

HISTORIC LOOKOUT STATIONS ON THE WILLAMETTE  
NATIONAL FOREST: MANAGEMENT PLANS  
FOR PRESERVATION

by

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APPROVED:



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The United States Forest Service constructed over 5,000 lookout stations to guard forests, beginning in the early 1900s. The Forest Service deemed these structures obsolete and began destroying them when other methods of fire detection were adopted by the 1960s. In the 1980s, many public interest groups encouraged the Forest Service to preserve these buildings.

This thesis explores the history of the Forest Service's lookout system, focusing on the Willamette National Forest in west central Oregon for case studies. Relevant legislation regarding their preservation, and issues and options for future uses of the Forest's four historic lookout stations are discussed. Methodology includes a

literature search, site visits, and interviews with Forest Service officials to ascertain management goals for these buildings. Preservation recommendations are provided for each structure. Emphasis is also given to the public involvement necessary in the preservation of these structures.

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## CHAPTER I

### INTRODUCTION

Lookout stations have been an integral part of the history and development of our national forests since the creation of the United States Forest Service on 1905. Thousands of square miles of forests were guarded from fire from these mountaintop vantage points. Lookout stations were also operated by other government agencies: the National Park Service, The Bureau of Land Management, State Forests, and by private timber companies.

The United States Forest Service, however, constructed the majority of the lookout stations in the western United States--over 5,000 since the early 1900s. Each national forest developed a lookout system and, until the 1950s, relied upon the detection of fire from these buildings. The Forest Service began to phase out the use of lookout stations in the 1950s when aerial surveillance rendered thousands of these sites obsolete. The networks of roads for logging that have penetrated the forests also enhanced accessibility for fire control. Consequently, many lookout stations were abandoned and destroyed by the Forest Service.

Today, the Forest Service actively uses a few hundred lookout stations for fire protection. The remainder of these structures that survived the "torch and burn" era of removal in the 1960s and 1970s now sit idle upon mountaintops to suffer the ravages of time, weather, and vandalism.

In the past decade, the preservation of these buildings has been predominantly a grassroots movement of individuals and special interest groups. The attraction to these buildings is felt by a variety of people: hikers, campers, history buffs, former and present forest service employees, researchers, daydreamers, star gazers, view seekers, and, unfortunately, vandals. Being located on federal lands, the preservation of these buildings by private citizenry involves interaction on many levels with various government agencies and individuals.

Pilgrimages to mountaintops with lookout stations is a very different venture from than that of eighty years ago, or even twenty years ago. The mountainous landscape has been penetrated with roads that have virtually erased the extensive trail system, and logging endeavors have created a patchwork of clearcuts. Not only has the view of the landscape changed, but the quality of the air through which the surroundings are viewed is oftentimes clogged with pollution.

Essentially remote in location, a multitude of issues affect the preservation of these sites. Accessibility, liability, safety, security, recreational, educational, and historic values, wilderness concerns, costs of maintenance, and the need for new functions for these buildings create limitations for the future of these mountaintop stations.

#### Scope of Project

The scope of this study is to investigate the issues and options concerning the preservation of lookout stations under the jurisdiction of the United States Forest Service. This involves a review of literature pertaining to lookout stations. An historical overview of the system of fire detection and suppression by the Forest Service is presented. In particular, the history of the lookout system on the Willamette National Forest in west central Oregon are investigated (see plate 1). Case studies for this thesis are located on the Willamette National Forest.

Currently there are thirteen lookout stations remaining on the Willamette National Forest. Seven of these are abandoned, five are actively used for fire detection each year, and one is staffed on a volunteer basis for fire detection. In 1991, an evaluation of five of these lookout stations for eligibility to the National Register of Historic Places was

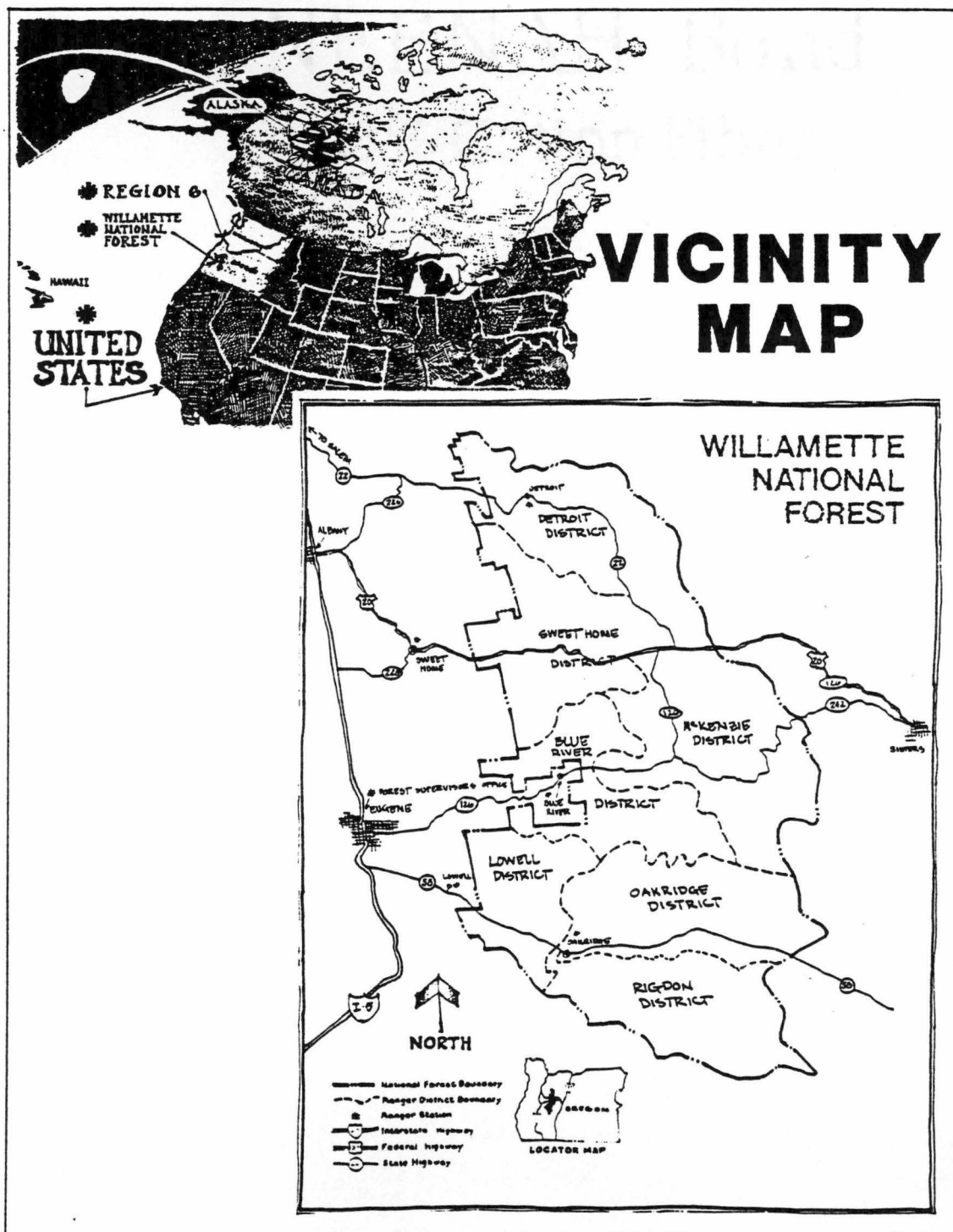


Plate 1. Location of the Willamette National Forest, Western Oregon. Source: Rakestraw and Rakestraw, History of the Willamette National Forest, n.d., vi.



conducted.<sup>1</sup> Four of the abandoned sites were deemed eligible. As mandated by Federal laws, goals for resource management state that the Willamette National Forest is now obligated to maintain and protect the historic values of these buildings.<sup>2</sup>

The focus of this study is to provide management plans for the preservation of these four lookout stations. Interaction with various Forest Service officials regarding the future of these sites was conducted to determine immediate and/or long term goals for the four structures. Site visits were conducted to ascertain the physical condition of each building and to prepare recommendations for rehabilitation of each lookout station. Issues concerning the status of the three abandoned lookout stations not deemed eligible to the National Register of Historic Places will also be discussed.

Laws regarding the preservation of buildings on federal property will be explored. Some key articles of legislation and preservation guidelines affecting the management of historic lookout stations are: the 1966 National Historic

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<sup>1</sup>James B. Cox, Historic Fire Lookouts on the Willamette National Forest: A Determination of Eligibility to the National Register of Historic Places (Eugene, Oreg.: U.S.D.A. Forest Service, Willamette National Forest, February 8, 1991).

<sup>2</sup>Willamette National Forest, Land and Resource Management Plan (Eugene, Oreg.: U.S.D.A. Forest Service, Pacific Northwest Region, 1990): IV:2, IV:86.

Preservation Act and its amendments, the National Register of Historic Places, the National Environmental Policy Act, The Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings, and the National Wilderness Preservation System of 1964.

### Definitions

The term "lookout" has many meanings which can be misconstrued. Lookout can refer to the person engaged in watching for fires and smoke. Lookout is also defined as the building designed to house, shelter, and/or elevate the person engaged in observation. And, thirdly, the site or mountain peak designated for the detection of fire is also called a lookout. For clarity in this thesis, the author chooses to use "lookout operator" to define the person observing for fires, "lookout station" as the building, and "lookout point" to denote the mountaintop.<sup>3</sup>

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<sup>3</sup>Mark V. Thornton, Fixed Point Detection: The Lookouts (U.S.D.A., Forest Service, Region 5, California, November 1986). For extensive terminology concerning fire detection and suppression, see Thornton's glossary, 94-109.

## CHAPTER II

FIRE PROTECTION FOR FORESTS: A HISTORY OF DETECTION  
AND SUPPRESSION OF FOREST FIRES BY THE  
UNITED STATES FOREST SERVICEThe Forest Service

The American Forestry Association, a private conservation organization, was founded in 1875. It, along with state and other private groups, sought public awareness for the conservation of our nation's forested lands. In 1876, a forestry agent was appointed to the agricultural commission; five years later, in 1881, a Division of Forestry was established within the Department of the Interior.

For the next ten years, forestry gained recognition as a profession of protecting forest lands and watersheds. In 1891, Congress gave the president power to create forest reserves from public domain. This system of reserves began with 13 million acres adjacent to Yellowstone National Park. It was not until 1897, however, that Congress provided for the administration of these reserves with the passage of the Forest Management Act. This placed the responsibility for controlling forest fires in the hands of the federal government.

Administration of these reserves was within the General Land Office in the Department of the Interior. In 1898, Gifford Pinchot was appointed to head the Division of Forestry within the General Land Office; he maintained that post until 1910. The General Land Office, in 1901, engaged in a massive effort to survey the forest reserves and, in so doing, excellent mountaintop vantage points were discovered. These were the first lookout locations. In 1905, administration of Forest Reserves moved from the Department of the Interior to the Department of Agriculture, and was reorganized as the United States Forest Service. In 1907, these reserves were retitled "National Forests."

During President Theodore Roosevelt's administration, the national forests expanded rapidly by an amount of 132 million acres. By the end of his second term in office in 1909, less than twenty years since the creation of the forest reserve system, over 194.5 million acres of forested land had been set aside.<sup>1</sup>

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<sup>1</sup>For history of the Forest Service see the following references: Glen O. Robinson, The Forest Service (Baltimore: The John Hopkins University Press, 1975), 1-16; Ira Spring and Byron Fish, Lookouts: Firewatchers of the Cascades and Olympics (Seattle: The Mountaineers, 1981), 9-10; and Thornton, 9-15.

Forest Fires and Early Forest Fire  
Detection and Suppression

Through the course of our nation's history, fires have devastated thousands of acres of forested lands. Losses of timber and human lives created a need for policies for the prevention, detection, and suppression of forest fires. Major fires that had an impact upon the forested lands and adjacent communities in the United States are shown in Table 1. As shown in this table, extensive forest fires coincided with the early years of national forest development.

The fledgling Forest Service embarked upon a ground patrol system of fire detection in the early 1900s. From 1905 to 1911, the Use Book guided the Forest Service's management of the forests. The forest rangers or guards of that era systematically patrolled vast forested areas on foot or horseback. A minimal trail system connected mountaintops, where the ranger could survey the forested landscape with field glasses to detect smoke from forest fires. If smoke was spotted, a man called a "smoke chaser" was sent to suppress the fire. The smoke chaser would then hike alone, often through many miles of mountainous terrain where few trails had been carved, to fight the fire singlehandedly with tools he carried in his backpack. If a larger suppression force was required, a local crew of loggers, ranchers,

Table 1. Devastating Forest Fires in the United States

Date	Location	Acres Burned	Lives Lost
1825	Maine	830,000	Undetermined
1871	Wisc. & Michigan	3,780,000	1,500
1881	Michigan	1,000,000	169
1894	Minnesota	Undetermined	418
1894	Wisconsin	Undetermined (several million)	Undetermined
1902	Wash. & Oregon	Undetermined (over 1 million)	38
1903	Northern New York	637,000	None
1910	Idaho & Montana	3,000,000	85
1933	Oregon	311,000	1
1947	Maine	205,678	16

Source: Derived from Brown and Davis, Forest Fire Control and Use, Table 2.1:22-25.

miners, and farmers were pressed into service.<sup>2</sup> When mountaintop vantage points did not suffice, a "crow's nest" lookout was constructed. The top of a tall tree was cut off, rough ladder rungs nailed to the trunk of the tree, and a platform attached to the top (plate 2). If a tall tree

<sup>2</sup>Stephen J. Pyne, A Cultural History of Wildland and Rural Fire (Princeton, N.J.: Princeton University Press, 1982), 262.

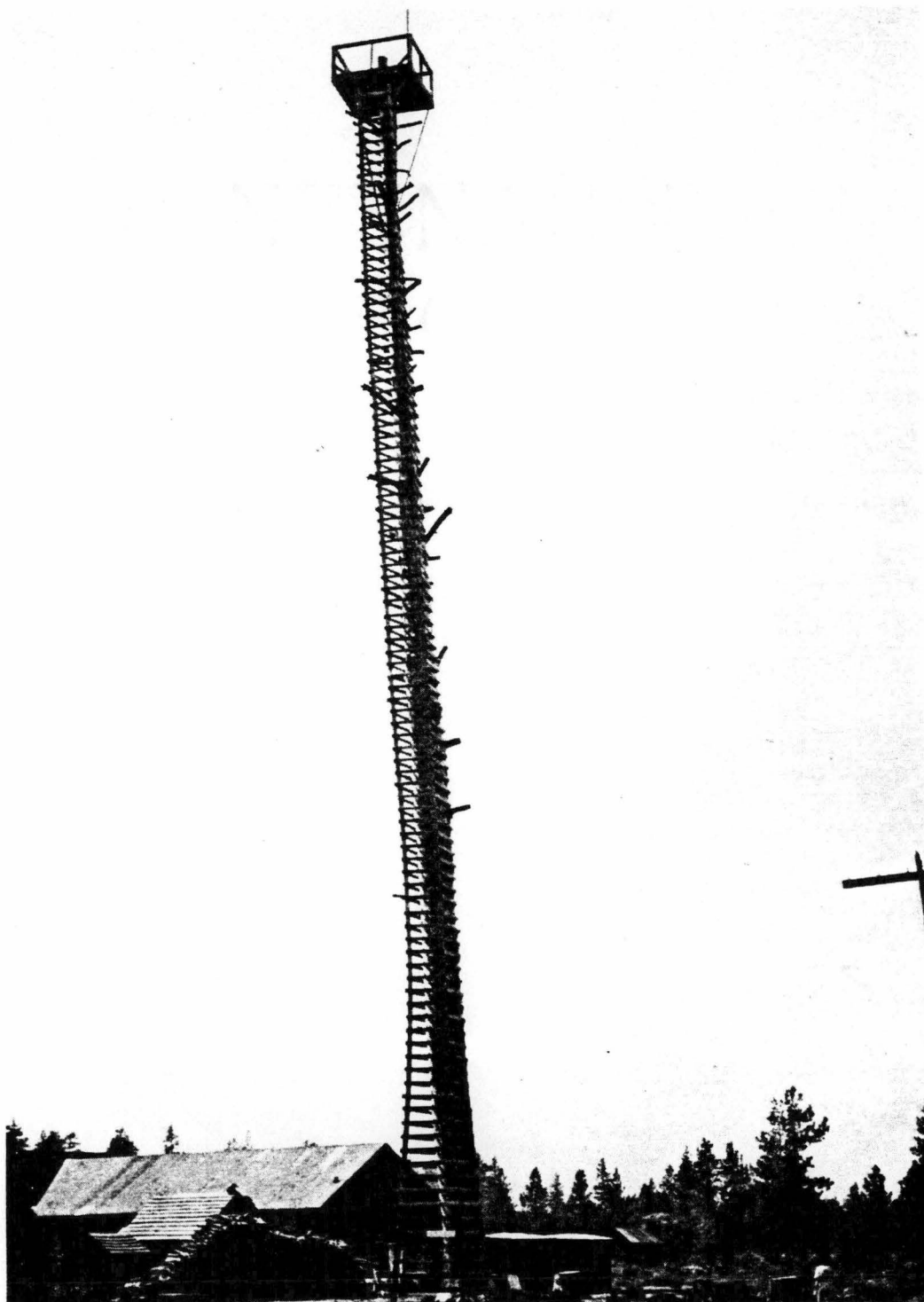


Plate 2. Tree Tower, 105', Sisters, Oregon, 1921. Source: Kresek, Fire Lookouts of Oregon and Washington (Fairfield, Wash.: Ye Galleon Press, 1984), 66.

did not present itself for this assemblage, an ingenious variety of log towers were constructed to give a better view into deep canyons that a ground point would not provide (plate 3).

Recording the location of the fire was essential to its suppression. Initially, rangers relied upon their knowledge of the backcountry to determine the location of a fire. Few maps were available of the mountainous terrain at that time. Instruments for locating fires in the early 1900s included the compass and the alidade. An alidade is a straight edge attached to a map on a board and rotated to align a point on the landscape with the point on the map. A more refined instrument, the firefinder, was developed in 1909 by William B. Osborne.<sup>3</sup>

Similar in principle to the engineer's transit, the Osborne Firefinder . . . was a precision instrument of remarkable accuracy down to an azimuth of one-sixtieth of a degree. Best of all, it was relatively easy for one not educated in geometry to operate efficiently.<sup>4</sup>

This piece of equipment consisted of a round brass plate about eighteen inches in diameter positioned on a stand four feet high. On this plate was attached a circle of map with

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<sup>3</sup>Thornton, 97-98; Ray Kresek, Fire Lookouts of Oregon and Washington (Fairfield, Washington: Ye Galleon Press, 1984), 29, 212-213; and Doug Newman, "A Life of Such Splendid Isolation," National Wildlife 19 (April/May 1981): 35-38. All three authors refer to Osborne's invention, but vary on the exact date of development and experimentation.

<sup>4</sup>Kresek, 29.





Plate 3. Log Tower At Pogue Point, Grant County, Oregon.  
Source: Kresek, Fire Lookouts of Oregon and Washington, 90.

the lookout point at the center. A rotating sighting mechanism similar to a rifle sight allowed the observer to pinpoint a spot and determine the position on the stationary map (plate 4). By knowing the names of mountain peaks, valleys, roads, and other features of the surrounding landscape, the observer could report the exact location of a fire. If two or more lookout operators located the same fire, then the dispatcher at the ranger station could cross reference the sightings and triangulate the location on a base map. This instrument was refined and modified over the years and manufactured by various companies.

The Osborne Firefinder remained the popular choice and is still used today.<sup>5</sup> This vital instrument was initially positioned atop the early towers. If the mountaintop did not have a tower, the firefinder was attached to a tree stump or a crude stand (plate 5).

Within the first ten years of the Forest Service's fire detection system, observation from these types of vantage points proved inadequate. A number of problems commanded attention before the lookout system was refined enough to achieve its goal of fast and precise detection.

Issues of concern ranged from the ever-present lack of lightning protection at these mountaintop observatories and inefficient communication, to the basic need for qualified

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<sup>5</sup>Ibid., 29, 212-213; and Thornton, 97-98.

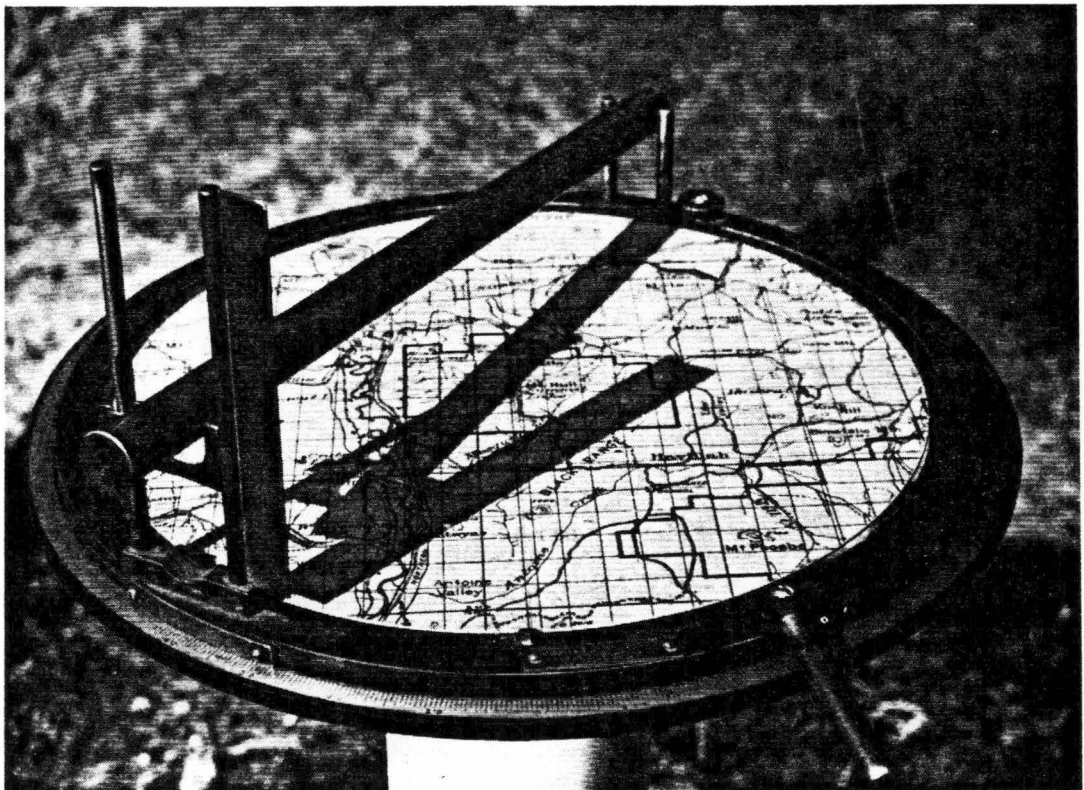


Plate 4. Osborne Firefinder. Source: Kresek, Fire Lookouts of Oregon and Washington, 29.



