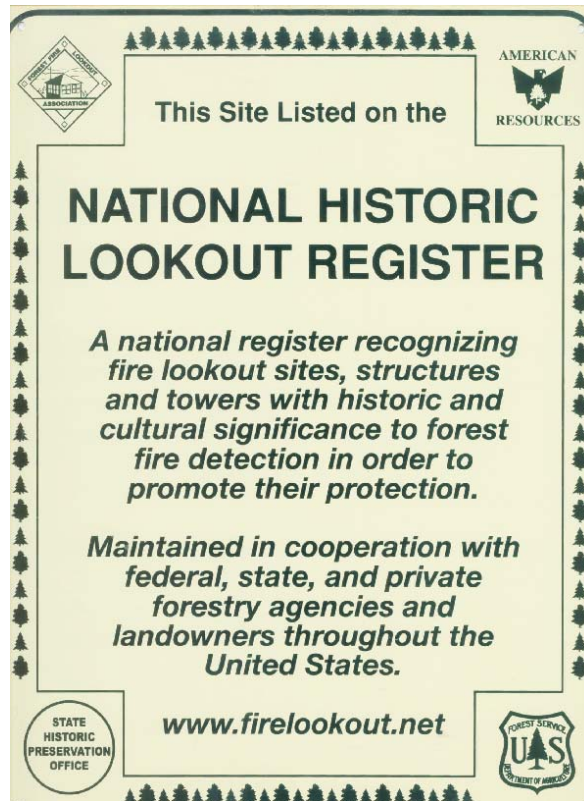
Cammerer tower via a virtual hike that “offers evocative landscape, realistic locations, and extremely well-written descriptions.”<sup>15</sup>

Through all these artistic mediums and the public’s own interest, fire towers continue to hold a place in our collective imagination. Their appearance in such varied channels over an extended time period shows how relevant the towers are in our culture. Even though towers are no longer used for their original purpose, the stories and images of their past link them to the present. Organizations promoting recognition and protection of the towers and their related cabins are also vital parts of the system keeping these structures in the public eye. Capitalizing on this interest could lead to further protection of the towers for future generations through listings on the National Register of Historic Places.

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<sup>15</sup> Jacqueline Lott, “All things Jacq,” [http://www.allthingsjacq.com/intfic\\_firetower.html](http://www.allthingsjacq.com/intfic_firetower.html) (accessed March 16, 2011).





**Figure 8.1:** Signage for towers listed on the National Historic Lookout Register. Courtesy of National Historic Lookout Register, Signs website, <http://www.nhlr.org/>



**Figure 8.2:** Beat Generation author, Philip Whalen, at Sourdough Mountain, 1955. From John Suiter, *Poets on the Peaks*, Gary Snyder, Philip Whalen & Jack Kerouac in the *North Cascades*, 127.



**Figure 8.3:** Beat poet, Gary Snyder, at Crater Mountain, 1952. Snyder spent several seasons as a lookout and wrote poetic and prose accounts of his time on the mountains. From John Suiter, *Poets on the Peaks, Gary Snyder, Philip Whalen & Jack Kerouac in the North Cascades*, 5.



**Figure 8.4:** Author and environmentalist, Edward Abbey, at work in the Numa-Ridge Fire Lookout, circa 1975. Courtesy of The Writer's Den blogspot, <http://davidhuntershaw.blogspot.com/2010/03/write-space.html>.



**Figure 8.5:** Painting of Mount Cammerer fire tower in Great Smoky Mountains National Park, by Terry Chandler, 1994. Courtesy of North Carolina Lookouts Forest Fire Lookout Association blogspot, <http://nclookouts.blogspot.com/>.