Plate 5. Mt. Fuji Lookout Point. Firefinder on Stand, Telephone on Pole, Tent Far Right. Source: Willamette National Forest.

people to operate the lookout stations. The obvious fact that these vantage points were visited only at scheduled times on a patrol route created the major downfall of the system: early detection requires constant observation.

Through the 1910s and 1920s, remedies for some of these problems were sought. During this period, concepts for organizing fire protection into formal bureaucratic policies was developed. The Weeks Act of 1911 and the Clarke-McNary Act of 1924 worked toward a cooperative level of fire control between federal and state governments. Private timberland owners were also pressed to cooperate with state and federal agencies.<sup>6</sup>

In 1912, the Use Book was replaced by the National Forest Manual.<sup>7</sup> The second stage of development of the lookout system emerged at this time with the establishment of semi-permanent observatories. Some observers established "rag camps" on mountaintops, if their form of shelter was merely a tent. Others may have been fortunate to have better accommodations; a shelter or cabin constructed of stone or logs may have been built on the lookout site or at the foot of the mountain. In the latter situation, the observer would hike to the summit and spend each day watching for

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<sup>6</sup>Lawrence Rakestraw and Mary Rakestraw, History of the Willamette National Forest (Eugene, Oreg.: U.S.D.A. Forest Service, Willamette National Forest, 1990), 52.

<sup>7</sup>Pyne, 264.



fires. As for the structures themselves, canopies or roof structures became a necessity to protect the observer from bad weather and allow for constant observation (plate 6).

If a fire was spotted, communicating its location was still a weakness in the system. Many modes of reporting fires were used in the early days of fire detection. The age-old method of using smoke signals themselves served as a warning, but could be misconstrued for an actual forest fire. The Army Signal Corps' method of coding messages with various colored flags was also tried. Heliographs, a method of using mirrors to send messages to a receiving point was another early signaling procedure. Even windmills with mirrors on the blades were used to flash warnings. All these techniques worked to a degree, but all relied on a clear line of sight with good atmospheric conditions, and were generally inefficient and unreliable.<sup>8</sup>

Beginning in 1906, the Forest Service embarked upon the massive installation of telephone lines throughout the forests. District ranger stations were connected to the lookouts stations via miles of wire strung in trees. By 1910, 4,850 miles of telephone wire had been strung throughout the forests. The reliability of this system was, of course, dependent upon the method of installation. When a

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<sup>8</sup>Henry S. Graves, "Protection of Forests From Fire," U.S.D.A. Bulletin #82 (Washington, D.C.: Government Printing Office, 1910), 36-40.



Plate 6. Indian Ridge Lookout Station, 1924. "Rag Camp" With Pole Shelter. Source: Willamette National Forest.

phone would not work, it was the duty of the lookout operator to follow the line down the mountain, find the problem, and repair it--usually a fallen tree had broken the wire. The telephone proved to be the "nervous system" of fire detection for over forty years, until radios became the common mode of communication after World War II.<sup>9</sup> Hallie M. Daggett, an observer at Eddy Gulch on the Klamath National Forest in California in 1913, used this analogy:

That phone, with its gradually extending feelers through the district, made me feel exactly like a spider in the center of a web, with the fires for flies; and those fires were certainly treated to exactly the speedy fate of the other unworthy pests.<sup>10</sup>

People watching for fires from the lookout points were initially, as stated, Forest Service rangers or guards patrolling a designated area. When lookout stations became established, many individual from the local area were employed by the Forest Service as lookout operators. These people were often well versed in the knowledge of the surrounding backcountry. Oftentimes "mossbacks" or "old-timers" were employed: men who had done prospecting, logging, or homesteading nearby. These old-timers could be

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<sup>9</sup>Ibid., 36-40; and Arthur A. Brown and Kenneth P. Davis, Forest Fire Control and Use (New York: McGraw-Hill, 1935), 469-472.

<sup>10</sup>Hallie M. Daggett, "Woman As a Fire Lookout," American Forests 20 (March 1914): 180.



relied upon year after year, and regarded their lookout stations as a second home.

As the Forest Service evolved and forestry gained its reputation as a profession, more and more lookout operators were educated people trained in forestry, topography, surveying, and meteorology. College students and recent graduates of forestry schools often served as lookout operators for summer employment.<sup>11</sup> Both men and women were hired as lookout operators for two to five months, depending upon the climate and expected length of the fire season. Even husband and wife teams were common inhabitants of these mountaintop stations.

Each operator became a vital link in the fire detection system. Each was trained in the use of the firefinder, and had to learn the topography and geographical names of the area viewed from their lookout station in order to accurately report a fire. A later invention that aided the operator in locating fires accurately was panoramic photos. Developed in 1933 in Region 6, the view from each of the 1,600 lookout sites in Washington and Oregon was depicted on a series of photographs. The operator could pinpoint a fire by referencing the vertical angle reading from the

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<sup>11</sup>Wallace Hutchinson, "The Eyes of the Forest," American Forests 28 (August 1922), 461-468.

firefinder with the graduated degrees marked on the photographs.<sup>12</sup>

The most important element in this search for fires was the observer's eyesight. Often nicknamed the "eyes of the forest," the observer had to be able to spot a column of smoke against and through varying atmospheric conditions for up to a distance of fifteen miles.<sup>13</sup> Numerous eye tests were developed and refined as the detection system evolved.<sup>14</sup>

#### Standardization of the Lookout System

The 1911 map of the Cascade National Forest exhibits vast areas of unknown territory, which was a major detriment to the success of the early fire detection system, not to mention the suppression aspect.<sup>15</sup> The system was

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<sup>12</sup>Kresek, 189-190.

<sup>13</sup>A. A. Brown, "Improving Forest Fire Detection in California," Journal of Forestry 33 (November 1935): 923-931.

<sup>14</sup>Richard E. McArdle, "Some Visibility Factors Controlling the Efficient Location," Journal of Forestry 34 (August 1936): 794-811; and "How Forest Fires Are Discovered and Reported," Scientific American (1 September 1917): 166.

<sup>15</sup>Cascade National Forest map, 1911; unless otherwise identified, all maps in this manuscript, both administrative and promotional, are in the Map Collection, Condon Hall Map Library, University of Oregon, Eugene; hereafter, maps will be identified according to national forest name and date only. The Willamette National Forest was created in 1933 when the Cascade and Santiam National Forests merged.

scientifically refined through accuracy in mapping. Planned lookout systems based upon careful mapping of the terrain became the focus of the Forest Service in creating a standardization of lookout stations through this decade.

Region 5 of the U.S.F.S., which encompasses the state of California, was the first region to begin standardizing the system. A plan was developed whereby mapping crews surveyed mountaintops between the Oregon and Mexico borders to determine the effectiveness of each position. This effort produced 1,200 maps, which were cross referenced with fire records of previous years to define zones of fire intensity. Risk zones were determined using man-caused and lightning-caused fire instances and fuel burning factors. This method of visible area mapping proved that the highest mountaintop did not necessarily provide the best sites for lookout stations. Overlay patterns of risk zones determined the location of the lookout sites using scientific analysis.

Three classes of lookout points were defined through this process. A primary lookout point covers an extensive amount of territory where fast burning fuels and man-caused fires were prevalent. This primary point was planned for occupancy during the entire fire season. A second lookout point had a smaller area of coverage, typically a deep canyoned area that a primary point could not view adequately. This second point would have a shorter or intermittent

occupancy, usually during a time of high fire danger. The third classification, an emergency lookout point, would be used only during a very dry season when extreme fire conditions existed.<sup>16</sup>

### Architecture

This classification of lookout station positions through mapping in turn created the need for a building type that would make the system successful. Many factors defined the design of the structure. The primary factor of its design was an unobstructed view. A clear panorama in all directions with views into canyons was essential. If too many trees at the site obscured the 360 degree view, the building was placed upon a tower. If a tower of sixty to one hundred and twenty feet was required for a clear view, then only a small observation cab could be constructed on top. Consequently another building for living quarters was necessary at the site. If the site warranted a low tower of less than sixty feet or a building positioned directly on the ground, then both observatory and living functions could be designed into one building.<sup>17</sup>

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<sup>16</sup>A. A. Brown, "Planning Fire Lookouts in California," American Forests 42 (May 1936): 214-215; and Brown and Davis, 339-342.

<sup>17</sup>Brown and Davis, 331-333.

Whether a tower or a ground structure, the building had to endure severe climatic conditions. A mountaintop is probably the most vulnerable position to construct any type of building. Steel towers were sturdy and lower in maintenance costs than wood structures. Masonry was the most durable, with higher initial costs and low maintenance, but limited by height constrictions. What defined the construction of the lookout was not so much the materials, but the building site itself.

One must remember that very few roads penetrated back-country areas until the 1930s. Any access to remote mountaintops was done by foot or horse over an evolving trail system that eventually connected every lookout point within a district and between districts on each national forest. Lookout stations were designed with the mode of transportation--mule trains--in mind (plate 7). In some instances, if mules could not negotiate the final ascent, materials were hand-winched to the top. All parts and pieces had to fit on the back of a mule and endure the rough trail conditions to the top of the mountain, window glass included (plate 8).

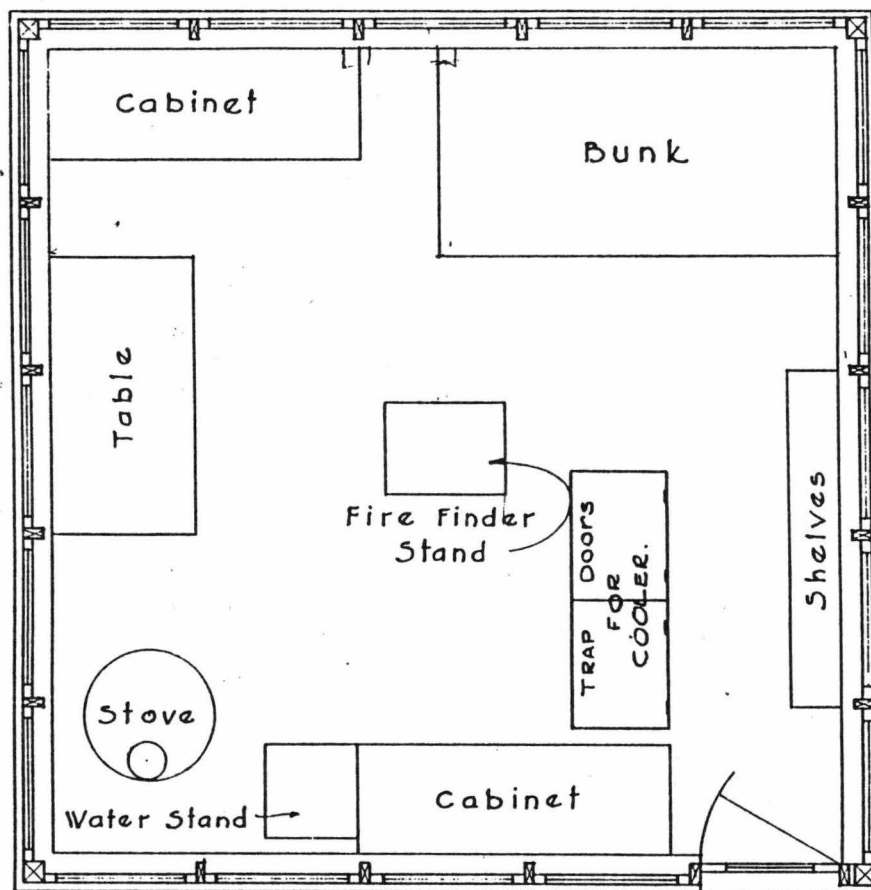
If the building was both an observatory and home, dual functions had to be designed into a compact space. The firefinder garnered center position with all other business and housekeeping activities around it (figure 1). Window muntins and framing members had to be less than six inches



Plate 7. Mule Train Packing Precut Lookout Station, 1922. Source: Willamette National Forest.



Plate 8. Henline Mountain Station Under Construction, 1933. Source: Willamette National Forest.



## FLOOR PLAN

Figure 1. Floor Plan of "Standard '36" Style Lookout Station, 1936. Source: Willamette National Forest.



in width to accurately sight the firefinder. The ribbon of windows had to be low to allow for views into canyons (figure 2). Shutters at all the windows provided a horizontal shading devise that also reduced glare. Low reflectivity of sunlight was achieved by using a pale green paint on the interior. Stoves for cooking and heating were fueled with wood or kerosene. Lookout towers often had a cooler cabinet--a screened box attached to the underside of the building (figure 3). Circulating air kept food cool; access was from the stairs of a tower structure or through a trap door in the floor of a ground structure.

Lightning protection was accomplished by positioning a copper rod on the roof. From this rod, four copper cables extended down each corner of the building and were buried in the ground a few hundred feet from the building. Each cable end was intertwined through a piece of wire mesh which in turn dispersed the lightning strike (figure 4). Providing this assemblage stayed intact, the building would be grounded from a bolt of lightning.<sup>18</sup>

During the 1910s, anything that could be put together using human ingenuity and local resources--specifically from the mountaintop--sufficed as a lookout station. Developments concerning architectural design were occurring throughout the various regions of the U.S.F.S. at this time.

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<sup>18</sup>Ibid., 331-339.



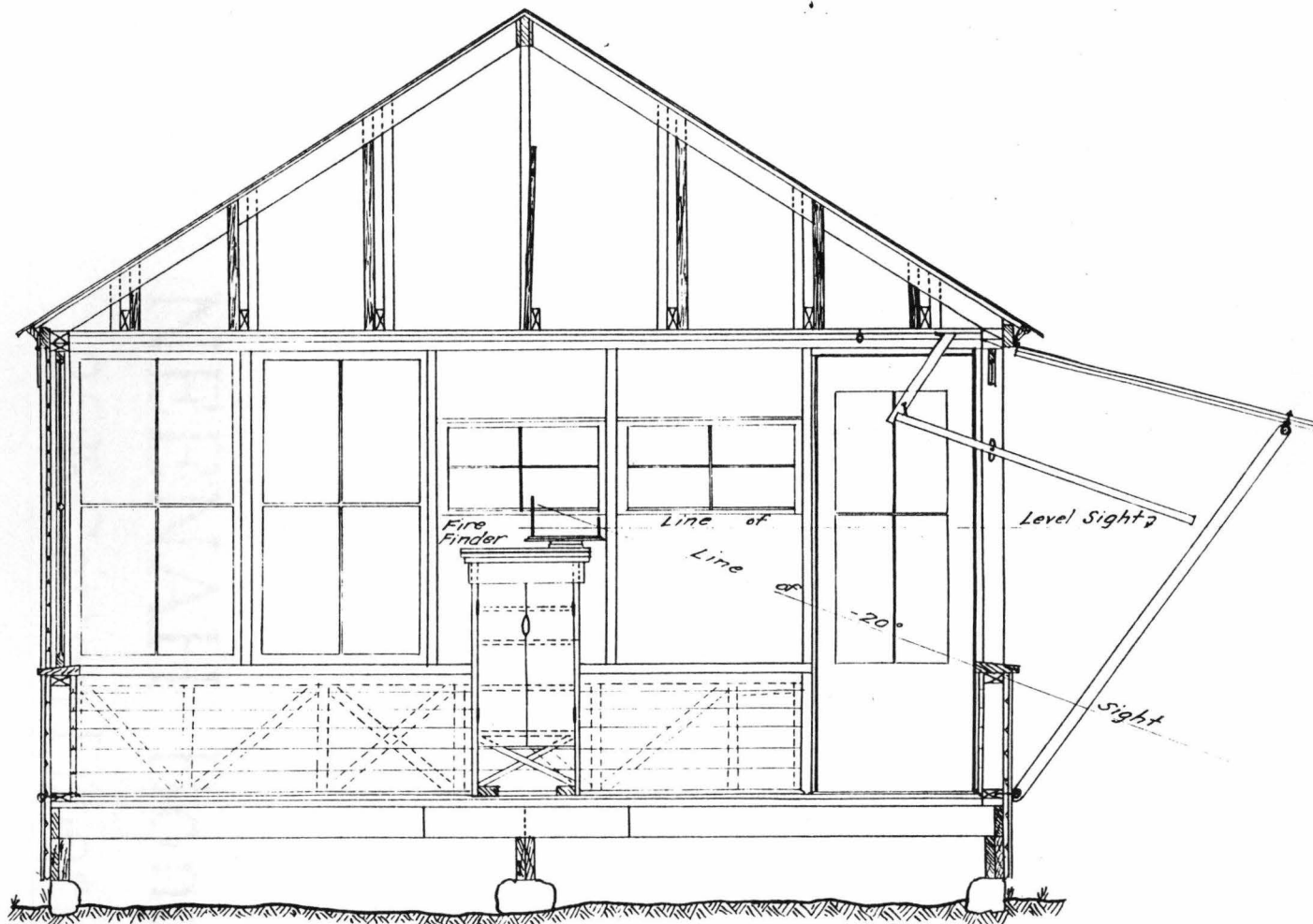
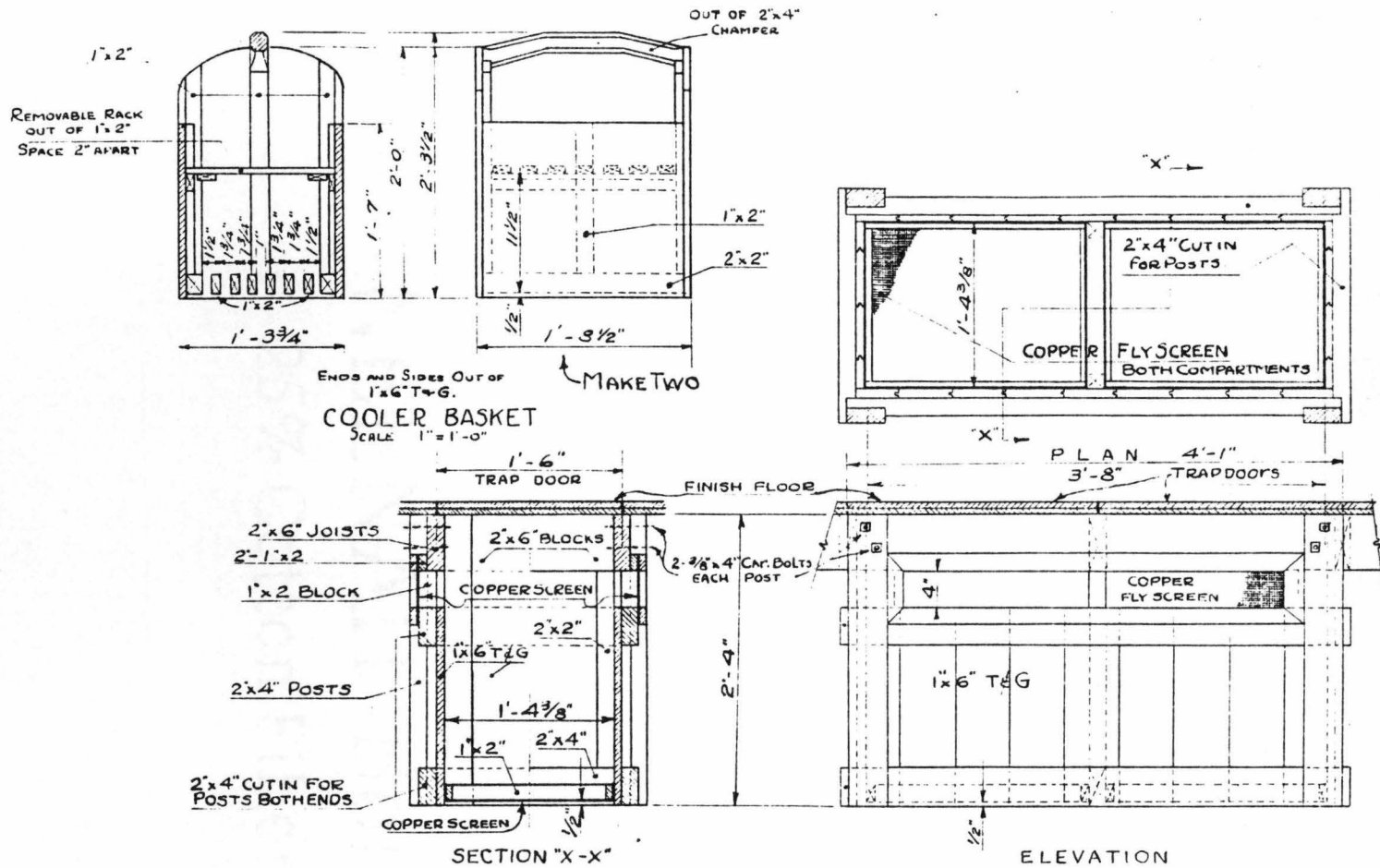


Figure 2. Cross Section of L-4 Lookout Station, 1932. Note Open Window and Shutter and Lines of Sight From Firefinder. Source: Willamette National Forest.