## CHAPTER NINE

### TOWERS AND THE NATIONAL REGISTER

In addition to managing and protecting the natural and cultural heritage of the nation's parks, monuments and reservations, the National Park Service also manages the National Register of Historic Places (National Register). This is "the official list of the nation's historic places worthy of preservation."<sup>1</sup> Properties listed on the National Register can be buildings, districts, sites, structures, or objects. The National Register was authorized by the National Historic Preservation Act of 1966, and since that time, over eighty thousand properties have been listed.<sup>2</sup> In the private sector, a listing on the National Register is a first step for receiving tax credits and other preservation incentives. While tax credits would not benefit a federally owned property, a listing on the National Register would instill an additional layer of security and bring more recognition to an historic property. Before any federal funds can be used to alter or harm a property eligible for or on the National Register, a Section 106 review must be completed and any adverse effects from the government's actions must be considered and are encouraged to be mitigated.

#### PRECEDENT OF TOWERS ON THE NATIONAL REGISTER

A number of towers are currently on the National Register, setting a precedent for new listings to qualify. Presently there are seven "fire towers" and nineteen "lookout

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<sup>1</sup> National Park Service, "About Us: National Register of Historic Places Official Website," <http://www.nps.gov/nr/about.htm> (accessed March 17, 2011).

<sup>2</sup> National Park Services, "National Register of Historic Places Database and Research Page," <http://www.nps.gov/nr/research/> (accessed March 17, 2011). Information on the National Register's "tower" listings come from basic searches on this database site.

towers” registered. The first of these towers listed is the Chenocetah Mountain Tower in Habersham County, Georgia, which joined the National Register in 1984. Thirteen fire and lookout towers in Arizona and New Mexico joined the listing in January 1988. All thirteen of these towers are metal structures built from the mid 1930s to the early 1940s. The remaining towers were listed individually and represent counties in Arkansas, New York, North Carolina, Utah, Wisconsin, South Dakota, Michigan, and Vermont. The fire tower in North Carolina is located in the northeast portion of the state, near the North Carolina-Virginia border. This tower is similar to the GRSM towers in that it is a steel structure erected in the 1930s. At eighty feet high, it stands taller than any of the Park’s towers and is an Aermotor design built by the Work Progress Administration. The Fifield Fire Lookout Tower in Price County, Wisconsin, is the tower most recently added to the National Register with certification from NPS received in July 2007.

These twenty-six existing towers fall under the classification of “structure” for the purposes of the National Register since they are not buildings constructed for human shelter. The sites of removed towers may also be eligible for the National Register because of their cultural or archeological value. The case for these sites would be strengthened if they were a part of a district or multi-property listing, which is a possibility for the towers of GRSM.

#### FIRE TOWERS AND LOOKOUT CABIN OF GRSM

The towers and lookout cabin of GRSM have many of the same qualifications for eligibility as the already-listed towers. All of them meet the fifty year requirement.

Three of the towers and the cabin were built by the Civilian Conservation Corps, and construction associated with this government program has been deemed culturally significant. The fourth tower was built of the same materials and in the same style, but NPS and the Public Works Administration are listed as the builders.

Of the four towers remaining in GRSM, three of them, those at Shuckstack, Mount Sterling, and Cove Mountain, have a nearly identical original design. These towers are sixty-foot tall steel structures with interior stairs, and were designed by the International Derrick Equipment Company. Sixteen of the towers already listed on the National Register have comparable designs. The fourth tower, at Mount Cammerer, stands apart from the others in GRSM with its octagonal stone and timber construction. It is said to be the only tower of this design east of the Rocky Mountains, which makes it architecturally significant and unique to the area. Only one lookout cabin remains within the park boundaries, and it sits at High Rocks, the most remote lookout location in GRSM. The cabin is in disrepair but still standing. There were only three cabin designs in the park, and the one at High Rocks is representative of the most common style. Since it is the only standing cabin, its significance is high. All five extant structures of the park's fire tower and lookout system appear to be eligible for the National Register and simply need to be linked together to prove the case.