### DETAIL OF COOLER CABINET

Figure 3. Detail of Cooler Cabinet for "Standard '36" Style  
Lookout Station, 1936. Source: Willamette National Forest.



Generally, California (Region 5) led the way, with fire control research that affected the national scene. Other regions had their claim on innovations concerning fire control, also.<sup>19</sup>

Sources vary as to the origin of the numerous styles of lookout stations.<sup>20</sup> District 5, now Region 5, claims its D-5 Cupola as early as 1913. In 1915, a D-6 Cupola from District 6, now Region 6 was erected on Mt. Hood, Oregon's highest peak. In either case, the style was typically a twelve by twelve foot wood frame hip roofed cabin for living, with a hip roofed cupola above for observation (figure 5). This style was generally built in the 1910s and 1920s, though a few were built later.

The Aladdin Company manufactured a cupola style lookout station in 1914 which was a prefabricated packable building. Mountaintops in Montana, Idaho, Washington, and Oregon accumulated nearly 200 stations of this style. Variations on this cupola theme evolved with the materials and construction techniques available--logs were often substituted for

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<sup>19</sup>Pyne, 265.

<sup>20</sup>For a discussion of styles of lookout stations, see the following books: Spring and Fish, 12; Kresek, 11-12; Thornton, 25-26; Cox, Historic Fire Lookouts; and Gail Throop, Historic Buildings in Wilderness: A Search for Compatibilities (Portland, Oreg.: U.S.D.A. Forest Service, Pacific Northwest Region, May 31, 1990), 11. Appendix D of this manuscript contains a list of historic building plans available at the Willamette National Forest Supervisor's Office, Eugene, Oregon.

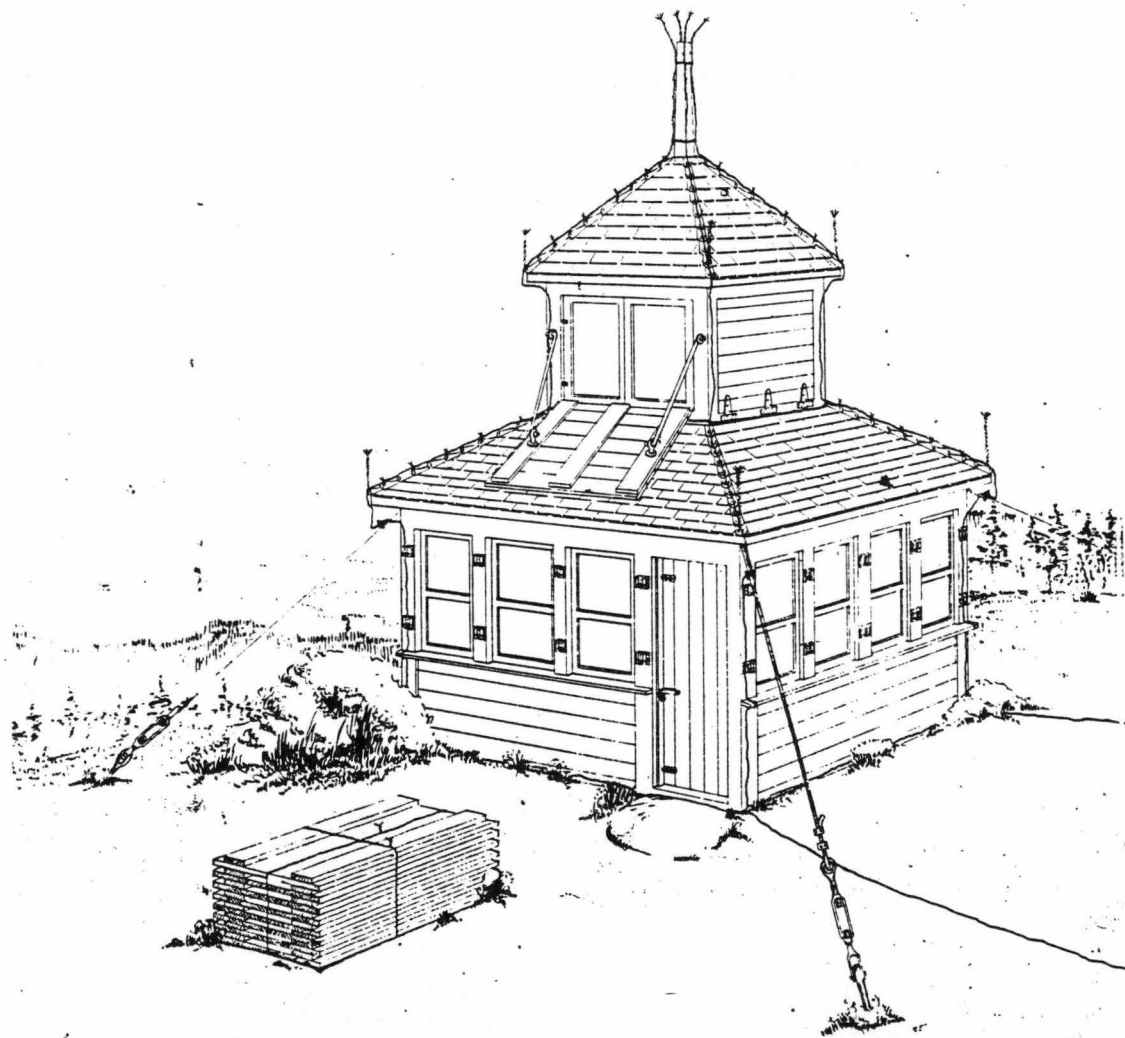


Figure 5. Perspective of the Ready Cut Lookout Station or D-6 Cupola, 1921. Source: Willamette National Forest.

milled lumber. A 1922 version using a gable roofed cabin and cupola emerged from District 1, now Region 1--the Northern Region--northern Idaho and Montana.

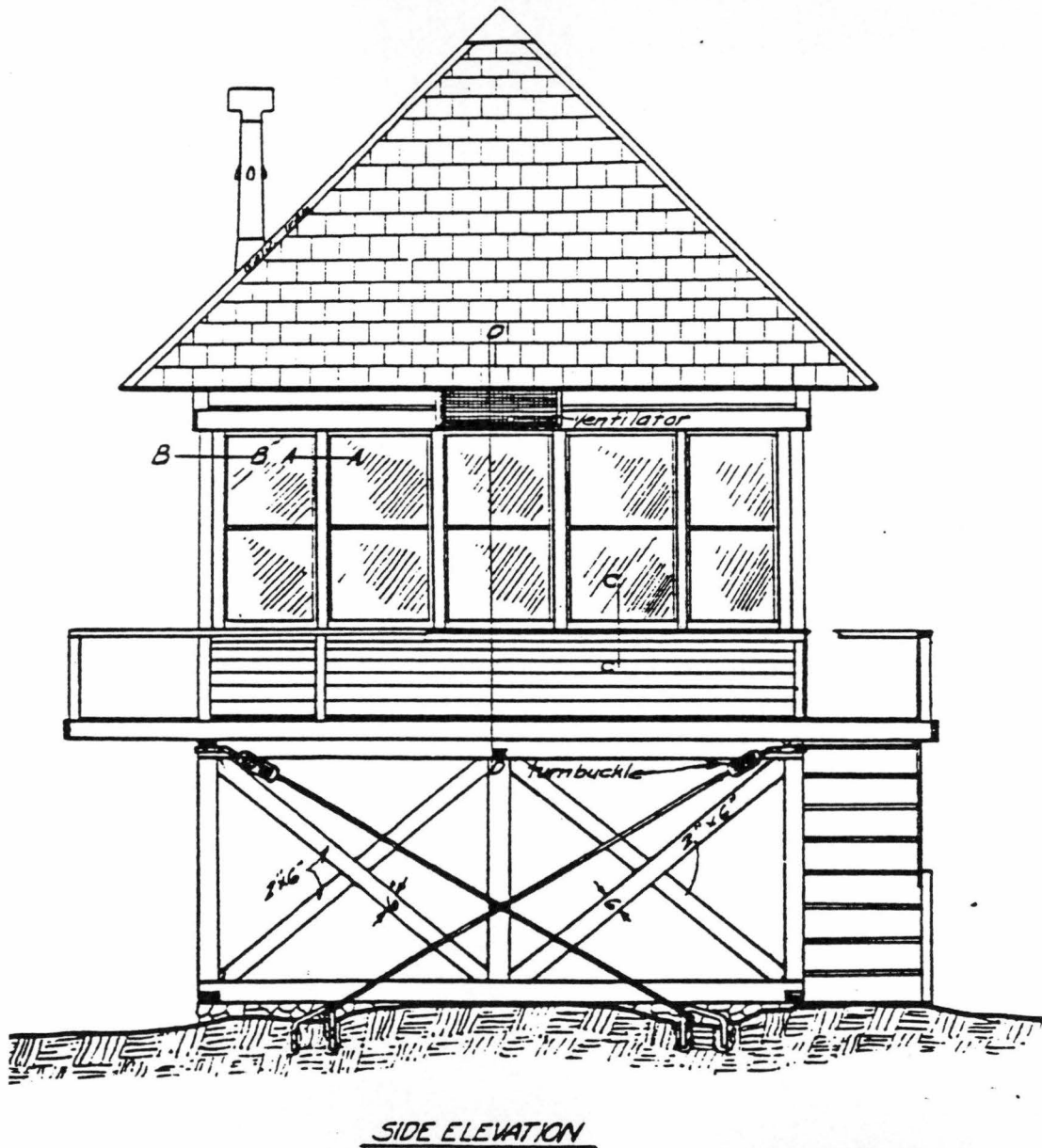
In 1917 District 5 developed a wood frame structure with a steep hip roof which combined the dual functions of observation and housekeeping in one room. This design was modified in District 6 by Charles C. Hall, the Forest Supervisor on the Santiam National Forest, and became known as the "Supervisor Hall Special."<sup>21</sup> This style was constructed through the 1920s (figure 6).

The cathedral style lookout station was developed in the late 1920s; only seven structures of this type are known to have been built. A square or rectangular wood frame house with a gable roof was penetrated with a gable roofed tower at one of the corners. The height of the tower depended upon the terrain viewed (plate 9).

The L-4 model lookout station, developed in 1929, was the prototype for thousands of mountaintops throughout the northwest. This style, commonly called the "Grange Hall," was a precut wood frame fourteen by fourteen foot structure which combined the dual functions of observation and housekeeping beneath a gable roof (plate 10 and figure 7).

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<sup>21</sup>Cox, 6; and Thornton, 27.



U.S. DEPARTMENT OF AGRICULTURE  
 FOREST SERVICE  
 DISTRICT 5  
 PRIMARY LOOKOUT HOUSE  
 Scale 1/8" = 1 Foot  
 J.H.L. 5/10/22

Figure 6. Primary Lookout Station (District 5) or "Supervisor Hall Special" (District 6), 1922. Source: Willamette National Forest.



Plate 9. Cathedral Style Lookout Station, Indian Ridge, 1955. Source: Ed Anderson and Ron Johnson.



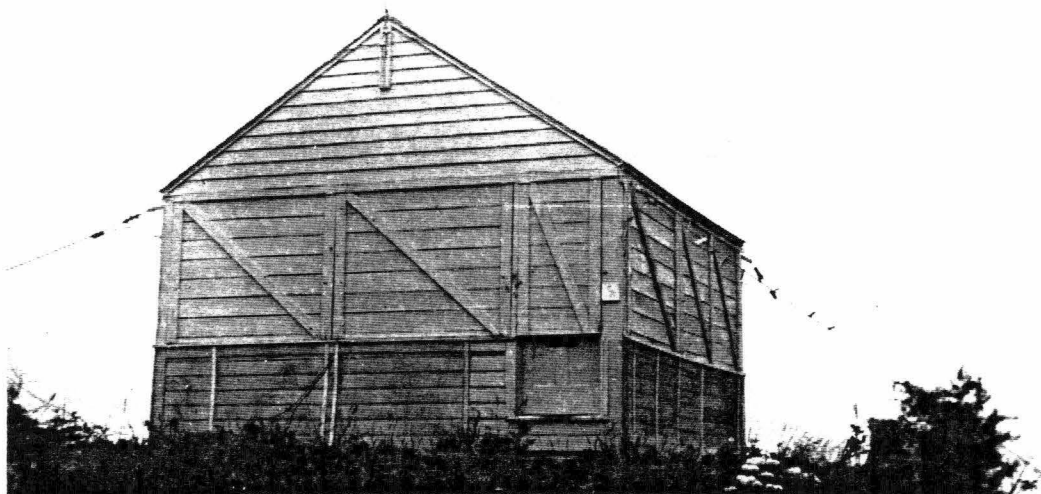


Plate 10. Ollalie Mountain Lookout Station, L-4  
"Grange Hall" Style, 1969. Source: Willamette  
National Forest.

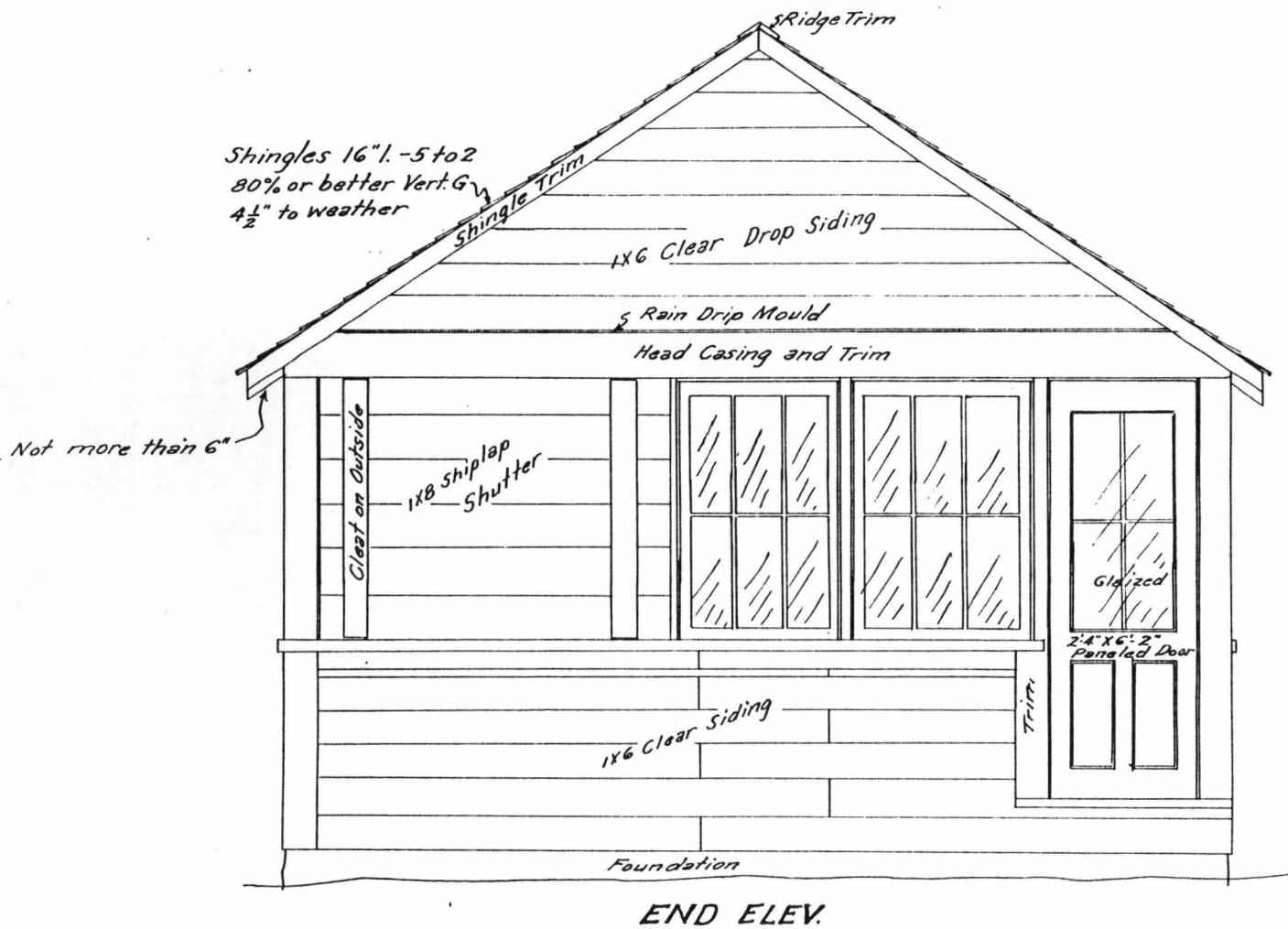
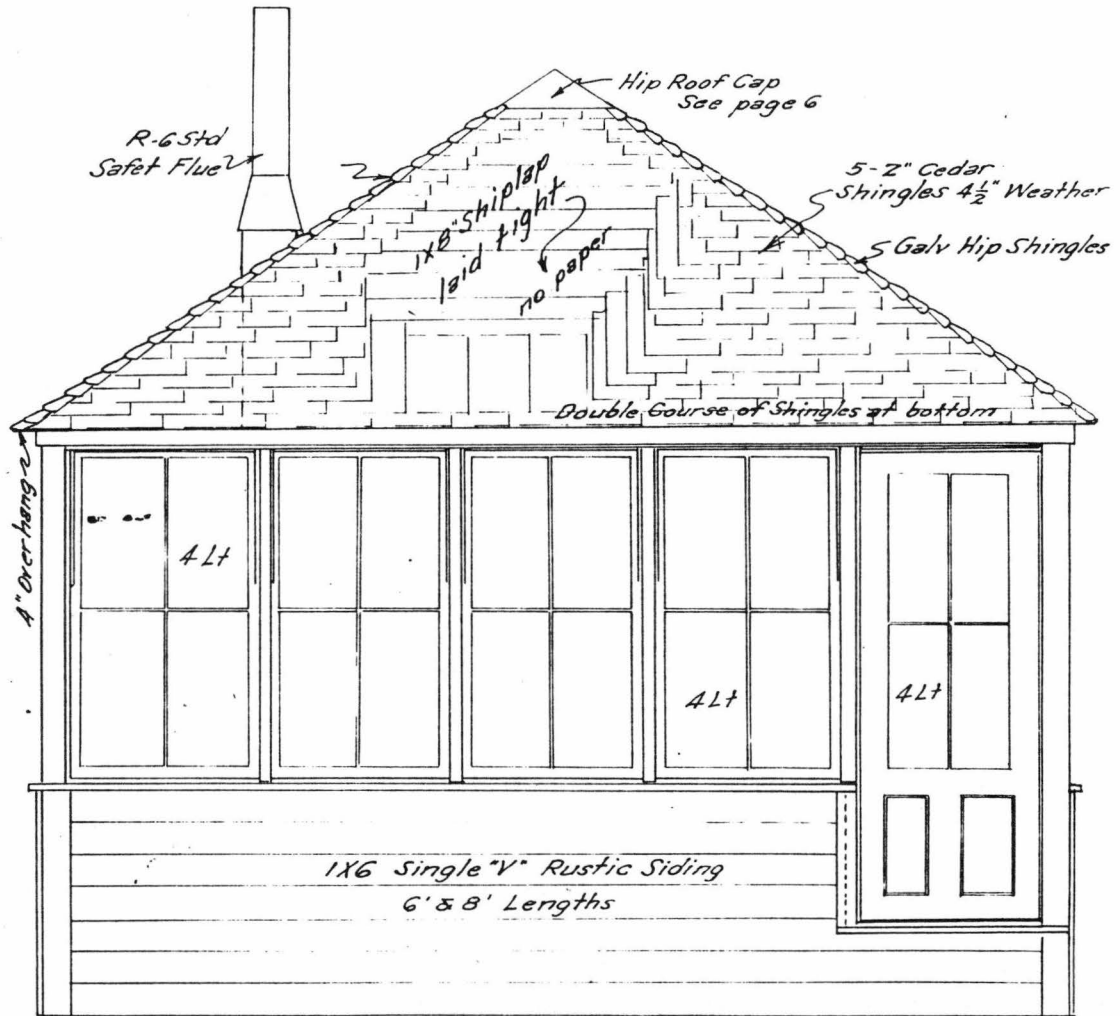


Figure 7. End Elevation of L-4 "Grange Hall" Style Lookout Station, 1930. Source: Willamette National Forest.

This versatile model could be erected directly on the ground, with a basement substructure, or on a tower.

The hip roofed version of the L-4 made its debut in 1932 (figure 8 and plate 11). A further revision in 1936 provided outriggers which extended the ceiling joists beyond the eaves. These extensions provided a sturdy support to latch the window shutters when in an open position. This model became known as the "Standard '36" (plate 12 and figure 9). A smaller version of the 1932 L-4 model, the L-5, was ten by ten feet and was used at secondary lookout points (plate 13). An even tinier model, the L-6 used at emergency lookout points, was eight by eight feet and built on tall towers or directly on the ground.

Steel lookout towers were a natural evolution of windmill towers and oil derricks. Manufactured by Aermotor Company, Emsco Derrick Company, and the Baker Manufacturing Company, these towers were generally used for observation only (plate 14). These tall steel towers, thirty-five to one hundred-seventy-five feet, were capped with seven by seven foot pyramid roofed steel observatories. The space accommodated a firefinder, a table and chair, and telephone. These lookout towers proved to be sturdy and vandal-proof, except for the window glass. Living quarters were located in a separate building at the site. Region 5 experimented with a live-in version, but few were ever built.



**FRONT ELEVATION**

Figure 8. Front Elevation of L-4 Style Lookout Station With Hip Roof, 1932. Source: Willamette National Forest.



Plate 11. Gold Butte Lookout Station, 1963. L-4 Hip Roof, Note Shutter Supports. Source: Willamette National Forest.



Plate 12. Huckleberry Mountain Lookout Station, 1962. L-4 "Standard '36" Style, Note Shutters Attached to Roof Extensions. Source: Willamette National Forest.

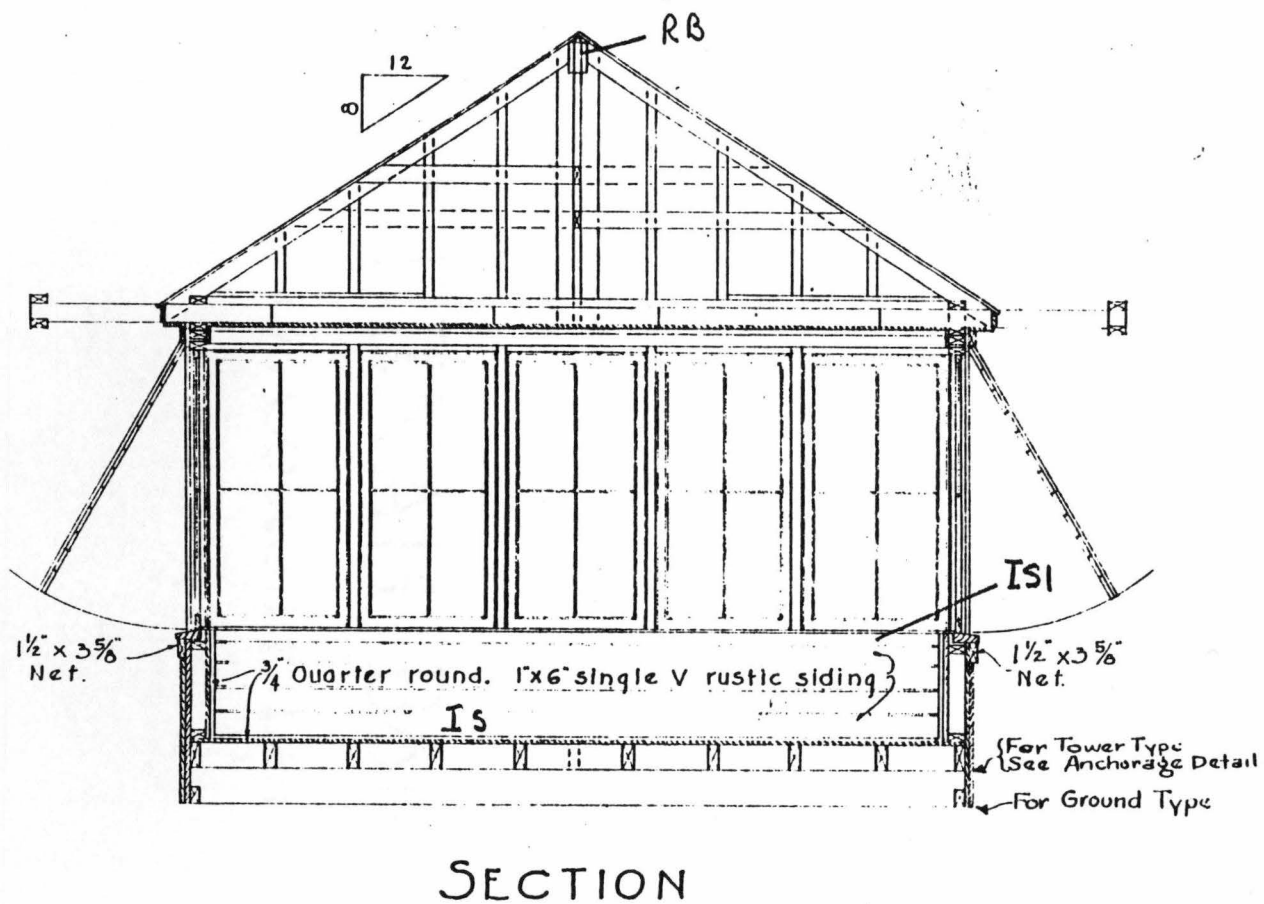


Figure 9. Section of "Standard '36" Lookout Station, 1936.  
Source: Willamette National Forest.



Plate 13. Hills Peak Lookout Station, 1946. L-5  
Style, 10' x 10'. Source: Willamette National Forest.



## Forest Service Steel Towers

This illustration shows a galvanized steel tower erected by the U. S. Forest Service on Promontory Butte, Sitgreaves National Forest, Arizona.

The tower, which is 110 feet high to the floor of the house, was designed and made by Aermotor Co., Chicago.

The well guarded stairs and the frequent landings make this high tower safe and easy for any one to climb.

The Aermotor Co. makes the best types of towers for forest protection and other purposes.

*Write for their new Bulletin  
on Forest Service Towers*

**AERMOTOR CO.**

2500 Roosevelt Road  
CHICAGO, U. S. A.

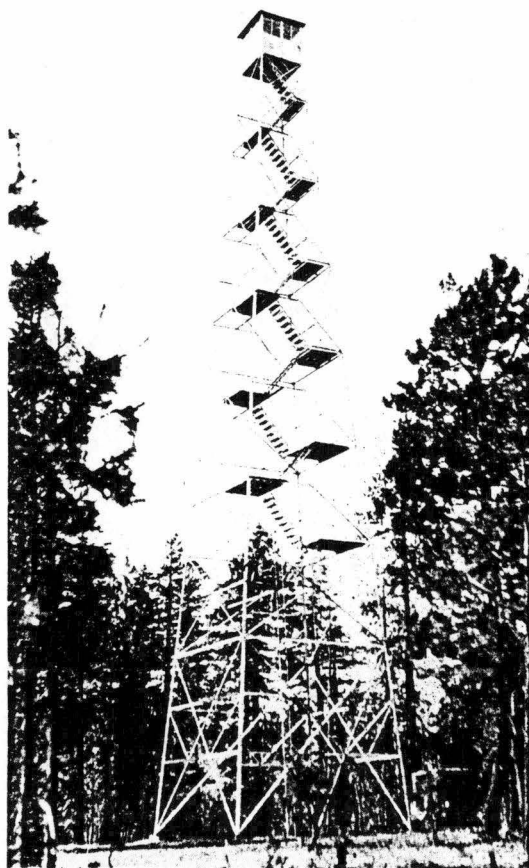


Photo. by R. E. Marsh. Courtesy U. S. Forest Service

Plate 14. Forest Service Steel Towers, Advertisement.  
Source: American Forests and Forest Life 32 (November 1926), 559.



These steel towers were introduced in the 1920s and continued to be built through the 1940s.

The late 1940s and 1950s witnessed a radical change in design, the fifteen by fifteen foot flat-top, constructed on the ground or on a tower (plate 15). A product of new technology, materials, and vehicular access to the sites, the flat-top was constructed of plywood and is said to offer poor ventilation and more blind spots than any other design. This style was often used as a replacement for sites where older lookout stations were failing. Some sites offer visible documentation of the generations of building design. A flat-top may be accompanied by the remnants of a crow's nest. An early log or stone structure once used as living quarters may now be a storage shed. The footprints of an older tower may remain as concrete foundations at the site.

Beyond these recognized standard designs, every imaginable variation existed. It is not within the scope of this study to differentiate and discuss the innumerable designs that evolved amongst the 5,000 plus lookout stations that were erected between 1905 and the 1950s, but it is accurate to say that each region of the Forest Service developed, experimented, and constantly tried to perfect these mountaintop stations as new technology and ideas presented themselves.



Plate 15. Flat-top Style Lookout Station on Grass Mountain, 1962. Source: Willamette National Forest.

### Civilian Conservation Corps

The Civilian Conservation Corps (CCCs) was a work force created during the Depression which employed 2.5 million people from 1933 to 1942. Three-quarters of these work crews were assigned to the Department of Agriculture and were engaged in forest improvement and protection. The CCCs made possible the building boom of the Forest Service from 1929 to 1942. By 1936, the CCCs had greatly improved the fire detection system; 44,750 miles of telephone wire had been strung, 11,402 miles of truck trails had been cleared, 62,970 miles of foot trails were carved into the forests, and 611 lookout stations had been constructed on Forest Service land. The CCCs had also been involved in forest improvements on state governed forested lands which enhanced the total protection of the woods.

Additionally, the CCCs also supplied a massive fire fighting force which by 1935 changed the course of fire suppression. The CCCs were committed to the fire line for the first time in 1933 on the Tillamook Burn in northwestern Oregon and revolutionized the structure of manpower in fire control. This conflagration burned over 300,000 acres of prime forest land in a period of three and a half weeks and destroyed 10 to 12 billion board feet of lumber.

The advent of the second World War caused the disbandment of this work force by 1942. The various branches of the military absorbed these crews of men who had labored in the woods creating a remarkable legacy of trails and buildings which changed the forest landscape. World War II drained the country of manpower and money needed to continue this trend in building within the Forest Service. The Forest Service has yet to experience a massive construction endeavor such as was made possible during the Depression by the CCCs.<sup>22</sup>

10:00 A.M. Policy of  
Fire Suppression

The Tillamook Burn in 1933 was a major deciding factor in restructuring fire control policy. This devastating fire was also a test for regional cooperative agencies: National Parks, state and local fire organizations, and private timber companies. The 10:00 A.M. Policy was in its embryonic form at the time of the Tillamook Burn and was not adopted until 1935.

This policy was based on scientific research of fire's characteristics. Relative humidity is highest at night and decreases in the early morning hours. From 10:00 a.m. to 2:00 P.m., the air begins to dry and the burning factor

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<sup>22</sup>Pyne, 322-334, 364-371; and Spring and Fish, 10-16.

increases. Therefore, suppression efforts are more effective at night when the air's moisture can be used to stall the fire's advance. When a fire was reported, a sufficient number of men was to be dispatched to control the fire by 10:00 a.m. the morning following its discovery. If the conflagration was not under control at this time, then the deadline for containment was 10:00 a.m. the following day, and so on until the fire was suppressed.

The speed of attack and success in fire control was based on a series of time standards which began at the mountaintop stations. The defense of the forest from fire depended upon fast and accurate detection by the lookout operator. "Discovery time" was the period of time between the minute the fire was ignited and the minute it was seen. This was largely undefinable, but was entered in the station's logbook as the time the fire was first spotted. The lookout operator was then allowed three minutes to accurately locate the fire and two minutes to report the location to the dispatcher at the ranger station. The dispatcher was then given two minutes to report the fire to the forest ranger, who would set into motion the fire suppression force. "Getaway time" was the time it takes for the crew to leave for the fire and was set at five minutes. "Travel time" was the time spent by the fire fighting crew on the road or trail to reach the fire. This, of course,

varied upon the road and trail conditions. "Control time" was the time spent fighting the fire to bring it under control.<sup>23</sup> This was anticipated to be at 10:00 a.m., the day after its discovery. "Blackout" was the time spent by the crews patrolling the fire and extinguishing or "mopping up" all burning material once the fire was under control.

The 10:00 A.M. Policy was time dependent and reflected the necessary pre-suppression training and speed in which a fire crew could reach the blaze. As compared to the older method of smokechaser suppression or rounding up a crew of fire fighters from the local community, the 10:00 A.M. Policy was an evolutionary step in fire control that unfortunately suffered from the depressed economy of the 1930s. It was difficult to make this policy work when the economy was suffering and funding was required for pre-suppression readiness:

The big fires continued, and the economy stagnated. It was wartime production that brought the economy out of the Depression, and it was post war technology that gave fire suppression the mechanized tools to reduce burned area figures and to meet hour control objectives.<sup>24</sup>

World War II drained manpower and funding from improving the 10:00 A.M. Policy, but the concept endured and thrived

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<sup>23</sup>S. W. Allen, An Introduction to American Forestry (New York: McGraw-Hill, 1938), 122-127; and "How Forest Fires Are Discovered and Reported," 166.

<sup>24</sup>Pyne, 283.

during the postwar era and was not restructured until the 1970s.

World War II gave the lookout stations a new function. The Aircraft Warning Service (AWS) was instituted in California in 1937 and trained lookout operators in spotting aircraft. By 1942, this detection system for enemy aircraft was used all along the Pacific Coast. Hundreds of lookout stations were used all year long for around-the-clock detection. A team of lookout operators were used for rotating eight hour shifts. Husband and wife teams were often hired for this purpose:

Mr. and Mrs. Slim McDowell drew the Dutchman's [Peak] assignment for the 12-month stretch in '42. They got along wonderfully, . . . perhaps because it was four days on snowshoes out to civilization. Not once did an enemy airplane come within sight or sound of their post; but occasionally a "friendly" P-39 dive bomber would buzz the mountaintop, just to keep the observers on their toes.<sup>25</sup>

The AWS ceased by 1945, but was reinstated in 1950 with the advent of the Korean War Conflict and lasted until 1957.

In this manner, World War II gave another dimension to the evolution of the lookout system. The major building period of the 1930s was over; some lookout stations were modernized and a few new ones replaced old ones, but generally a minimum of new sites were developed. The war did,

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<sup>25</sup>Kresek, 51; and Thornton, 17-18.



however, produce great technological advancements that made profound changes on the system afterwards.

### Post War Technology

World War I pioneered the way for aircraft use in fire control. In 1918, the first airplane fire patrol was used in California. A 1922 article in the American Forestry journal states that:

The airplane, although an important adjunct to the detection and fire fighting systems now in use, will probably never replace the lookout station. One of the reasons for this is that any given part of a forest located along an aerial patrol route is only under observation from an airplane for a few minutes each day.  
. . .<sup>26</sup>

In this article, superiority in observation was given to the lookout operator, not the aerial patrolman. Foresight of the advancements in technology was not imagined at this time, nor were the improvements in communications or the massive penetration of the forests by a trail and road system.

World War II brought about significant changes in the airplane and its use in fire detection. Region I, the Northern Region, led the way in aerial surveillance:

By 1945 aircraft had so transformed fire protection that the Continental Unit [an extensive backcountry area] was established in the Rockies as an experiment

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<sup>26</sup>Hutchinson, 466-467.



in which all detection, suppression, and support would be by air.<sup>27</sup>

In comparison to the 1922 objections to aerial surveillance, the plane was now seen as an important adjunct to fire detection. Coverage was noncontinuous, but flexible, and offered better definition of a fire from an aerial point of view in terms of location, access points, and fuel types. The aerial surveillance system required pilots and observers to patrol an area once a day and, during high risk periods, every four hours. Using aircraft for detection reduced the investment in fire detection systems:

Increased dependence on aerial patrol in Northern Idaho and Montana has resulted in the abandonment of large numbers of lookouts and many miles of telephone lines and trails.<sup>28</sup>

Aircraft were seen as an adjunct to a skeleton lookout system. These buildings could still serve as radio contact points and to ensure against "sleeper" fires--smoldering fires that do not incinerate quickly and are hard to detect.<sup>29</sup> As aerial surveillance increased, buildings were enhanced with a site number or the name of the lookout station. Pilots overhead could orient themselves by reading the number or name painted in large letters on the roof or

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<sup>27</sup>Pyne, 255-257.

<sup>28</sup>Brown and Davis, 346.

<sup>29</sup>Ibid., 344-351.

shutters. Sometimes the name of the station was spelled out with painted white rocks arranged on the ground nearby.

In addition to surveillance, aircraft also enhanced fire control from a suppression perspective. Experiments with planes for dropping cargo were conducted from 1936 to 1938 and proved a quick substitute for supplying fire crews by mule train. Not only did aircraft supply crews, but waterbombing experiments were conducted in 1935-36 using containers of water. This was followed by tests using chemical fire retardants. By 1955, World War II bomber planes were successful in aerial attacks using slurry--a watery mixture or suspension mixture of insoluble matter.<sup>30</sup>

In 1939, smokejumpers crews parachuted to fires in the Chelan National Forest in Washington.<sup>31</sup> These specialized attack crews were used for initial strikes on backcountry fires and became an important factor in promoting the 10:00 A.M. Policy:

One or several men can be placed on a backcountry fire by parachute from a central point 50 miles away in the same time that a backcountry fireman can get to it from 2-3 miles away on foot. . . . Whole systems of widely disseminated firemen and lookout fireman in backcountry were replaced by smokejumpers at a central point.<sup>32</sup>

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<sup>30</sup>Ibid., 378-383.

<sup>31</sup>Pyne, 341; and Brown and Davis, 378.

<sup>32</sup>Brown and Davis, 479.

Specialized training centers developed for this elite corps of fire fighters. Smokejumper centers were established at Missoula, Montana, McCall, Idaho, Winthrop, Washington, and Cave Junction, Oregon, in the 1940s with Missoula becoming the focus of the smokejumper training by the early 1950s.

World War II enhanced the method of communications throughout the forests with the development of the two-way radio system. Telephone communication had evolved from grounded lines to a government-owned metallic line circuitry system. The grounded system had the intolerable weakness of severe static, and both types of telephone systems were maintenance-intensive. Most backcountry telephone lines were abandoned after the war, and the radio became the dominant form of communication. AM (amplitude modulation) radio was used, but proved to be hampered by atmospheric static. HF (high frequency) and VHF (very-high-frequency) FM (frequency modulation) radio is now the standard of communications that developed in the postwar era. Jeanne Kellar Beaty explains the impact that radio communications had on the lookout operators life in the late 1940s:

The most important task on our district that summer was the installment of new high-frequency radios. Marconi was superceding Bell on our forest, and our district was to get the first three radios. To our great joy West Horse, Long Tom and Stoddard [Lookout Stations] were to have these sets and for the first time in many

years the long telephone lines into Stoddard and West Horse did not have to be worked [maintained].<sup>33</sup>

Radios alleviated the need for the pre-fire season maintenance of telephone lines and the constant attention by lookout operators to keep the lines working. UHF (ultra-high-frequency) radio is now also used. All three types of equipment is limited by rugged mountain terrain and line of sight transmission is necessary. Consequently, ridgetop locations are now common sites of radio relay stations, and many a lookout site has been converted to this function.<sup>34</sup>

#### Decline of Fixed-Point Detection

In 1953, the number of lookout stations peaked at 5,060. The use of lookout stations for fixed-point detection began to decline with increased use of aerial surveillance. Nonvisual means of detection were also explored. Heat-sensing devices were tested in the 1960s as a method of detecting fires through infrared sensing equipment. Given a direct line of sight, this method proved effective for sensing heat at night from a fixed location, but daytime sunlight reduced its capabilities. When coupled with aircraft patrol flights, infrared scanning devices attached to the

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<sup>33</sup>Jeanne Kellar Beaty, Lookout Wife (New York: Random House, 1953), 212.

<sup>34</sup>Brown and Davis, 469-473.

wing of an aircraft proved superior over its use at a fixed location.<sup>35</sup>

A surveillance method that did prove somewhat effective at a fixed location was television. Television cameras were installed in lookout stations to survey the tree tops. Microwave equipment transmitted the television image to a screen in a control room at the ranger station. This proved to be a fair substitute and could supplement the lookout operator during off hours, but was not a superior replacement for the human eyes.<sup>36</sup>

Increased timber sales and advanced methods of logging changed the forest landscape. Logging roads penetrated the mountain terrain and allowed increased access of not only fire suppression crews, but the public in general. With this greater ability to move through the woods, lookout stations were visited by more than individuals interested in a view from a mountaintop. Vandals began to destroy the once-remote stations, which affected the annual maintenance costs:

"Lookouts used to be unlocked all winter," he explained. "We thought they could be used for emergency purposes. But people took advantage of them and came in all the time. They didn't realize that a stove only lasts half as long if it isn't taken care of or the

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<sup>35</sup>Ibid., 354.

<sup>36</sup>Ibid., 354-355; and Ed Kerr, "Science on the March: Spotting Forest Fires with T.V.," Scientific Monthly 79 (August 1954): 129-130.

floor rots out twice as soon if snow and rain gets in or that if a shutter isn't properly fastened down against the window the wind tears it off and it takes a man a full day's work to fix it."<sup>37</sup>

In addition to annual maintenance costs, the wages of the lookout operator increased. Traditionally, a lookout operator was paid for eight hours of work per day. Yet the operator did not leave the lookout and go home at 5:00 p.m. or take the weekends off. The lookout operator was on call twenty-four hours a day for the duration of the fire season, at no extra cost to the government. During the 1950s, that attitude changed; the Forest Service was obligated to pay overtime wages for observation beyond the eight hour shift. The annual operational costs skyrocketed. In the 1930s, when the majority of the lookout stations were newly built and yearly maintenance was minimal, a summer's wages for a lookout operator cost the Forest Service \$1,000. By 1966, when the buildings were in their third decade of use, the annual cost to maintain and operate a lookout station was \$8,000, and more, if overtime was accrued by the operator.<sup>38</sup>

Not only was fixed-point detection undergoing intensive changes due to technology, but the 10:00 A.M. Policy of fire suppression which had endured for the past thirty years came under serious review by the late 1960s. Fire control had

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<sup>37</sup>Beaty, 136. Comment by the District Ranger in the Indianola Ranger District, Salmon National Forest, Idaho.

<sup>38</sup>Spring and Fish, 15-18.



become a highly mechanized and specialized field. By 1961, Interregional (IR) Fire Suppression Crews were created by the Forest Service. These "hot shot" crews were mobile units of fire fighters to be used anywhere in the nation. In 1970, fifteen such crews were on duty. By 1977, that number had doubled. This doctrine of total mobility relied upon complete interchangeability of crews and overhead. These crews were used only when local suppression units--small tanker crews, helitak squads, and handline smoke-chasers--failed on the initial fire attack.<sup>39</sup>

The 1978 National Fire Effects Workshop adopted the new fire control procedure: The Total Mobility Policy. Fire control's escalating budgets required finding new solutions in fire control. Emphasis was placed upon better management of what already existed, in terms of manpower, equipment, and techniques of applying them. Fire control dedicated itself to information technology; computer programs for data processing and analysis were developed.

New research in forest ecology produced new concepts in fire management. A pluralistic approach to fire control was adopted. Fire control had directed the mission of the Forest Service from its creation in 1905. The Forest Service's new directive would integrate fire control with general land use objectives--a subordinate position of

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<sup>39</sup>Pyne, 380.