The Cultural Resources Program of GRSM is eager to have a completed National Register nomination for all four towers and the lookout cabin. In the early 1990s, the park historian at GRSM completed an individual nomination for the Mount Cammerer tower, but it was not added to the National Register at that time. The remarks and

comments from the History Division and National Register following a review of the nomination list a variety of concerns. They range from defining the architectural style of the structure to defending the integrity of the building materials. The Chief Historian writing the response to the nomination states, “we have one major concern, i.e., the failure to provide a satisfactory context for evaluation of the significance of the tower as it applies to criteria A and B.”<sup>3</sup> There appears to be a typographical error in this remark, as the nomination claims significance under criterion A and C. However, the original nomination is scant on its statement of significance and the correlating narrative. The Chief Historian provides many suggestions to improve the nomination form, but there is no evidence of a response to these editing suggestions in the GRSM’s files.

A new and complete nomination form will be submitted to GRSM’s Cultural Resources Program based on the research of this thesis and will closely follow the guidelines set out in the National Register Bulletin 16A, *How to Complete the National Register Registration Form*. Hopefully, with the full scope of information discovered and compiled here, a successful nomination bid can be placed by GRSM, and the towers will receive an increased level of protection, recognition, and possibly additional maintenance funding in the future.

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<sup>3</sup> U.S. Department of the Interior, Chief Historian, letter to Chief of Registration, Interagency Resources Division, “Preliminary Review of Draft National Register Nomination, Mount Cammerer Fire Tower Lookout, Building No. 48, Great Smoky Mountains National Park,” December 11, 1992. GRSM Library.

## CHAPTER TEN

### CONCLUSION

The story of the Great Smoky Mountains is a palimpsest of varied cultures and heritages. Each layer or era reveals a different portion of these mountains' history. Native Americans left their mark before European occupation, and remnants of the mountaineers' self-sufficient lifestyle are scattered throughout the park from the last days of private ownership before the Federal government interceded on behalf of forest conservation.

Within Park stewardship itself, there are many cultural legacies, creating many additional layers. The historic fire towers, created as utilitarian necessity have evolved in the last eighty years to signify the management practice of the early park service. Decisions regarding their future are ambiguous. Half of the park's towers did not survive to present day, as they were removed before their historic value could be judged. This judgment is flawed according to tower historian, Walter Wunderlich:

A structure should not just be judged by age alone, but more by the role it played during its active life. The fire control program was an important program. It was an effort to save what was left over of the old forests after industrial logging and the severe havoc created in the forests by turning them into a wasteland vulnerable to devastating fires.... There was no justification to trash public property in this way.<sup>1</sup>

At this moment there is enough public and GRSM support to protect the four remaining towers and one lookout cabin. By qualifying the significance of the towers in their socio-political context, the case can be made for the sites to be placed on the National Register

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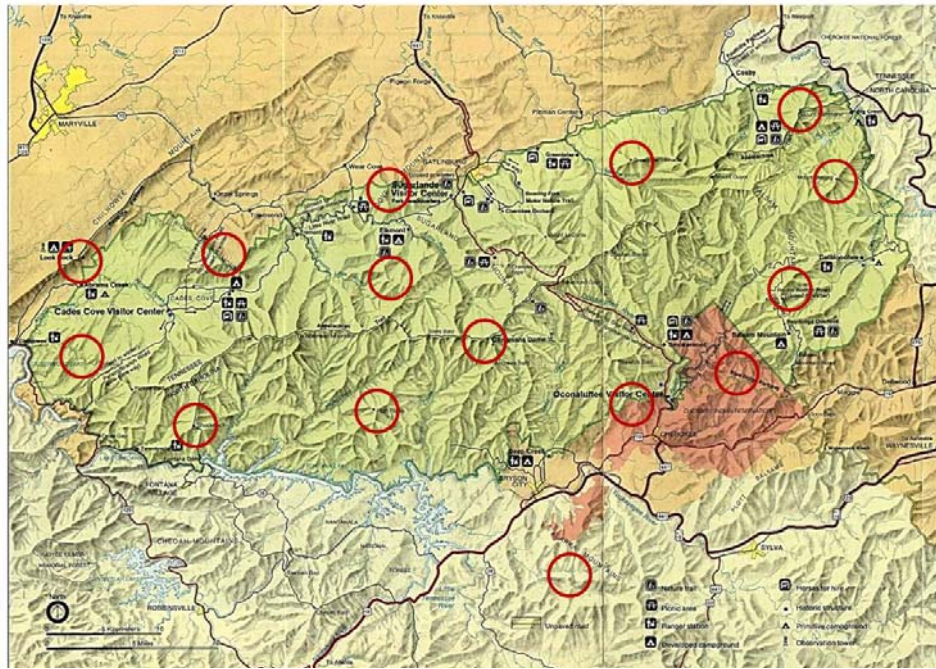
<sup>1</sup> Walter Wunderlich, *The Lookout Towers of the Great Smoky Mountains and Surrounding Area*, Knoxville, TN: Wunderlich, 1998, 531-532. Unpublished work.