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accommodation of fire rather than control. Fire Control was even given a new title: Division of Fire Management.<sup>40</sup>

One area in which the attitudes of fire management changed was its new directives towards wilderness fires. Prior to the 1935 10:00 A.M. Policy, the Forest Service did not expend great efforts on fire control on remote mountainous areas. Typically, the backcountry fell into the "let it burn" realm of fire control. From 1935 to the 1960s, wilderness areas were protected from fire, as was any other area:

Indeed, the modern era of fire protection begins with fire suppression on newly reserved wildlands. . . . Many roads, trails, [lookout stations], and communication networks were constructed for fire protection, and in many regions fire control--with its physical plant and organized crews--constituted the only real administrative presence of the land agency. To extend fire protection to a remote region of little commercial merit was to pay the supreme compliment to these lands: they were equal, perhaps greater in value than commercial lands.<sup>41</sup>

The Wilderness Act of 1964 gave "statutory definition and protection to lands for the National Wilderness Preservation System."<sup>42</sup> By the 1970s, fire ecology studies determined that fire was not necessarily a bad occurrence. Natural fire was seen as having positive effects; burning the many years of accumulated fuels was determined

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<sup>40</sup>Ibid., 294.

<sup>41</sup>Ibid., 15-16.

<sup>42</sup>Ibid., 17.



advantageous to the environment. The cycles of nature were given free rein upon the wilderness areas, consequently:

. . . [the] Wilderness Act slowly relieved fire officers from the practical question of fire control in remote areas and from the bureaucratic problem of appearing not to manage lands should the Service's only real presence, fire control, be withdrawn.<sup>43</sup>

Fire by prescription, based upon primitive cultures' land clearing for agriculture, hunting, mobility, and waging war, was another new directive valuable for forests and rangeland. Prescribed burning emphasizes planned use of fire within the general land management program for the benefit of another land use, i.e., clearing brush for a tree plantation. Many controversial issues surround prescribed burning practices: unnecessary air pollution, net beneficial effects versus damages, liability if fire burns beyond Forest Service boundaries, and society's acceptance of the practice when the concept of fire is predominantly a negative activity.

Prescribed burning involves coordination among many specialists within the field of forestry and a complex number of conditions. This aspect of fire management is still evolving and is but one objective of the Forest Service's fire management program of the past two decades.<sup>44</sup> It is interesting to see the full circle that the Forest

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<sup>43</sup>Ibid., 291.

<sup>44</sup>Brown and Davis, 557-560; and Chandler et al., 207.

Service has come concerning the philosophical and ideological concepts of fire and its domain within our society. As Edward Abbey explained in 1977 in The Journey Home:

Now, after fifty years of arduous fire suppression effort, the useful role of natural fire in the forest ecosystem is becoming recognized among foresters. But the public, indoctrinated for so long in the Smokey Bear ethic, may not be easy to reeducate.<sup>45</sup>

#### Integrated Fire Detection

Gradually, the Forest Service began to abandon their lookout stations in the late 1950s and early 1960s in favor of other methods of fire detection. These mountaintop stations suffered a period of benign neglect until 1965, when a Congressional Act allowed citizens to sue the government for injuries suffered on government property. Lookout stations began to acquire a new demeanor of being an "attractive nuisance."<sup>46</sup> The Forest Service embarked upon a period of "burn and destroy," whereby thousands of lookout stations were removed. The buildings were torched and burned throughout the national forest system, and little evidence remains except in photographs and tales of old-timers. Some towers had their legs chainsawed and were allowed to tumble down the mountainside. A few lookouts were offered for sale

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<sup>45</sup>Edward Abbey, The Journey Home (New York: E. P. Dutton, 1977), 42.

<sup>46</sup>Spring and Fish, 17.

and could be bought for a \$1.00, provided the buyer dismantled and removed the structure from the site.

Of the skeleton lookout system that remained active, other functions beyond fire detection were provided; meteorological services, communications relay positions, lightning strike data gathering locations, and human contact points for forest users. In addition to the remaining lookout stations, national forests once again returned to an earlier method of fire detection--ground patrol. But instead of human feet or horses, the automobile and the hand-held radio provide the mobility and communications. Road systems throughout the forests provide quick access to vantage points during high risk periods for surveillance, particularly during lightning storms. Campgrounds and recreation areas can also be patrolled at high fire danger times. Though ground patrol is not fully dependable nor continuous, any Forest Service personnel working in the woods can easily patrol for fires.

In addition to technological advances that supplement fixed-point detection, the changes in the use of forest lands has increased detection from a user perspective. Areas that were once heavily forested and remote are now overrun with people: loggers, recreationists, and residents. Volunteer detection on a cooperative level by forest users has been common for decades. People residing in rural

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areas adjacent to national forests have their property at risk and are certainly interested in early detection of fires that may impact their well being. With the heavy use some national forests that border densely populated areas receive, chance detection by passersby is also a dependable surveillance method.<sup>47</sup>

As more and more people encroach upon the national forest lands, the need for lookout stations declines. Air pollution levels from heavily populated areas affect the surveillance activity of once-remote lookout stations. In southern California, lookout stations have been rendered useless when constant air pollution hampers visibility. The use of lookout stations will, however, remain viable in remote, densely forested regions where the population has not impacted the area.

#### Popular Literature

Much has been written about the experience of spending a summer fire season upon a high mountain peak. These lookout stations have enjoyed an interesting social history, and popular literature has tirelessly offered the experiences of the lookout operators for the enjoyment of many readers. Since the 1910s, popular magazines and professional journals

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<sup>47</sup>Brown and Davis, 352-353.

alike have reported the adventures of mountaintop life from a lookout operator's perspective. Full length books--both autobiographical and fictional in nature--plus commentary, poetry, and, more recently, inventories of lookout stations, have chronicled the romance and excitement of these high vantage points.

Lookout stations have been operated by a variety of people: college students, teachers, honeymooners, poets, writers, miners, preachers, philosophers--the list is endless. According to these participants, life on a mountaintop can be both enlightening and overwhelming. Zoe Tracy Hardy described her experience as part of the lookout system on Stein Mountain in Idaho as that of:

. . . little gods living atop a giant relief map.  
 . . . At certain times of the day, the sun would strike the tops of some of these mountains, revealing white shimmering dots--other lookouts with their own worlds lying about their feet.<sup>48</sup>

Jeanne Kellar Beaty similarly describes the life of herself and her husband, the lookout team on Long Tom Mountain in Idaho, in her book Lookout Wife:

Yes, we lived in a world of our own, at the high level of the mountaintops, at the meeting place of earth and sky, Land's End and Heaven's Beginning.<sup>49</sup>

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<sup>48</sup>Zoe Tracy Hardy, "Summer on Stein Mountain," American Mercury 81 (July 1955): 54.

<sup>49</sup>Beaty, 78.

Life as a lookout operator on a mountaintop can also diminish the human spirit and expose its various weaknesses, of which writer Jack Kerouac fell prey during his summer on Desolation Peak in Washington:

It was a little too much for a city boy--the fear that the Abominable Snowman might be breathing behind me in the dark sent me back to my bed where I buried my head inside my sleeping bag.<sup>50</sup>

Hallie Daggett was also skeptical of enduring her lookout assignment in 1913. She expressed her experience in terms of:

. . . [the] strain of infinite loneliness, or roar of the violent storms which sweep the peak, or the menace of the wild beasts which roam the heavily wooded ridges.<sup>51</sup>

Perhaps life on a mountaintop can be equated with a "last frontier" attitude: isolation, remoteness, and loneliness coupled with the anticipated encounters with wild animals, extreme weather conditions, and the goal of spotting a forest fire. Popular literature reinforces the public interest in maintaining the remaining lookout stations for future generations.

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<sup>50</sup>Jack Kerouac, Lonesome Traveler (New York: Grove Weidenfeld Press, 1960), 125-126.

<sup>51</sup>Daggett, 174.



### Summary

Fire detection and suppression in the United States Forest Service has evolved with the increasing accessibility to the forested lands, technological advances in communications, and a greater scientific knowledge of the nature of fire. The Forest Service's original mission of forest protection from fire has changed by integrating multiple land use objectives and accommodation of fire.

The lookout system within the Forest Service has reflected these changes. Crude structures of the early 1900s evolved into highly specialized structures until the role of fixed-point detection declined with the advent of aerial surveillance. The abandonment and removal of these structures from the forest landscape now has a new public interest yearning for their preservation.

## CHAPTER III

THE WILLAMETTE NATIONAL FOREST:  
A HISTORY AND DEVELOPMENT OF  
FIXED-POINT DETECTION

The Willamette National Forest presently encompasses approximately 1.7 million acres within its boundaries. It extends 110 miles north to south along the western slopes of the Cascade Range in western Oregon. The Forest lies primarily in Linn, Lane, and Marion counties, with some land in Clackamas, Jefferson, and Douglas counties.

In 1889, John B. Waldo, an ardent proponent of wild lands preservation, proposed the vision of a Forest Reserve in the Cascade Range to the Oregon Legislature. This idea failed; two years later when the United States Congress passed the Forest Reserve Act, the idea was resurrected. On September 28, 1893, the Oregon Senate ordained the creation of the Cascade Range Forest Reserve, which extended the entire length of Oregon's Cascade Range from the Columbia River to the California border (plate 16). In 1908, the Cascade National Forest was split into four smaller administrative units: the Mt. Hood National Forest to the north bordering the Columbia River, the Deschutes National Forest



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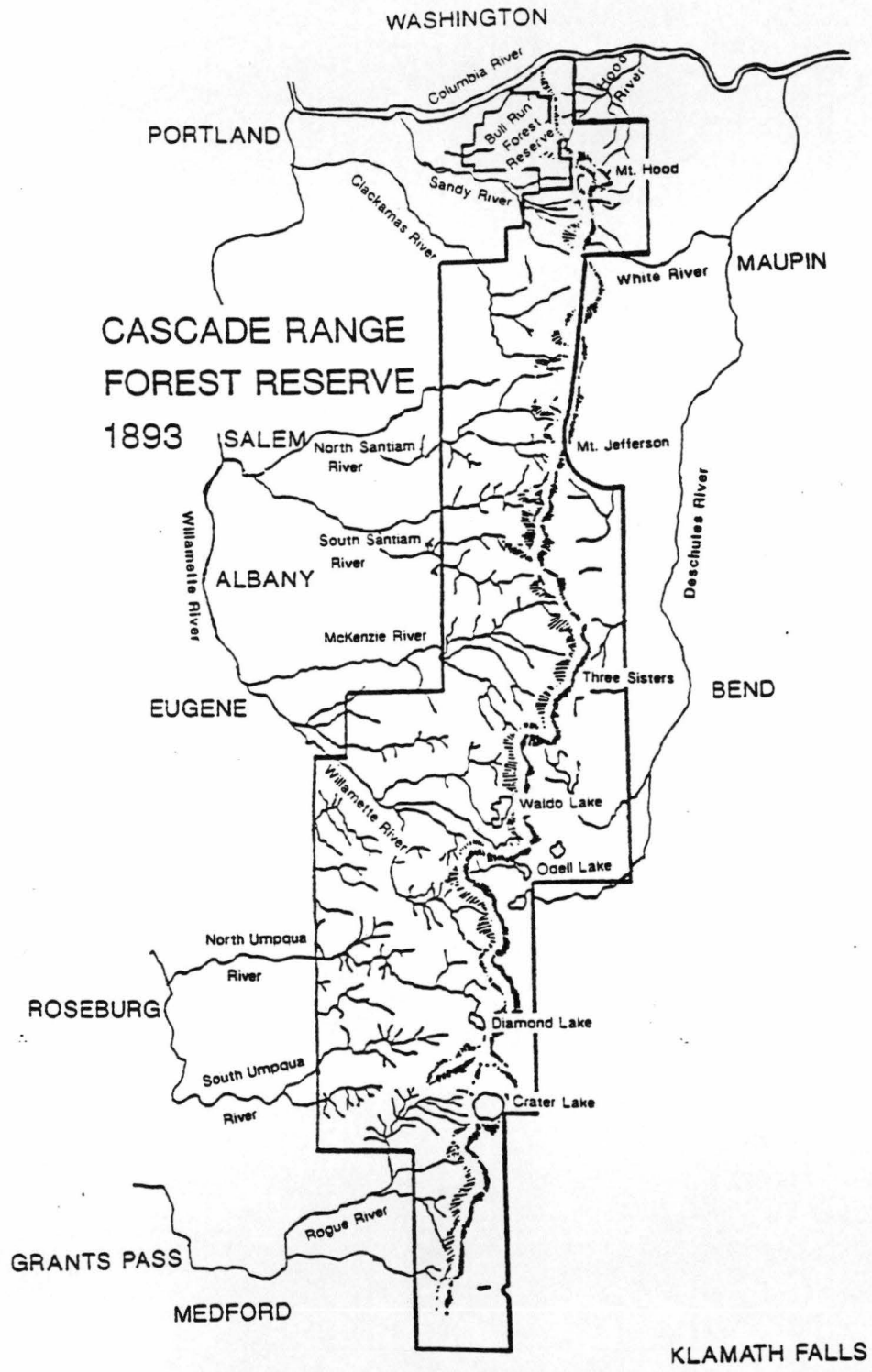


Plate 16. Cascade Range Forest Reserve, 1893. Source: Personal Collection of Author.

encompassing the east slopes of the Cascade Range, the Cascade National Forest lying along the western slopes of the Cascade Range, and the Umpqua National Forest comprising the southern section of the Cascade Range to the California border.

The smaller Cascade National Forest was administrative-ly divided again into north and south sections, and in 1911 was politically divided into the Santiam National Forest to the north and the Cascade National Forest to the south. This division remained until July 1, 1933, when further boundary shuffling occurred among the other national forests and the Santiam and Cascade were merged into the 1,675,407-acre Willamette National Forest. Five ranger districts were defined within the Willamette National Forest: West Boundary (near present-day Lowell Ranger District), Oakridge, McKenzie Bridge, Detroit, and Cascadia (later relocated to Sweet Home). Later, two more ranger districts were created: the Rigdon District was subdivided from the Oakridge District, and the Blue River District was subdivided from the McKenzie District.<sup>1</sup>

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<sup>1</sup>Rakestraw and Rakestraw; see preface and Chapter I.

### Roads, Trails, and Telephones

As seen from the 1911 Cascade National Forest map, the area that early Forest Service rangers administered was vaguely defined (plate 17). Major drainages were designated, and the Oregon Central Military Wagon Road that connected Eugene and Oakridge to Crescent Lake and points east had been established. Few other roads were demarcated and few trails crisscrossed the forest at this time. Two major east-west trails, one following the North Fork of the Willamette River and another following Salmon Creek, are shown on this map. Other early trails may have existed, but this map precedes the heyday of Forest Service mapping ventures of the 1910s and 1920s.

The initial trail system was planned for the forest at a ranger meeting in 1910:

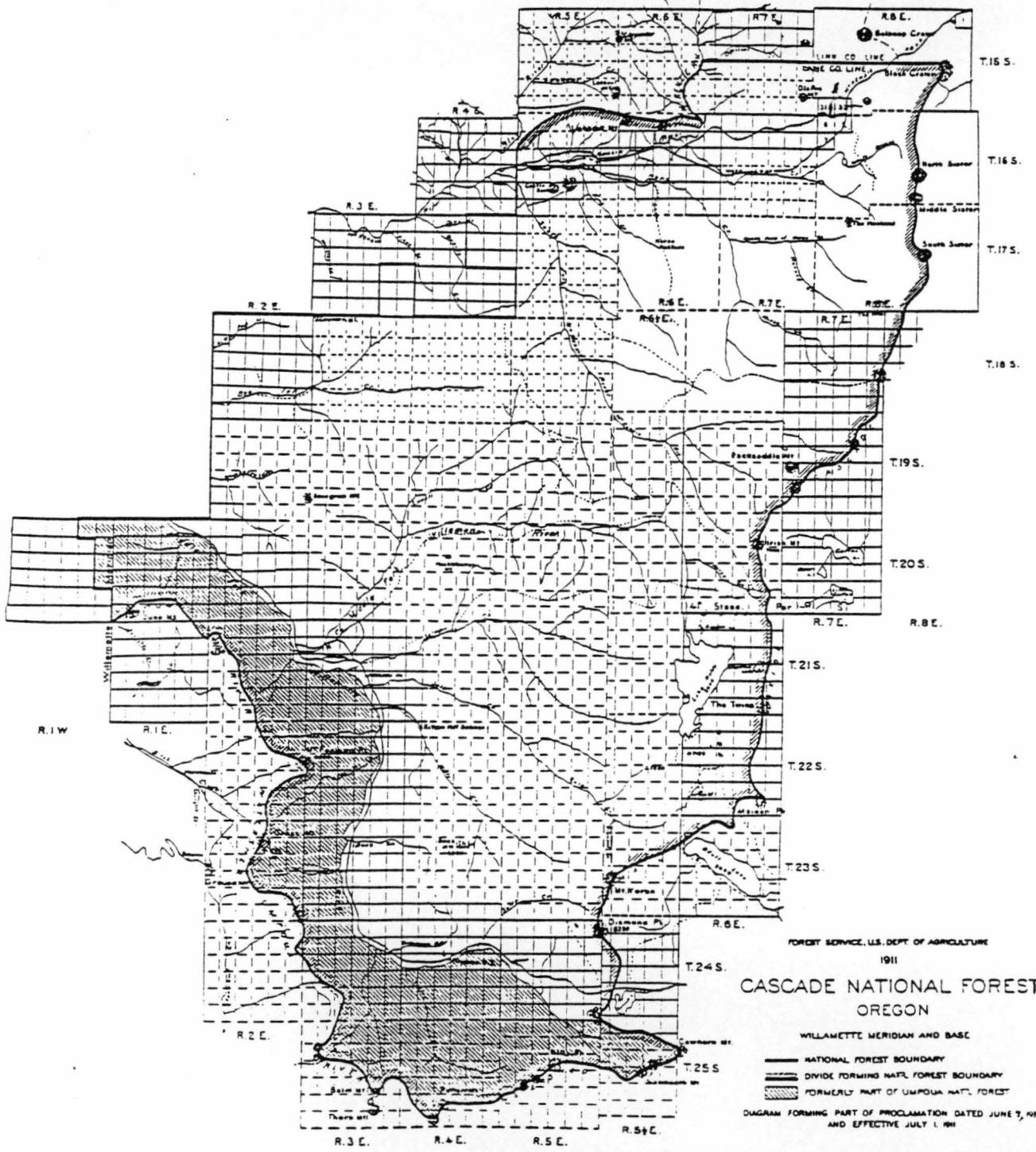
The national forests should be considered as a whole, with the Cascade, Umpqua, Deschutes, and Mt. Hood having a network of connecting trails. There should be both central and branch trails with junctions of central trails not more than 20 miles apart. No grade should be over 10 percent. The trail should be 12 inches wide, the tread of a horse.<sup>2</sup>

Thus, this proposed trail system would allow accessibility to all areas of the forest for fire suppression via foot and pack trains. By 1919, the Forest Service had built over 450

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<sup>2</sup>Ibid., 41.

Plate 17. Cascade National Forest, 1911. Source:  
Rakestraw and Rakestraw, History of the Willamette  
National Forest, 182.



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miles of trails and about 25 miles of roads on the combined Cascade and Santiam National Forests.<sup>3</sup>

The Santiam National Forest map of 1911 has greater detail than the 1911 Cascade National Forest map (plate 18). Drainages are given more accuracy and the trail system is more extensive. The McKenzie River Road and the Santiam Wagon Road following the South Fork of the Santiam River crossed the forest from the Willamette Valley to the east side of the Cascades. Roads following the Santiam and North Fork of the Santiam partially penetrated the forest from the west.

The 1913 Santiam National Forest map indicates that telephone lines had been established in some areas of the forest. Major lines followed railroad tracks and were hung from telegraph poles. The Forest Service used both poles and trees to penetrate the woods with lines. Telephone wires were strung by hand, with pack mules carrying the equipment. Settlers also connected their homes to the Forest Service telephone system through "farmer's lines." The Forest Service switchboard serviced the rural community, alleviating to a degree the isolation of outlying areas and providing emergency communication for accidents and forest fires alike.<sup>4</sup>

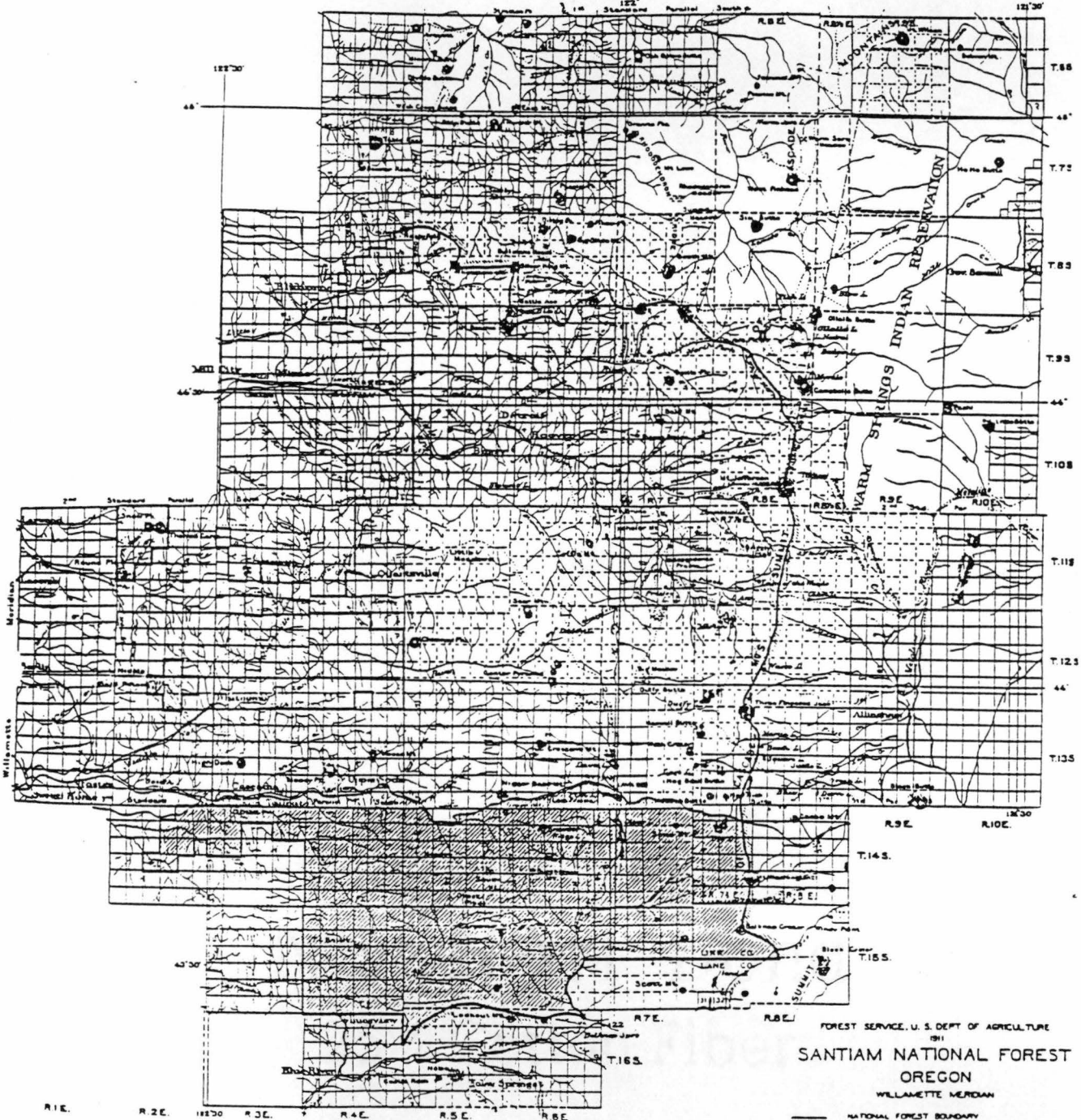
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<sup>3</sup>Ibid., 40.

<sup>4</sup>Ibid., 41.

Plate 18. Santiam National Forest, 1911. Source:  
Rakestraw and Rakestraw, History of the Willamette  
National Forest, 184.





FOREST SERVICE, U. S. DEPT. OF AGRICULTURE  
 911  
**SANTIAM NATIONAL FOREST**  
**OREGON**  
 WILLAMETTE MERIDIAN

[Symbol: Dashed line] NATIONAL FOREST BOUNDARY  
 [Symbol: Solid line] DAVID FORMING NATIONAL FOREST BOUNDARY  
 [Symbol: Horizontal lines] FORMERLY PARTS OF OREGON NATIONAL FOREST  
 [Symbol: Vertical lines] FORMERLY PART OF CASCADE NATIONAL FOREST  
 [Symbol: Diagonal lines] ELIMINATION (FORMERLY PART OF OREGON NAT. FOREST)

[Symbol: Shaded area] LANDS RECOVERED TO THE UNITED STATES  
 Selection or right to make selection pending

DIAGRAM FORMING PART OF PROCLAMATION DATED JUNE 30 1914  
 AND EFFECTIVE JULY 1 1911



By 1923, both the Cascade and the Santiam National Forest maps had been updated and reflected a vast amount of surveying accomplished in the intervening years since the earlier maps of 1911. Roads, trails, and telephone lines penetrated the forests and more drainages and mountain peaks were located.

The Civilian Conservation Corps' labor of the 1930s increased the road, trail, and telephone systems in the Willamette National Forest. By 1937, the forest had 3,000 miles of trail. Detailed auto trips were described on the map for that year. The McKenzie, Willamette, North and South Santiam Highways, and the Old Military Road all crossed the Cascades. North-south roads connected these highways through the forest. The Forest Service trail and road building program was two-fold:

The Forest Service objective in road and trail building is maximum mileage for protection of the timber from fire and the opening of new country, rather than high quality of construction.<sup>5</sup>

By the 1940s, a road network linked all parts of the forests. The goal was to have all areas of the forest accessible within half an hour. Evidence of the use of tractors and bulldozers is obvious when comparing the 1950 Willamette National Forest map with earlier maps. Trailed areas that had been previously accessible by foot or mule

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<sup>5</sup>Willamette National Forest map, 1935, 3.

were now punctuated with roads. However, not all mountainous terrain was accessed by roads, and this is evident in the existence of wilderness areas today.

Through the past forty years, miles of roads have dominated the Willamette National Forest as compared to trails. Extensive logging created 3,000 miles of roads by 1976, as compared to 1,200 miles of trail. Eight years later, roads had increased to 5,000 miles and trails to 1,300 miles.<sup>6</sup>

#### Lookout Stations

The beginnings of a fire detection system on the Willamette National Forest was no different from other fledgling forest reserves. The first recorded patrol was by Ranger Addie Morris, who was appointed in 1899 as part of Division "R" in the Department of Interior. He was later appointed a forest ranger with the Forest Service. Morris's patrol covered an area from West Boundary (Lowell) to the McKenzie divide, south to the Umpqua divide and east to Crescent and Davis Lakes--basically half of today's Willamette National Forest. Excerpts of his diaries are quoted in Lawrence and Mary Rakestraw's History of the Willamette National Forest. In his July 2, 1902, entry he wrote:

Rode up Lookout Mountain in company with Forest Ranger S. R. Thurston. Used my glass [field glasses] and

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<sup>6</sup>See Willamette National Forest maps, 1950 to 1990.

found no fire in sight. We returned to camp. Distance traveled 8 miles.<sup>7</sup>

The aptly named peak, Lookout Mountain, probably refers to Lookout Point, which is approximately four miles northwest of the present-day Oakridge Ranger Station.

The 1911 map of the Cascade National Forest and the 1911 map of the Santiam National Forest show some mountain peaks which may have been designated as lookout points. Since the trail system was ill-defined at that time, it is difficult to establish which peaks were part of patrol routes. The 1911 Santiam National Forest map does show a few trails with telephone lines to a few mountaintops designated as ranger stations.

The 1923 Cascade and Santiam National Forest maps show twenty-five mountaintops designated as lookouts (L.O.), lookout houses (L.O.H.), or guard stations (G.S.). The accommodations on these peaks ranged from tent camps with a firefinder on a stump or platforms in trees to a few sites with cabins or cupola style stations. Construction of lookout stations was limited due to poor accessibility of the sites. A bad fire year occurred in northern Washington in 1927, and Region 6 intensified the construction of lookout stations throughout the Pacific Northwest. Nine years later, the Willamette National Forest had approximately

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<sup>7</sup>Rakestraw and Rakestraw, 16.

sixty-five stations. The CCCs provided labor on these construction projects, along with road and trail building and telephone installation. Between 1933 and 1935, thirty-six lookouts were erected.<sup>8</sup> Through the 1930s and 1940s, the Willamette National Forest operated fifty lookout stations.<sup>9</sup>

As throughout the Forest Service fire control division, in the 1950s, the Willamette National Forest underwent a reduction in the number of lookout stations maintained for detection. Aerial and road patrol reduced the number of active lookouts to forty-two in 1953. By 1966, only seventeen were in use. In 1983, only three lookout stations were maintained for detection and one additional lookout station was operated on an emergency basis.<sup>10</sup>

Over the span of almost a century since the Willamette National Forest boundaries were established, the forest has had ninety-five known mountaintops designated for fire detection (see Appendix A). Of these ninety-five sites, eighty had a structure or a series of structures used as a lookout station. Fifteen sites were provided with only an alidade or firefinder and were never improved beyond that

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<sup>8</sup>Cox, Historic Fire Lookouts, 2-3.

<sup>9</sup>Doug Newman, "Firetowers Reborn," American Forests 90 (September 1984): 46.

<sup>10</sup>Ibid., 46; and Rakestraw and Rakestraw, 105.

degree.<sup>11</sup> Of the eighty sites with structures, only thirteen mountaintops have extant lookout stations today. Of the thirteen, five are in active use, one is operated on a volunteer basis, and seven have been abandoned. A history of each of the thirteen extant lookout stations by ranger district follows.<sup>12</sup>

### Detroit Ranger District

#### Gold Butte

Gold Butte Lookout Station, elevation 4,618', is located five miles northeast of the Detroit Ranger station. The present hip roofed L-4 style lookout station with catwalk was built in 1934 by the CCCs (plate 19). Eight years later a cabin was built on the saddle several hundred feet north of the lookout station and was staffed year round as part of the AWS during the World War II. The cabin no longer remains. A garage was located at the parking area at the trailhead one-half mile north of the lookout station.

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<sup>11</sup>Cox, 27-33.

<sup>12</sup>For information pertaining to the lookout stations on the Willamette National Forest, see Cox, Rakestraw and Rakestraw, and the personal files of Ron Johnson, a former Forest Service employee on the Oakridge Ranger District, who has an extensive photo collection and data on the lookout stations on the Forest. Also see the series of Cascade, Santiam, and Willamette National Forest maps in the Map Collection, Condon Hall Map Library, University of Oregon, Eugene.



Plate 19. Gold Butte Lookout Station, 1944. Source:  
The Chemeketans and Ron Johnson; Photo by Bessie Smith.



It was burned in 1974. The concrete foundation from this garage remains.

The lookout site was abandoned as a fixed detection point in the early 1960s. The lookout station was destined to be burned and all equipment was removed. A hiking group prevented its demise and organized the preservation of the lookout. The Pacific Crest Trust Fund raised money and provided volunteer labor to rehabilitate the structure (plate 20; also see Chapter II, plate 11.)

The site has always been accessed by road with a one-half mile trail from the parking area to the north of the mountaintop. The Forest Service access road is gated about two miles below the parking area.

Gold Butte Lookout Station is a popular destination point for hikers. The building is currently open to anyone wishing to use it. Overnight camping is allowed--a stove was reinstalled in the 1970s for this purpose. Since it is accessible by road, the Forest Service still uses it as an emergency lookout point during lightning storms, though many higher points on the district are also accessible by vehicle.

In 1991, Gold Butte Lookout Station was evaluated as eligible for the National Register of Historic Places. It is considered one of the four historic lookout stations on the Forest. It is the only example of a hip roofed L-4



Plate 20. Gold Butte Lookout Station, 1991.  
Source: Author.



style ground structure with a catwalk on the Willamette National Forest.<sup>13</sup>

#### Coffin Mountain

Coffin Mountain Lookout Station, elevation 5,771', is located ten miles southeast of the Detroit Ranger Station. It is so named for the elongated coffin shaped ridge upon which it is sited. An active site since 1905, the mountain has accommodated a variety of lookout stations. The first was a platform with a pole cabin which was replaced by a cupola style lookout station in 1921. The cupola was superseded by a gable roofed L-4 style structure in 1936. In the 1930s, a smokechaser cabin accompanied the lookout station and was located one-half mile below the ridgetop. Its exact location and length of existence is unknown. The L-4 lookout station was maintained until 1984 when an R-6 flat-top was delivered by helicopter to the site to replace the Depression Era structure (plate 21).

Coffin Mountain Lookout Station is one of the few sites designated on the 1913 map of the Santiam National Forest with a trail and telephone line to it. At that time, it was defined as a Ranger Station. Coffin Mountain has remained an important site for a lookout station because of its excellent seen area between the Detroit District and the

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<sup>13</sup>Cox, 22.



Plate 21. Coffin Mountain Lookout Station, 1991.  
Source: Author.

Mt. Hood National Forest to the north. It is maintained as a radio transmission site as well as a fixed detection station. Though the forest has been punctuated with roads, the site is still accessed by one and a half miles of trail.

### Sweet Home Ranger District

#### Iron Mountain

Iron Mountain Lookout Station, elevation 5,455', is located thirty miles east of the Sweet Home Ranger Station. An alidade was positioned at the site around 1924, and by 1929 a tent camp had been established with a phone line. Between 1931 and 1933, an L-4 style lookout was built to replace the tent camp. This structure served the mountaintop until it met its demise during the winter of 1975-76, when a snowstorm blew the building down. In 1976, an R-6 flat-top was moved to the site from Herman Peak on the Siuslaw National Forest in western Oregon (plate 22). The station is presently active.

The 1931 Santiam National Forest map indicates a telephone line to the site. By 1935, the mountain is designated as a lookout point on Forest maps. By the late 1950s, the road network included a road to within one-half mile of the mountaintop station.



Plate 22. Iron Mountain Lookout Station, 1991.  
Source: Author.

McKenzie Ranger District

## Sand Mountain

Sand Mountain Lookout Station, elevation 5,459', is located twenty miles northeast of the McKenzie Ranger Station. An alidade was situated at this site from 1922 to 1931. In 1930-31, an Aladdin L-4 "Grange Hall" style ground structure was constructed. This building was accidentally burned down in 1968 while still in service. In 1969, a temporary cabin was erected using parts from Fissell Point Lookout Station. The site was also occupied by a trailer with a pop-up cupola until 1972. The site was abandoned as a lookout point after the 1972 fire season.

In 1988-90, a gable roofed L-4 "Grange Hall" style lookout station with a catwalk on a tower was reconstructed at the site (plate 23). The project was undertaken through a partnership agreement between the Sand Mountain Society and the Forest Service. The Sand Mountain Society is a group which proposed protection of the area from an increasing number of off-road vehicle users. Sand Mountain is a volcanic cinder cone with fragile rock terrain in which the vegetation is very susceptible to any activity. The site is accessible by road, and deep ruts and destruction of the vegetation was occurring. The site once again serves as a lookout station and interpretive site for the volcanic



Plate 23. Sand Mountain Lookout Station, 1991.  
Source: Author.



nature of the surrounding area. The road is gated below the station to prevent access to the area when the lookout station is closed.

The new lookout station was reconstructed with volunteer labor from members of the Sand Mountain Society. Parts of the building were salvaged from Whiskey Peak Lookout Station on the Rogue River Ranger District in southern Oregon. Whiskey Peak was disassembled in 1989 by members of the Sand Mountain Society. The Siskiyou National Forest moved the salvaged materials to the Sand Mountain site by helicopter. The original L-4 structure was situated on the ground. The decision to place the new station on a tower was to prevent vandalism. Pieces of the new lookout station were precut and transported to the site for construction.<sup>14</sup>

#### Blue River Ranger District

##### Carpenter Mountain

Carpenter Mountain Lookout Station, elevation 5,349', is located thirteen miles northeast of the Blue River Ranger Station. Situated on a basalt plug, the site is believed to have accommodated an alidade as early as 1915. By 1917, the alidade was covered by an open-sided pole-framed shelter which was destroyed in 1921 by lightning (plate 24).

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<sup>14</sup>Doug Newman, "A High Point," Eugene (Oregon) Register Guard, 12 August 1990, 1F, 4F.





Plate 24. Carpenter Mountain Lookout Station, c. 1917. Source: Willamette National Forest and Ron Johnson.

In 1935, a hip roofed L-4 ground station was constructed and used actively until 1966 (plate 25).

The lookout station has been abandoned as a fixed-point detection site, but the structure remains. The Blue River Ranger District maintains the site for use during lightning storms. The building is presently open to all who wish to hike the mile-long trail to the site (plate 26).

The 1913 Santiam National Forest map shows a trail and a telephone line to the mountain and connected to the Cascadia Ranger Station to the northwest. This may indicate earlier usage of the site as a lookout point. Though the lookout station was destroyed by lightning in 1921, the 1923 Santiam National Forest map indicates a telephone line to Cascadia, plus a line to McKenzie Bridge Ranger Station. It is also labeled as a lookout (L.O.). On the 1925 Santiam National Forest map, the site is labeled L.O.H., which means that a lookout house was located on the mountain. This designation continues through 1935, when the next known structure was built. This suggests that another building may have been located on the site between the recorded dates of 1921 and 1935.

In 1991, Carpenter Mountain Lookout Station was evaluated as eligible for the National Register of Historic Places. It is considered one of the four historic lookout stations on the Forest. It is the only example of a hip

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Plate 25. Carpenter Mountain Lookout Station,  
1935. Source: Willamette National Forest and Ron  
Johnson.

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Plate 26. Carpenter Mountain Lookout Station,  
1991. Source: Author.

roofed L-4 style ground structure without a catwalk on the Willamette National Forest.

#### Indian Ridge

Indian Ridge Lookout Station, elevation 5,405', is located eleven miles southeast of the Blue River Ranger Station. The site was occupied by an open log framed cupola structure from 1918 to 1928 (see Chapter II, plate 6). In 1928, a ten by fourteen foot cabin with a twenty-nine foot cathedral tower was erected. The cathedral style structure remained in service until 1958, when the present twenty foot tower with R-6 flat-top was constructed (plate 27). The site was abandoned in 1973, and is presently used on an emergency basis during lightning storms. The site is also used by electronics permittees, who have erected radio transmission antenna along the ridge near the lookout.

The 1923 Cascade National Forest map shows Indian Ridge as a guard station with a telephone line along the trail to McKenzie Bridge Ranger Station. By 1964, a road replaced the trail to the site.

#### Ollalie Mountain

Ollalie Mountain Lookout Station, elevation 5,700', is located sixteen miles southeast of Blue River Ranger Station. Ollalie is a Native American term meaning



Plate 27. Indian Ridge Lookout Station, 1991.  
Source: Author.

"wildberries" or "huckleberries."<sup>15</sup> The site was originally outfitted with an alidade around 1922, until the present gable roofed L-4 "Grange Hall" style ground structure was built in 1932 (plate 28; see also Chapter II, plate 10.) The station remained in service until 1971, when it was abandoned (plate 29).

The 1912 map of the Cascade National Forest identifies Ollalie Mountain and shows a Ranger Station located at Ollalie Meadows about one mile to the east. By 1923, Ollalie Trail looped from McKenzie Bridge through Ollalie Meadows to the South Fork of the McKenzie River and back to the Ranger Station. This trail also branched south, connecting with the Waldo Lake Trail, Skyline Trail, and the Salmon Creek Trail to Oakridge. By 1925, a telephone line connected McKenzie Bridge with Ollalie Meadows, and the trail system was greatly expanded in the area. In 1930, the Three Sisters Game Refuge, a nine mile square area about ten miles northeast of Ollalie Mountain, had been established.

By 1935, the lookout station had been identified on the Willamette National Forest map along with the guard station, plus the Ollalie Landing Field about two and a half miles

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<sup>15</sup>Manena Schwering, "Changing Times in the Upper McKenzie Valley," December 1983, 18, Upper McKenzie Valley files, Lane County Historical Museum Library, Eugene, Oregon. This article was also published in the Lane County Historian 29, no. 1 (Spring 1984). Also see the personal files of Ron Johnson.



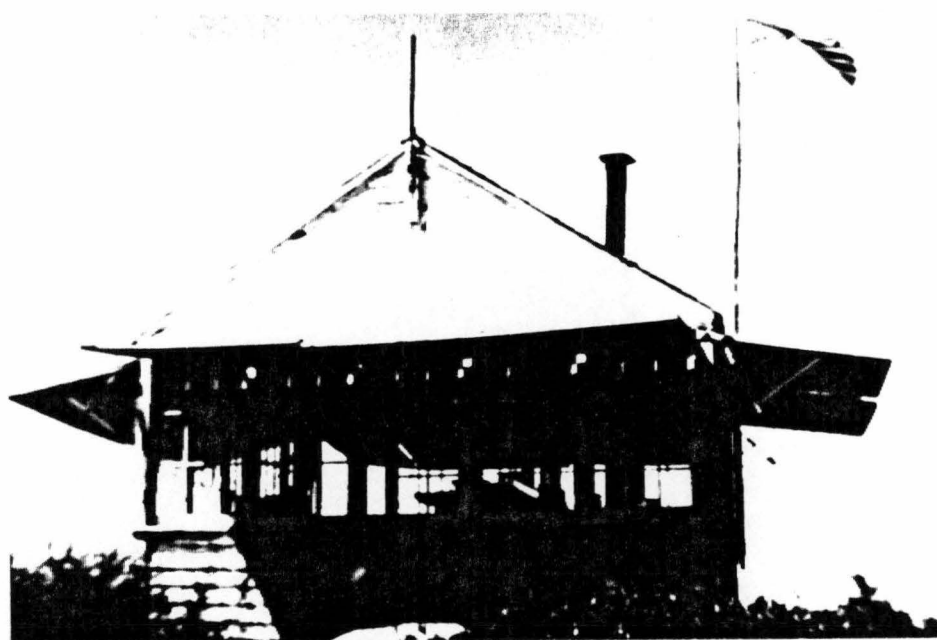


Plate 28. Ollalie Mountain Lookout Station, 1969.  
Source: Willamette National Forest and Ron  
Johnson.