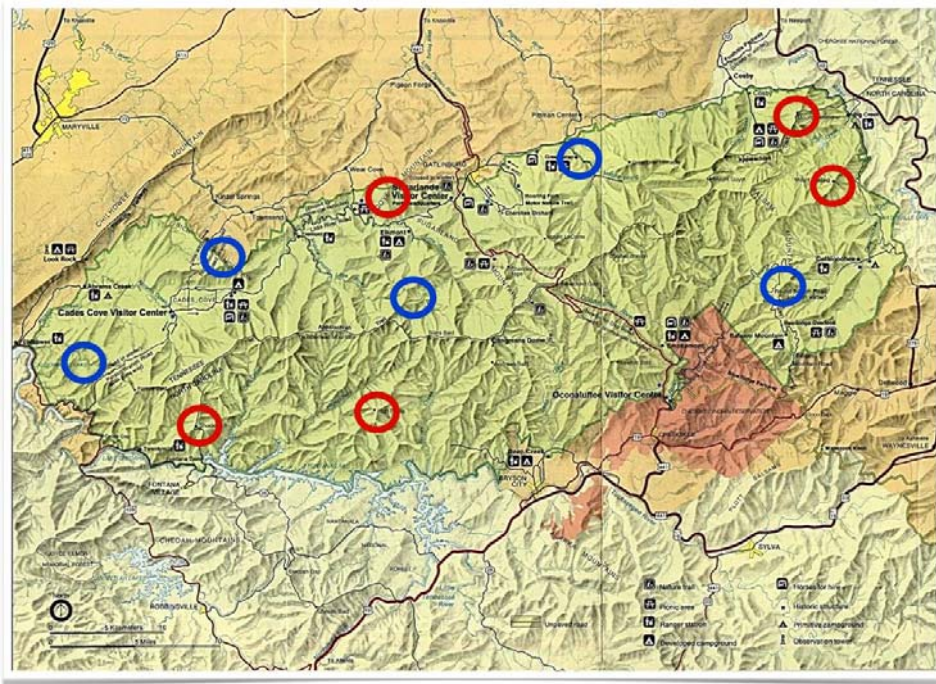
of Historic Places, ensuring, hopefully, the towers will survive as vertical man-made reminders of the park's history of both fighting and protecting nature.

## **APPENDICES**


## **APPENDIX A**




**Figure A1:** Map showing historic fire tower locations in GRSM and three cooperatives



**Figure A2:** Map showing locations of fire towers and cabins in GRSM.

Existing tower or cabin 

Removed tower 

## **APPENDIX B**

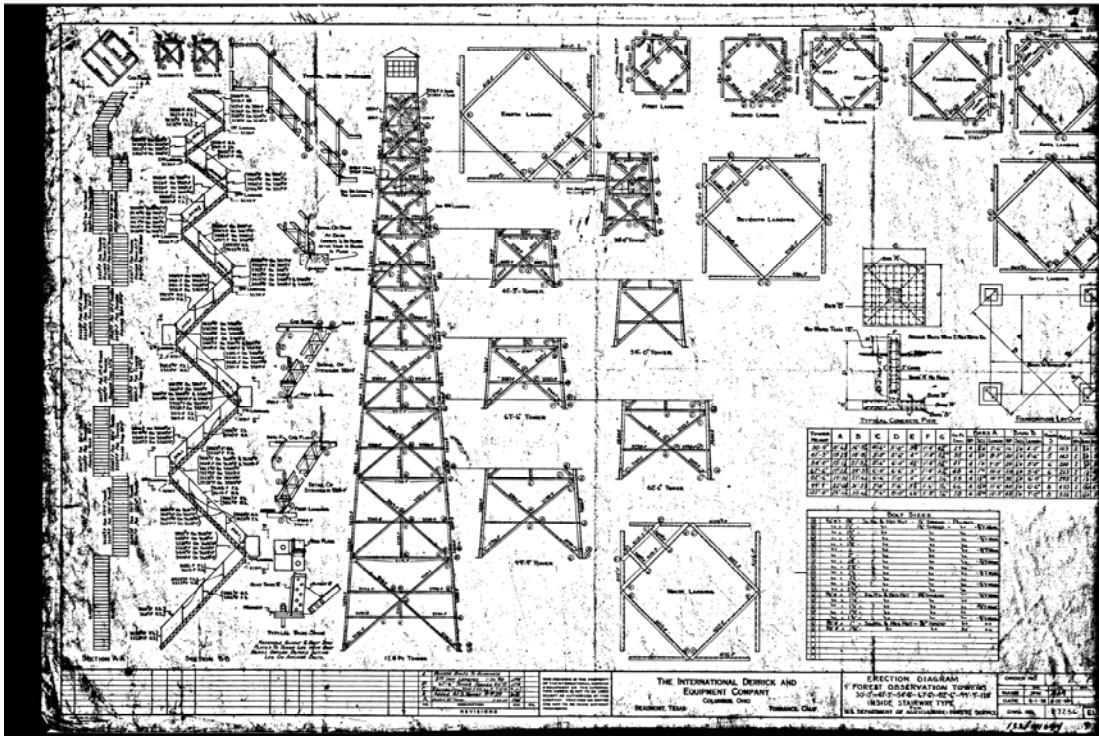


Figure B1: International Derrick and Equipment Company, standard steel tower