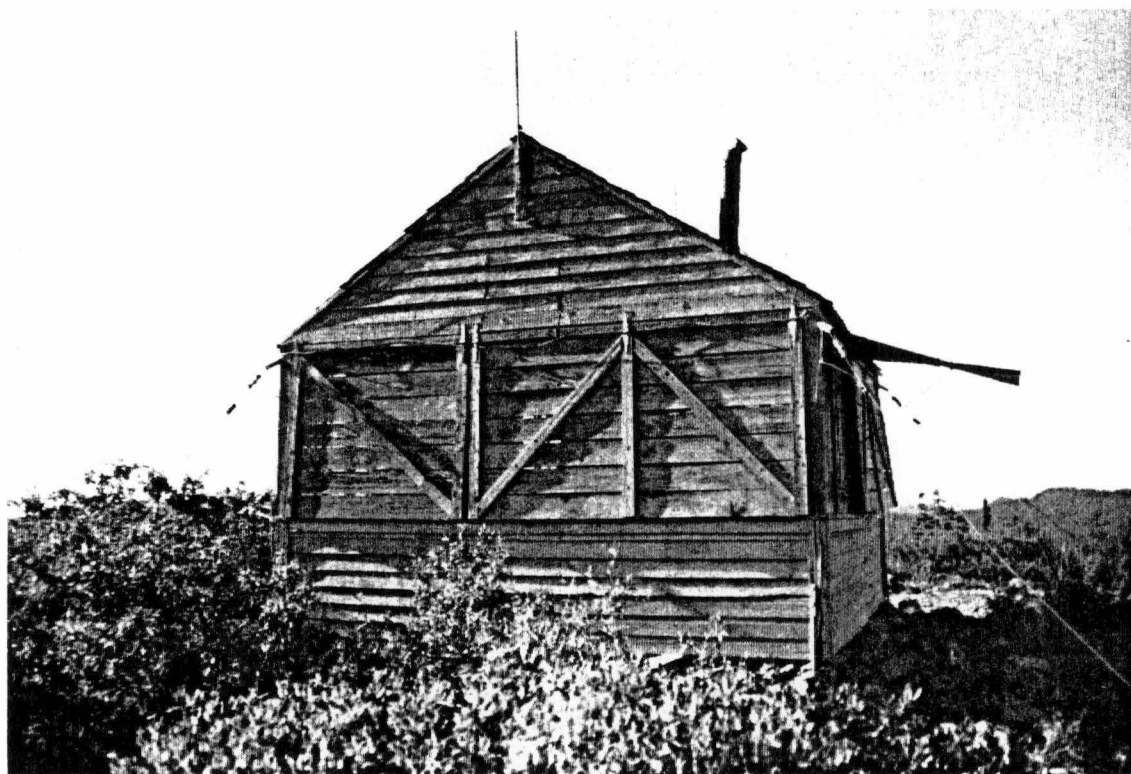


Plate 29. Ollalie Lookout Station, 1991. Source:  
Author.

southeast of the mountain. By 1937, a phone line had been strung to the lookout from the guard station. Also in 1937, the Three Sisters Primitive Area of 184,820 acres had been established three miles east of the lookout. This incorporated the former Three Sisters Game Refuge. The primitive area was enlarged in 1938 by an additional 56,000 acres, which included Ollalie Mountain. However, in 1957, this area was reclassified as Wilderness, but 53,000 acres of the 1938 addition were removed, and Ollalie Mountain was no longer within this area. The 1964 Wilderness Act gave national recognition to the Three Sisters Wilderness Area, but it was not until 1984 that the Oregon Wilderness Act expanded the designation to 282,052 acres and once again included Ollalie Mountain and all roadless area west to the South Fork of the McKenzie River.<sup>16</sup>

In 1991, Ollalie Mountain Lookout Station was evaluated as eligible for the National Register of Historic Places. It is considered one of the four historic lookout stations on the Forest. It is the only example of a gable roofed L-4 "Grange Hall" style ground structure on the Willamette National Forest.<sup>17</sup>

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<sup>16</sup>Willamette National Forest, Final Environmental Impact Statement, Land and Resource Management Plan, Willamette National Forest (Eugene, Oreg.: U.S.D.A. Forest Service, Pacific Northwest Region, 1990), III:147.

<sup>17</sup>Cox, 16.

### Rebel Rock

Rebel Rock Lookout Station, elevation 5,060', is located seventeen miles southeast of Blue River Ranger Station. The mountaintop was first occupied by a cabin used for fire detection between 1949 and 1954. In 1955, a "Standard '36" L-4 style lookout station was constructed on a concrete and rock foundation (plate 30). It remained in use until 1964.

The 1923 map of the Cascade National Forest shows a trail to the site coming east from the Ollalie Trail. More trails penetrated the area on later maps; three trails were blazed to the site by 1950 from the South Fork of the McKenzie.

Rebel Rock, located four miles southwest of Ollalie Mountain, has endured the same history of primitive area and wilderness area designation. Access to Rebel Rock Lookout Station is by a six and a half mile trail along Rebel Creek to the northwest or by the five mile Rebel Rock Trail to the southwest. In a few locations along the Rebel Rock trail, telephone lines strung through the trees are still evident.

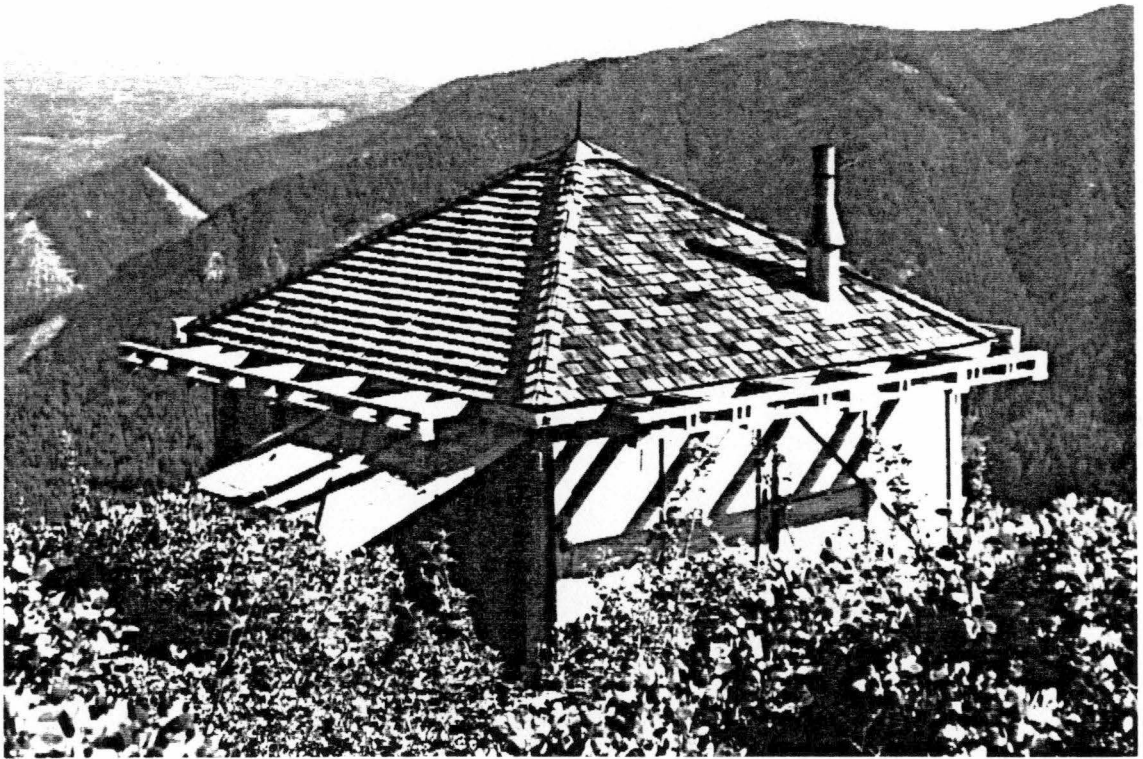


Plate 30. Rebel Rock Lookout Station, 1991.  
Source: Author.

Lowell Ranger District

## Little Cowhorn Mountain

Little Cowhorn Mountain Lookout Station, elevation 4,255', is located sixteen miles northeast of the Lowell Ranger Station. The mountain is said to be named for its pinnacle that resembled a cow's horn. This feature fell off in 1911, eliminating this resemblance. Its title "little" was used to distinguish it from Big Cowhorn Mountain, the original name given to Mt. Theilsen near Crater Lake.<sup>18</sup>

The site was occupied by a D-6 cupola style lookout in 1923. This structure remained until 1960, when it was replaced by a flat-top on a short tower with a catwalk (plate 31). This site remained in service until 1967, but is now abandoned.

Little Cowhorn Mountain is one of the few peaks shown on the 1911 Cascade National Forest map. By 1923, it is referred to as Little Cowhorn Mountain Guard Station, with a trail and telephone line from Big Fall Creek Ranger Station to the southwest. The lookout station was accessed by trail until the 1950s, when a road was constructed to within one

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<sup>18</sup>C. B. McFarland, "Early History of the Upper Willamette Valley," n.d., 31, Upper Willamette Valley files, Lane County Historical Museum Library, Eugene, Oregon.





Plate 31. Little Cowhorn Mountain Lookout  
Station, 1991. Source: Author.



mile of the building. The lookout station is presently open to all who wish to hike to the site.

#### Saddleblanket Mountain

Saddleblanket Lookout Station, elevation 4,969', is located fourteen miles east of the Lowell Ranger Station. The surrounding area was observed from a lookout tree, beginning in 1922. The same tree remains, though little evidence of the platform and ladder exists (plate 32). In 1926, a seventy foot steel tower was erected. Mules were used to transport the steel members over nine miles of trail to the site (plate 33). The tower was capped with a seven by seven foot steel cab with wooden casement windows. The tower was manufactured by the Aermotor Company, Chicago, Illinois, a producer of windmill towers. The tower was designed with a steel access ladder on the south side (plate 34). An exterior platform just below the cab provided access to an interior ladder, which allowed one to enter the cab through a trap door.

In 1939, an interior wooden staircase was constructed for safer access to the cab. Though extremely steep, climbing the wooden stairs was probably less nerve racking than ascending via the perimeter ladder (plate 35).

The steel tower was used for observation only. In 1928, a cabin which served as living quarters was



NEENAH Bond

Plate 32. Saddleblanket Mountain Tree Tower, c. 1927. Source: Willard Craig and Ron Johnson.



Plate 33. Mule Train Hauling Saddleblanket Mountain Steel Tower, 1926. Source: Willamette National Forest and Ron Johnson.

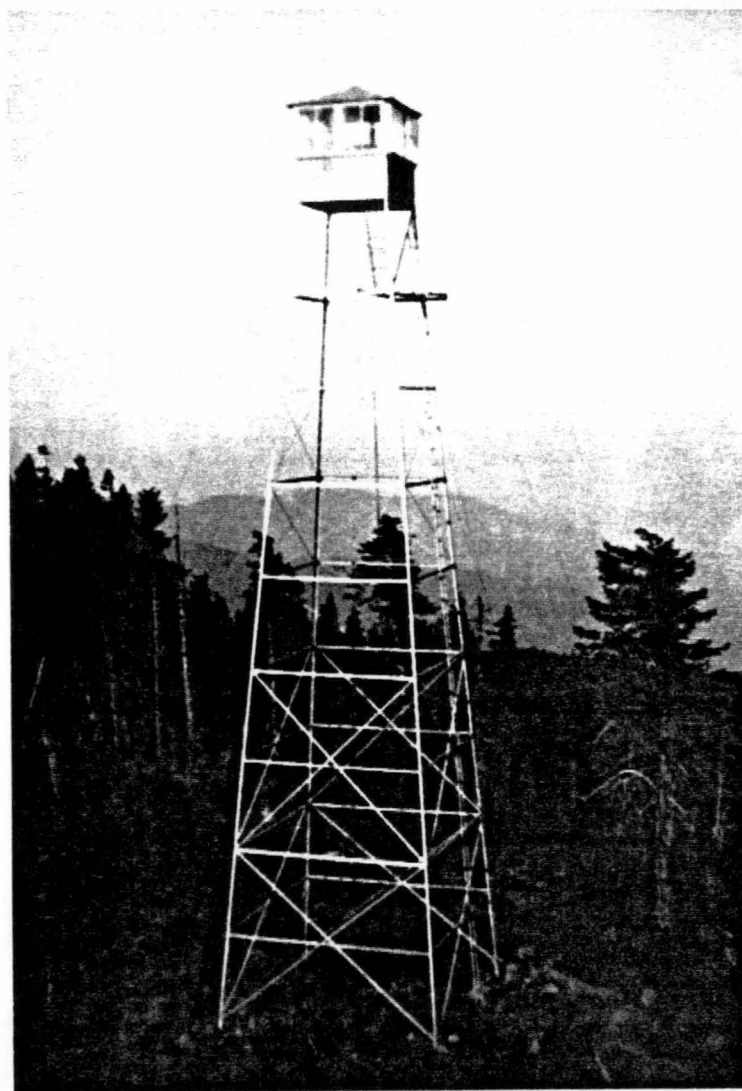


Plate 34. Saddleblanket Mountain Lookout Station,  
With Perimeter Ladder, 1927. Source: Willamette  
National Forest.



Plate 35. Saddleblanket Mountain Lookout Station,  
With Interior Timber Staircase, 1991. Source:  
Author.

constructed at the base of the tower to the east. The wood frame gable roofed building was removed sometime between 1960 and 1983 (plate 36). The tower was abandoned in 1967.

The 1923 Cascade National Forest map shows a trail from Winberry Ranger Station to Saddleblanket Mountain, but no lookout designation was given. The 1930 map shows a telephone line and lookout designation. By 1935, an extensive trail system in the area linked the Alpine Ridge trail with numerous drainages. Little Blanket Shelter, about one mile north of Saddleblanket Lookout, was built in the 1930s as part of this trail system and is still extant. Many of the trails have been erased by the vast road network.

In 1991, Saddleblanket Mountain Lookout Station was evaluated as eligible for the National Register of Historic Places. It is considered one of the four historic lookout stations on the Forest. Saddleblanket Lookout Station is the oldest surviving lookout station on the Willamette National Forest and is the only steel tower erected on the Forest.<sup>19</sup>

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<sup>19</sup>Cox, 12.

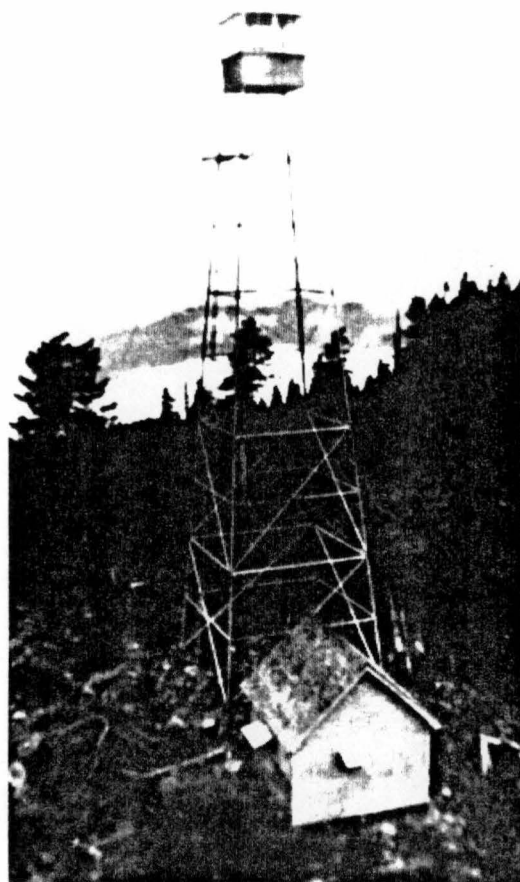


Plate 36. Saddleblanket Mountain Lookout Station,  
With Living Quarters, c. 1928. Source: Alice  
Bowerman and Ron Johnson.



Oakridge District

## Huckleberry Mountain

Huckleberry Lookout Station, elevation 5,549', is located ten miles northeast of the Oakridge Ranger Station. Huckleberry Mountain had a tree platform as early as 1915. A cupola style lookout was built in 1918 and serviced the site until 1938. The present hip roofed L-4 lookout was constructed on a concrete base by the CCCs (see Chapter II, plate 12). This "Standard '36" L-4 model features the extended rafters which support the shutters when upright (plate 37). The station is still active and provides air pollution monitoring and base radio communications as well as fire detection.

The 1911 Cascade National Forest map shows Huckleberry Mountain within a vast area of unsurveyed forest. It may possibly have been an early lookout point, though no trails led to the site on that map. By 1923, the site was designated as Huckleberry Mountain Guard Station, with a trail following Huckleberry Creek. A telephone line was not shown until 1930.

In the 1991 evaluation for eligibility to the National Register of Historic Places, Huckleberry Mountain Lookout Station was found to be non-eligible. Though fifty years old, the building has sustained a considerable number of

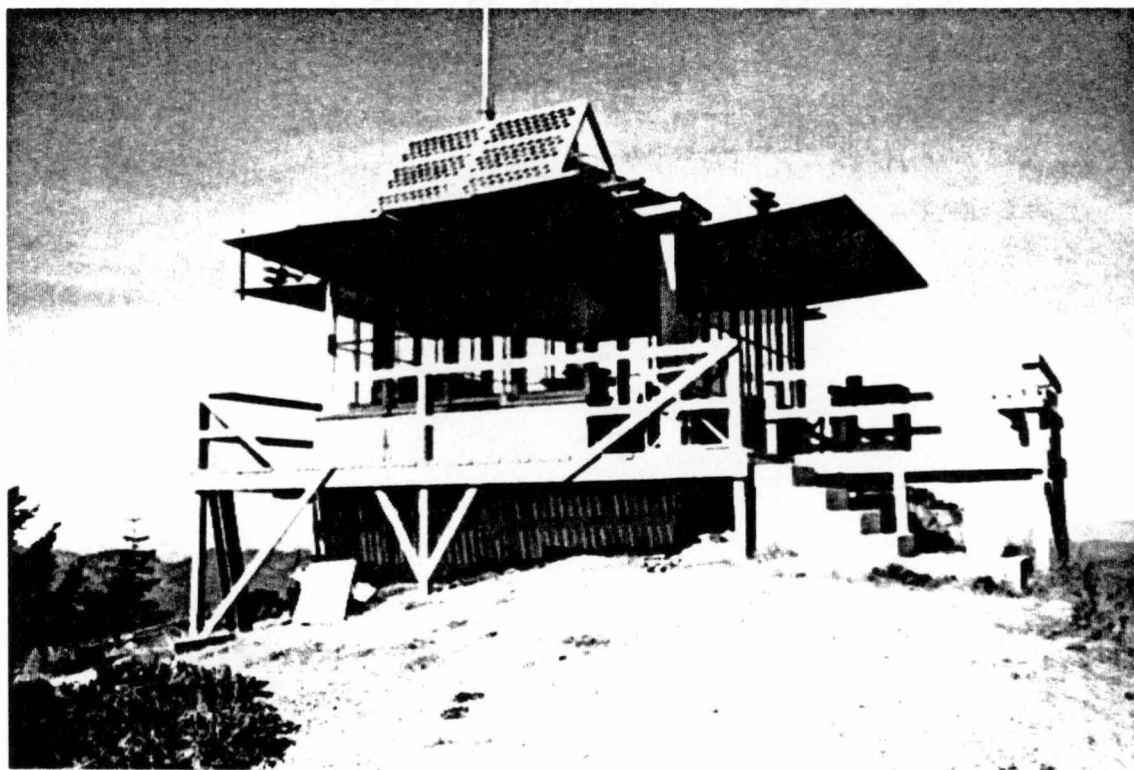


Plate 37. Huckleberry Mountain Lookout Station,  
1991. Source: Author.

alterations, compromising its original architectural style.<sup>20</sup> Presently, volunteer efforts in coordination with the Oakridge Ranger District are underway to rehabilitate the building to its original design to qualify it for the Register.

#### Waldo Mountain

Waldo Mountain Lookout Station, elevation 6,357', is the only other remaining lookout station on the Oakridge Ranger District. It is located eighteen miles east of the Oakridge Ranger Station. Heliographs were used to signal fire locations prior to the positioning of an alidade at the site in 1921. A pole frame structure with shakes was constructed in 1926. In 1929, a D-6 cupola style lookout station was erected, which was replaced by an R-6 flat-top in 1957 (plate 38). A shallow hip roof has been added to the building for better drainage. The station is presently staffed on a volunteer basis only.

The 1912 Cascade National Forest map shows Waldo Mountain Ranger Station south of the mountain. The 1923 map designates the site as Waldo Mountain Guard Station. By 1930, a telephone line extends down Salmon Creek drainage to Oakridge.

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<sup>20</sup>Ibid., 11.

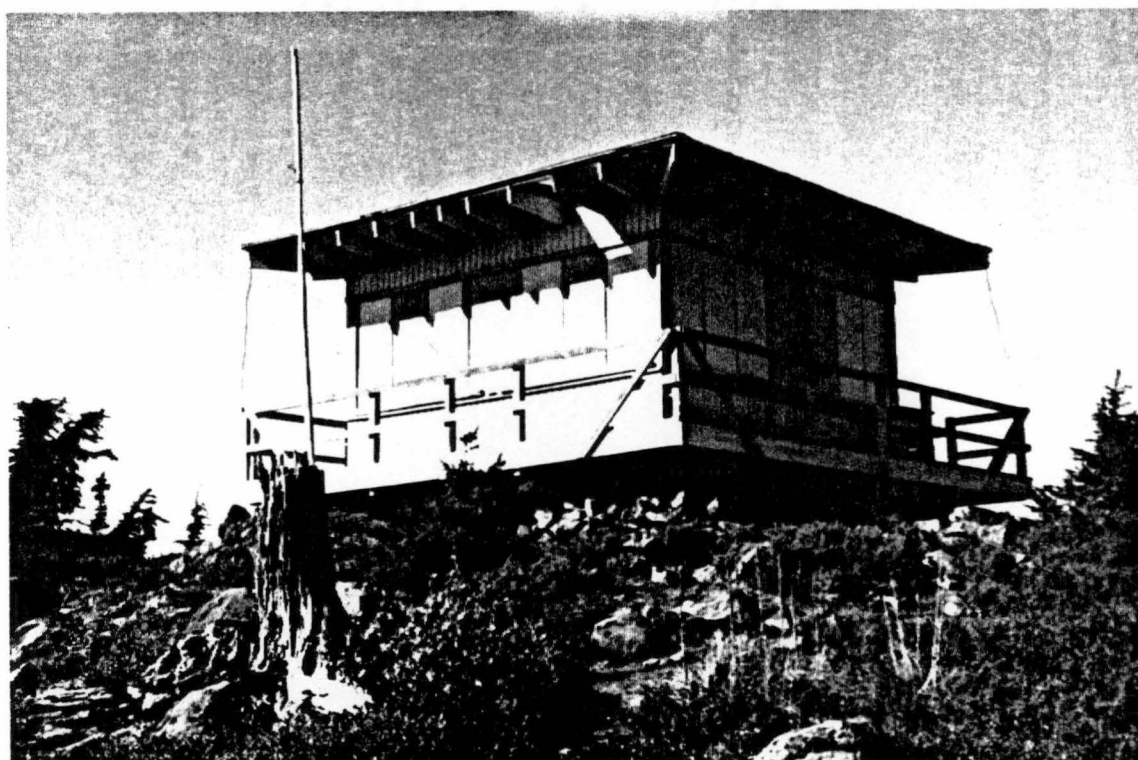


Plate 38. Waldo Mountain Lookout Station, 1991.  
Source: Author.