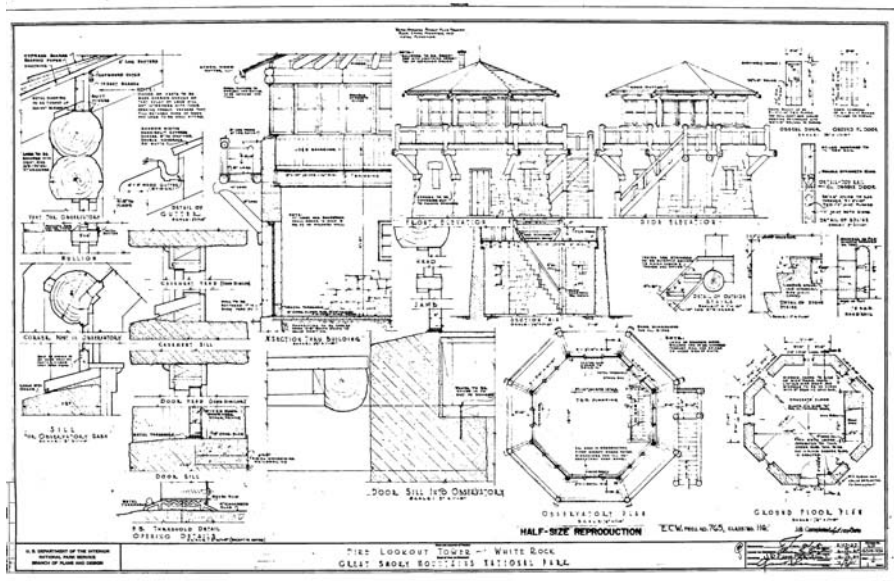
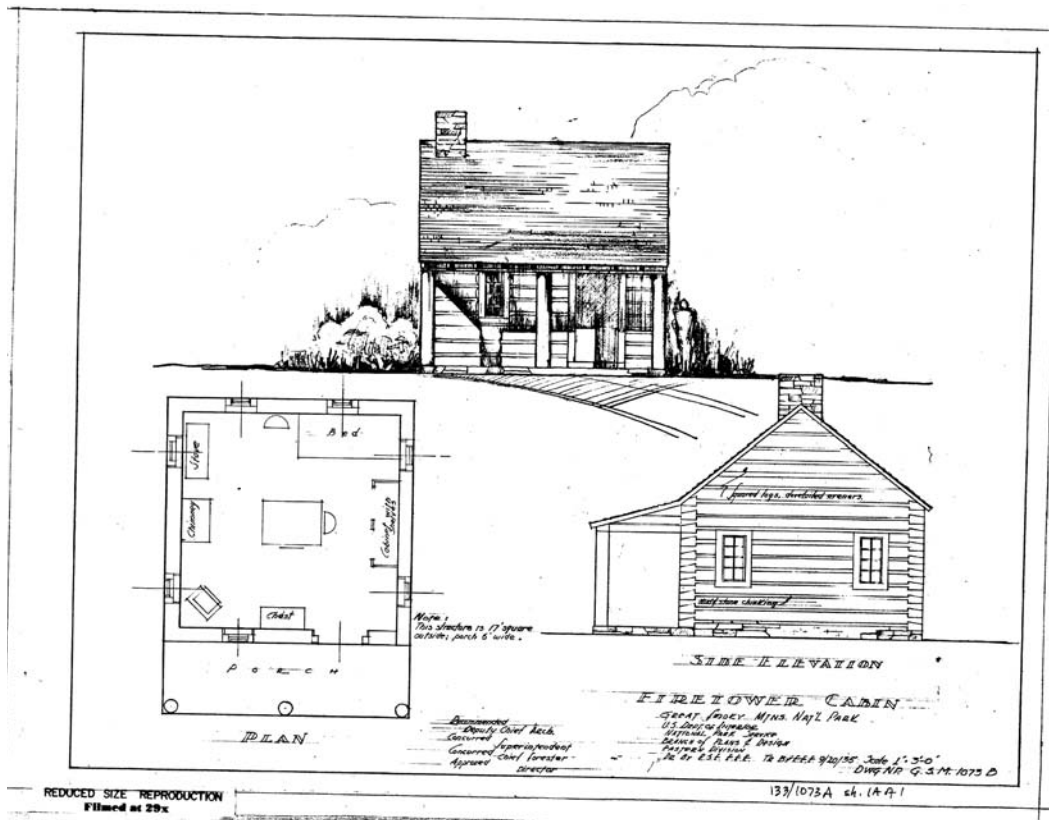


Figure B2: Standard tower, Type No. 9. Mount Cammerer tower built from this design.

## **APPENDIX C**



**Figure C1:** Standard lookout cabin. High Rocks, Shuckstack, Mount Sterling, Cove Mountain, Blanket Mountain, and Greenbrier Pinnacle built on this model.



## **APPENDIX D**

Tower Location	State	County	Elevation	Tower	Year Constructed	Cost	House	Year Constructed	Cost	Cistern	Communication	Proximity to trail	Removed?
Shuckstack	NC	Swain	4020 ft	steel, 60 ft	1934 by PWA, NPS	n/a	log cabin, chestnut, composition shingle roof	1934 by PWA, NPS	n/a	1000 gal., hand pump sink & pit toilet	radio - 2 watt, power, batteries	2.6 mi from Twentymile truck trail	No
Mt. Sterling	NC	Haywood	5835 ft	steel, 60 ft	1935 by CCC	n/a	log cabin, composition roof & stone chimney	1934 by CCC	n/a	1000 gal., hand pump sink & pit toilet	radio - 10 watt, windcharger, storage batteries, telephone	2.7 mi. to Mt. Sterling Gap by trail	No
Cove Mtn.	TN	Sevier	4091 ft	steel, 60 ft	1935 by CCC	\$2,328.91	log cabin, composition roof	1935 by CCC	\$1,718.62	2000 gal. & pit toilet	radio - 10 watt, power - windcharger & storage batteries, telephone - State of TN to Wears Cove Gap and Wears Valley	4 mi. to Fightin Creek Gap Road	No
High Rocks	NC	Swain	5185 ft	steel, 46 ft	1936 by CCC	n/a	log cabin covered in shakes, chestnut shakes roof, stone chimney	1936 by CCC	n/a	1000 gal., hand pump sink & pit toilet	radio - 2 watt, power, batteries	38 mi. from truck trail to Bear Creek	Yes, mid-1980s by TVA. cabin remains
Mt. Cammerer	TN/NC	Coke (Haywood)	5025 ft	stone to window sill, log frame above	1939 by CCC	\$15,585.50	n/a	n/a	n/a	1400 gal.	radio - 10 watt, windcharger, storage batteries	5 mi. by horse trail to truck trail Cosby	No
Blanket Mtn.	TN	Sevier	4609 ft	steel, 60 ft	1934 by CCC	\$1,854.35	log cabin, shake roof	1935 by CCC	\$2,271.72	2000 gal. & pit toilet	radio - 3 watt, power - battery, telephone - grounded to park headquarters	3 mi. to Jakes Creek truck trail	Yes
Greenbrier Pinnacle	TN	Sevier	4585 ft	steel, 60 ft	1934 by CCC	\$2,620.24	log cabin, 2 room	1935 by CCC	\$1,783.67	2000 gal. & pit toilet	radio - 3 watt	4 mi. by horse trail to truck trail	Yes, mid-1980s by TVA
Rich Mtn.	TN	Blount	3662 ft	steel, 60 ft	1934 by CCC	\$1,711.59	log cabin, composition roof	1934 by CCC	\$1,824.62	2000 gal. & pit toilet	radio - 3 watt, power - battery, telephone grounded to Cades Cove	1.5 mi. to truck trail at Indian Grave Gap	Yes, mid-1980s by TVA
Spruce Mtn.	NC	Swain	5590 ft	steel, 60 ft	1935 by CCC	n/a	log cabin, spruce boards, stone chimney & fireplace	1935 by CCC	n/a	1000 gal., hand pump sink & pit toilet, spring- 500 yards	radio - 2 watt, power batteries, telephone	1.7 mi. trail to Spruce Mtn. Truck trail	Yes
Bunker Hill	TN	Blount	2767 ft	steel, 60 ft	1941 by CCC	n/a	log cabin, 5 room, bath	1941 by CCC	n/a	tank in attic, hand pumped from cistern	radio - 2 watt	tote road to site	Yes
Barnett Knob	NC	Jackson	4600 ft (on Indian land)	steel, 60 ft	1932 by NPS	n/a	frame, composition shingles, tile flue	1932 by NPS	n/a	spring 1/4 mi. & pit toilet	radio - 2 watt, telephone	located on Indian Service road	No
Frye Mtn.	NC	Swain	4750 ft (outside of park)	frame house covered w/ shingles, cast iron flue	1935 by CCC	n/a	n/a	n/a	n/a	1000 gal., hand pump sink & pit toilet	radio - 12 watt, windcharger, telephone	n/a	Yes, 2005
Mt. Noble	NC	Swain	3,840 ft (outside of park)	steel, 60 ft	1957 by Bureau of Indian Affairs	n/a							No
Look Rock	TN	Blount									radio - 2 watt		No

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