The site has remained within a primarily roadless area. Roads have penetrated from the west, but access to the site is either a three and a half mile hike from the west or a seven mile hike around Waldo Lake from the east. The Oregon Wilderness Act of 1984 established the Waldo Lake Wilderness, which included the Waldo Mountain Lookout Station.<sup>21</sup>

#### Rigdon District

##### Warner Ridge

Warner Ridge Lookout Station, elevation 5,723', is located fourteen miles southeast of Oakridge. This site did not have a lookout station until 1985, when a replica cupola style building on a forty-one foot tower was constructed (plate 39). The site is used for fire detection, weather data gathering, and as a radio communications point. Parts of the tower structure were taken from Grass Mountain Lookout Station, which was located eight miles west of Warner Ridge on the Willamette National Forest.

Warner Ridge was apparently not used as a lookout point prior to the recent construction. Numerous trails to the peak are evident on early Cascade and Willamette National Forest maps. A road was created to the site by 1964.

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<sup>21</sup>Rakestraw and Rakestraw, 144.



Plate 39. Warner Ridge Lookout Station, 1991.  
Source: Author.

This lookout station features many modern-day conveniences that many a lookout operator would envy. Solar panels power the batteries to operate the radio. A solar heated water storage tank offers a warm outdoor shower. The stove, refrigerator, and lights are powered with propane. The structure, however, is wired for electricity, which a future generator will power. The lookout station is carpeted, has sliding glass windows, and a storage cabin adjacent to the tower.

#### Summary

The Willamette National Forest had an enormous wealth of lookout stations in various styles throughout the course of its history (see Appendix A). Of the thirteen extant stations, the following styles are represented:

Gold Butte, 1934--L-4 hip roof with catwalk

Coffin Mountain, 1984--R-6 flat-top

Iron Mountain, 1976--R-6 flat-top

Sand Mountain, 1988--Replica gable roof L-4 "Grange Hall" with catwalk on tower.

Carpenter Mountain, 1935--L-4 hip roof

Ollalie Mountain, 1932--gable roof L-4 "Grange Hall" ground structure

Rebel Rock, 1955--L-4 "Standard '36"

Indian Ridge, 1958--R-6 flat-top



Little Cowhorn Mountain, 1960--R-6 flat-top

Saddleblanket Mountain, 1926--Aermotor steel tower

Huckleberry Mountain, 1938--L-4 "Standard '36" with  
catwalk

Waldo Mountain, 1957--R-6 flat-top

Warner Ridge, 1985--Replica cupola on tower

There are no examples of any early vernacular structures, except the remains of the tree lookout at Saddleblanket Mountain. Nor is there an example of a cathedral or "Supervisor Hall Special" remaining on the Forest.

The Forest offers a fine example of a replica "Grange Hall" style L-4 on Sand Mountain, which includes replica furnishings. The replica cupola style lookout station on Warner Ridge provides one with the sense of what an historic cupola looked like, though it is completely modern in construction details and materials.

CHAPTER IV  
LEGISLATION, ISSUES, AND OPTIONS IN DEVELOPING  
MANAGEMENT PLANS FOR THE PRESERVATION  
OF HISTORIC LOOKOUT STATIONS

Legislation

The development of management plans for the preservation of historic properties under the jurisdiction of the United States Forest Service involves a variety of laws, guidelines, and interaction with the State Historic Preservation Office. The following laws and guidelines are used by the Forest Service in their planning process.

National Historic Preservation  
Act

The National Historic Preservation Act (NHPA), enacted in 1966, established the National Register of Historic Places (NRHP) which provides criteria for evaluating historic properties and guidelines for nomination to the registry.<sup>1</sup> One primary consideration for evaluation is that the

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<sup>1</sup>United States Code, Annotated, 16 Section 470, National Historic Preservation Act, Public Law 88-665, Section 1, October 15, 1966, 80 Stat. 915; Executive Order 11593, May 13, 1971, 36 F.R. 8921; and Public Law 96-515, December 12, 1980.

property be 50 years of age or older (see Appendix B).<sup>2</sup> Executive Order 11593, enacted in 1971, directs all federal agencies to inventory, evaluate, and nominate their historic resources to the National Register of Historic Places and provide programs for their management. Therefore, once the property has been evaluated as eligible to the National Register of Historic Places, the Forest Service is obligated to develop management plans for the preservation of its historic values. The National Historic Preservation Act "requires that the values of significant cultural resources are preserved in some appropriate way."<sup>3</sup> Though optimal, not every historic property can be preserved in situ. Some historic structures may be moved to a new location to ensure their preservation. Some may simply be evaluated and documented, and removed from their site. These are all "appropriate" methods of preservation, encouraged by the National Historic Preservation Act of 1966 as amended in 1980.

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<sup>2</sup>National Register Bulletin 16, Technical Information on Comprehensive Planning, Survey of Cultural Resources, and Regulations in the National Register of Historic Places (Washington, D.C.: United States Department of the Interior, National Park Service, Interagency Resources Division, 30 September 1986), 1.

<sup>3</sup>Throop, 7.

## National Environmental Policy Act

The National Environmental Policy Act (NEPA) of 1969 created a planning process for determining goals and resolving issues pertaining to any activity that a federal agency undertakes which affects the environment.<sup>4</sup> This includes issues concerning historic properties. The process is initiated by an Interdisciplinary Team of various individuals representing cultural resource management, fire management, recreation management, and others to discuss goals and objectives and direct specific members of the team towards the resolution of issues, opportunities, and concerns. Alternatives for the use of the site are developed, studied, and narrowed down to determine the best use or combination of uses. The process may involve an Environmental Impact Statement (EIS) or an Environmental Assessment (EA), depending upon the site. A "Decision Memo" is used to legally document the final decision by the ID Team.

## National Wilderness Preservation System

The Wilderness Act of 1964 established guidelines for the creation of wilderness areas throughout the United

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<sup>4</sup>United States Code, Annotated, 42 Section 4321-4361, National Environmental Policy Act, Public Law 91-190, Section 2, January 1, 1970, 83 Stat., 852.

States.<sup>5</sup> The preservation of historic resources within these areas is provided for in this legislation. Larger philosophical questions are often raised by various wilderness advocates when developing management plans for these resources. The planning process involves greater public comment and more detailed methodology for preserving historic properties in wilderness areas.

State Historic Preservation  
Office

The actual hands-on aspect of the rehabilitation of an historic structure is preceded by a review of the project by the State Historic Preservation Office (SHPO). The SHPO is the review and advisory agency for all property evaluations and preservation projects for compliance with The Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings.<sup>6</sup>

In developing a management plan for historic lookout stations, many issues and options must be studied. Public interests regarding recreational and educational values, and

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<sup>5</sup>United States Code, Annotated, 16 Section 1131-1136, National Wilderness Preservation System, Public Law 88-577, Section 2, September 3, 1964, 78 Stat., 890.

<sup>6</sup>Gary L. Hume and Kay D. Weeks, dev., The Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (Washington, D.C.: United States Department of the Interior, Technical Preservation Services Division).

public safety and sanitation affect the future use of the historic lookout station. Compatibility with other resource concerns, such as wildlife management, must be explored. Work load impacts and funding of Forest Service personnel are additional considerations when developing a management plan. The remote location of these buildings also poses complex issues of accessibility for rehabilitation and maintenance from an economic and logistical point of view.

### Issues

#### Public Interests

Understanding the various levels of public interest in developing management plans is a key factor in exploring alternatives for the future function of historic lookout stations. The future use of the lookout station may respond to or restrict recreational and educational values of certain users. Analyzing the potential of the site and who will benefit will help determine the appropriate future use.

From an historic preservationist's point of view, the historic lookout station represents a significant building type associated with the development of the fire protection system in the national forests. The building may be unique in style or important for its association with a specific event or person. To this individual, the historic and educational value is very important.

One type of recreationist may associate the historic lookout station or any abandoned lookout station with part of an extended outdoor recreational experience. Currently, some abandoned lookout stations are open to the public and can be used for overnight shelter. Therefore, the camper may not have the same expectations as the historic preservationist concerning the historic lookout station's future use.

The second type of recreationist is the day use hiker. This portion of the public may regard lookout stations as a hiking destination point or may just wander in without knowledge that the lookout station exists. This group may be interested in both the educational and historical values of these sites, or may just be there to appreciate the view.

All three public interest groups may be comprised of local residents or distant travelers. Local users, generally residents of a rural area, may regard the lookout point as synonymous with the urbanist's public park or local playground. Consequently, the local community may have stronger values for these sites than outsiders.

Most lookout stations, whether active or abandoned, contain a logbook for visitor comments. The logbooks at the abandoned sites offer interesting commentary by the public. These entries were found in the logbook at Gold Butte Lookout Station:



9-29-90

I'm here with my dad and family dog (Fluffy). Its hard to express the way I feel, when I'm here. I love every moment of it. I feel as if I could be a hawk and fly off this beautiful mountain. I just hope everyone else can feel the way I do when there [they're] here too.

Rebecca Krajacic  
Silverton, Oregon

Another user experienced the lookout in less than desirable weather:

10-15-90

45°, raining, and zero visibility! Still a beautiful place and wonderful hike up here. Let's keep it [the lookout station] the way it is!

Curt

Understanding the needs and feelings of the various public groups is important to make the appropriate decision for the future use of the historic lookout station.

#### Public Safety and Sanitation

If an active effort is undertaken by the Forest Service to rehabilitate an historic lookout station, this is an open invitation for the public to use the site. Liability concerns and sanitary accommodations become more important.

Not only must the lookout structure be safe, but aspects of the landscape leading to the site must be considered. Maintaining roads, increasing or improving parking, upgrading trails, installing signage, and providing toilet facilities are commitments the Forest Service must consider above and beyond rehabilitating the lookout structure. The precarious location of some lookout stations

leads to safety concerns. Signage giving adequate warnings to the users is paramount; however, it also implies responsibility for the user's safety.

The old outhouses, if extant, are not adequate if increased public use occurs. The installation and maintenance of better toilet facilities becomes a costly consideration for inviting the public to the site.

All of these concerns involve an initial and long-term investment by the Forest Service. Developing a management plan involves a larger area than just the mountaintop and the structure itself.

#### Accessibility and Materials

The extensive road network throughout the national forests has eased one's ability to visit the majority of the lookout stations. Many sites on the Willamette National Forest are directly accessible by vehicle, or a short walk of a mile or less takes one to the top of the mountain.

When considering the tasks required for rehabilitation of lookout stations, an enormous amount of tools and supplies are required, and the process must be approached from a totally different perspective than any other project. Stripping wood surfaces of old paint requires chemical solvents, which in turn require a careful cleanup. Fragile high-country environments can be more susceptible to damage,

thus collecting the construction debris and disposing of it takes on a whole new dimension. Mountaintops also have no electricity or water source. Portable generators must be used, or the project can be undertaken with hand tools only, and this expands the time frame involved in rehabilitation work. Water may be located at a spring, stream, or lake below the peak and must be hauled to the top.

Storage of materials and tools can also pose problems when the site lacks any auxiliary buildings or storage space within the lookout itself. For instance, Carpenter Mountain Lookout Station is perched on a basalt plug; it does not even have an outhouse. Additionally, the work area is limited to a three foot wide perimeter rock walkway surrounding the building. This in itself institutes safety problems for people working in such precarious places.

A careful inventory of materials is necessary for any rehabilitation project. The Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings indicates the replacement of wood features shall be with in-kind materials which match the original as closely as possible (see Appendix C).<sup>7</sup> In the case of historic lookout stations, siding, flooring, wall, and ceiling boards are the primary wood features requiring special milling. Windows, doors, and furnishings that need

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<sup>7</sup>Ibid., 18.

replacement also require detailed reconstruction based upon historic photos and plans.

These problems concerning accessibility, materials, and the transport of supplies is amplified when coupled with wilderness issues. The use of mechanized equipment for transportation and power tools for labor is generally prohibited in wilderness areas. Volunteers must carry supplies and materials in backpacks, or equestrian groups may be engaged in transporting equipment to a wilderness site.

#### Wilderness and Historic Preservation

The idea to preserve areas of wild lands has been an American value since the mid 1800s. Wilderness advocates such as Henry David Thoreau and John Muir, and later Aldo Leopold and Bob Marshall, crusaded for the establishment of wilderness preserves. Writers, philosophers, painters, and photographers embraced the uncharted, untrammelled, pure landscapes in their works, emphasizing the need for preservation.

The Forest Service began designating "primitive areas" in 1929 through its L-20 Regulations. These primitive areas were intended to be roadless, and free of development and manmade structures. By 1939, seventy-three primitive areas had been designated by the Forest Service throughout the country. In 1939, the U-1 and U-2 Regulations strengthened

the protection of these areas, prohibiting timber harvesting and road construction. The Forest Service could designate unbroken tracts of 5,000 to 100,000 acres as "wild lands," and 100,000 acres or more as "wilderness areas."<sup>8</sup>

The first wilderness bill was proposed in 1939, but failed to pass Congress. In 1957, the first draft for the present bill was presented to Congress. Seven years later, in 1964, Congress passed the National Wilderness Preservation System, which created nine million acres of wilderness areas in 54 locations throughout the United States. Today, wilderness areas comprise 89 million acres. The Congressional definition of wilderness emphasizes the following values:

A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this Act an area of undeveloped federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least 5,000 acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also

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<sup>8</sup>Michael Frome, The Forest Service (Boulder, Colo.: Westview Press, 1974), 179.

contain ecological, geological, or other features of scientific, educational, scenic, or historical value.<sup>9</sup>

Within this legislative definition, the "community of life" includes the natural as well as the cultural resources. The plants, animals, soil, and water are given a value equal to the artifacts of human life that existed previously in these areas: the prehistoric campsites, ceremonial sites, homesteads, government administrative structures, trails, and more. Just because a line is drawn on a map designating a wilderness area does not exempt the protection of one feature inside the line over a similar feature outside the line. Management strategies may differ, but responsibility for the cultural resources does not change.<sup>10</sup>

The National Wilderness Preservation System does not disallow the "historical value" of a wilderness area. It, in fact, encourages the existence of historical features as part of its multiple values and multiple uses. Wilderness advocates of the "purist sense," however, will strongly

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<sup>9</sup>United States Code, Annotated, 16 Section 1131 (c).

<sup>10</sup>Gordon R. Peters, "Cultural Resources and Wilderness: Policy and Management Opportunities," paper presented at the Wilderness and Wildland Workshop, Springfield, Missouri, 6-9 May 1991. Peters is the Supervisory Archaeologist on the Superior National Forest in Minnesota.



resist the maintenance of any "permanent improvement," even of "historical value."

The National Historic Preservation Act encourages the protection of the physical evidence of this nation's history and its prehistory. Executive Order No. 11593 directs federal agencies to take responsibility for preserving historic properties under their jurisdiction. The National Historic Preservation Act nor its amendments require preservation or treatment of historic properties, but established guidelines for preserving a property's historic value.<sup>11</sup>

#### Wilderness Management

In the Willamette National Forest, wilderness areas have been classified to reflect specific values of the wilderness resources within a Wilderness Resource Spectrum (WRS). Seventy-nine percent of the area is classified as pristine. This acreage is unmodified, contains no facilities, and impact from humans is minimal. Eleven percent of the wilderness is classified as primitive. It is essentially unmodified; the only acceptable facilities are for resource protection, safety, and are constructed of native materials. This primitive acreage receives low human impact. Seven percent of the wilderness area is semiprimitive

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<sup>11</sup>United States Code, Annotated, 16 Section 470, Executive Order 11593.



in nature. It is predominantly unmodified, receives low human usage, and again facilities are for resource protection only. Three percent of the wilderness acreage has concentrated usage. This consists primarily of staging areas or trailheads where the impact of humans and pack animals is greatest.<sup>12</sup>

The creation of wilderness areas is primarily the issue which generates the greatest amount of public concern. What is of secondary importance in the public's eye is management of these areas:

Surrounded by an urban, industrialized civilization, even a wilderness cannot be preserved simply by declaration alone. At the very least, administration is required to establish or interpret and enforce restrictions on access and use.<sup>13</sup>

The 1990 Land and Resource Management Plan for the Willamette National Forest (which supersedes any previous management plans) has established goals for its resources. Within this study, the management plans for wilderness areas and cultural resources are key factors for the preservation of the historic Ollalie Lookout Station in the Three Sisters Wilderness.

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<sup>12</sup>Willamette National Forest, Final Environmental Impact Statement, Land and Resource Management Plan, Willamette National Forest (Eugene, Oreg.: U.S.D.A. Pacific Northwest Region, 1990), III:136.

<sup>13</sup>Robinson, 180.

Wilderness management goals for the Willamette National Forest emphasize the re-creation of the mystery of the wilderness area. Goals for pristine wilderness areas are that no toilet facilities, signage, or trails shall be found in the area. Primitive wilderness areas shall have no toilet facilities and signage will not denote locational distances between points. Semiprimitive wilderness areas shall have no distances on signs. The goal of transitional wilderness areas is reclassification as semiprimitive wilderness areas where signage will not show distances. In addition to this stringent effort to return wilderness areas to their natural state, the Forest Service requires wilderness permits of those destined for certain areas. This management strategy will be used to determine the impacts of users upon the natural and cultural resources.<sup>14</sup>

As mandated by the National Wilderness Preservation System and the National Historic Preservation Act, significant cultural and historical resource values are to be protected for future generations within the Willamette National Forest:

Sites will be evaluated for their potential to be nominated to the National Register of Historical Places. Eligible sites will be nominated to the Register and management plans prepared to ensure their protection.

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<sup>14</sup>Willamette National Forest, Land and Resource Management Plan, Willamette National Forest (Eugene, Oreg.: U.S.D.A. Pacific Northwest Region, 1990), MA 1a:06-1d:14.

Interpretive plans will be prepared for sites selected for public use.<sup>15</sup>

Cultural Resource management goals for wilderness areas within the Willamette National Forest state:

No permanent evidence of past human use shall be allowed unless an area, site, or structure qualifies as historically significant, otherwise authorized by the Wilderness Act or other legislation, or necessary to attain management objectives.<sup>16</sup>

As with the Wilderness Act, the Forest Service Policy does not forbid the existence of historic properties in wilderness areas. In terms of "other legislation," the National Historic Preservation Act provides the guidelines for their preservation. Restoring land to a pristine, primitive, or semiprimitive wilderness condition and preserving the values of historic structures within these areas is dependent upon management decisions that establish a compatible use for the future of these structures.<sup>17</sup>

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<sup>15</sup>Ibid., IV:86.

<sup>16</sup>Ibid., MA 1-11.

<sup>17</sup>See Throop, Historic Buildings in Wilderness. This study offers an analysis of legislation concerning wilderness and historic preservation issues and poses a theoretical process for managing historic properties in wilderness areas, but it does not address the practical and economic aspects of preserving such structures.

Options for Future Uses of Historic  
Lookout Stations

The following options represent a variety of alternatives that can be studied when developing management plans for an historic lookout station. Many of these options have already been used and proven successful for lookouts stations on Region 6 and beyond. These options can be used individually or in combination to provide a varied experience for the user. The possible options include: various themes of interpretation for the site, the Volunteer Lookout Program, the Recreation Cabin and Lookout Rental Program, Partnerships with public interest groups, Adoption by a public interest group, Relocation and Salvaging, and the continued use as an Administrative Site.

Interpretation

A lookout site may be used for interpretive purposes which offers educational value to the public. Themes of interpretation vary and can be combined within one site. The history of fire detection and suppression could be depicted. Trail systems with hiking destination points can be emphasized. The geology, prehistory, flora and fauna of the area, logging, homesteading, railroads, and damming of the rivers could be included with the history of the site. The degree to which a site is interpreted is also variable.

Self-guided tours using brochures or signage along the road, trail, and at the site is one method. Programs offering guided tours on special weekends or occasions when a volunteer is present at the site for interpretation is another possibility. Any active lookout site now offers interpretation from the lookout operator, who serves as an ad-hoc interpreter for visitors.

#### Volunteer Lookout Program

This is a program in which the Forest Service endeavors to position a lookout operator in a station on a volunteer basis, not as a paid employee. Individuals can volunteer their services to the Forest Service for a period of time-- a week, a month, or the whole summer fire season. Minimal compensation may be given for mileage, per diem, or other amenities. Both the Forest Service and the individual involved benefit; the Forest Service receives fire detection for an area, the lookout station is less apt to be vandalized, and the individual experiences life on a mountaintop. In addition, visitors also receive the educational value of on-site interpretation by the volunteer. Waldo Mountain Lookout Station is an example of this option.

Recreation Cabin and Lookout  
Rental Program

This program allows the public access to structures on the national forests for overnight or for extended periods. This program was initiated on Region 1, the Northern Region. Backcountry cabins and lookout stations alike have offered accommodations to campers that want something more than a tent for shelter. The Northern Region's Recreation Cabin and Lookout Directory for 1990 offered over fifty buildings for rent, eleven of which were lookout stations.<sup>18</sup> Accommodations vary and fees range from \$15.00 to \$35.00 per day. During the summer of 1990, Snow Camp Lookout on the Siskiyou National Forest's Chetco Ranger District became Oregon's first rental lookout. The program has proven to be a great success with a totally booked schedule for 1991.<sup>19</sup> A second lookout station in Oregon, Acker Rock, opened in 1991 on the Umpqua National Forest's Tiller Ranger District.<sup>20</sup> This

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<sup>18</sup>A copy of the Northern Region's Recreation Cabin and Lookout Directory may be obtained by contacting the Northern Region Headquarters, U.S.D.A. Forest Service, P.O. Box 7669, Missoula, Montana 59807, (406) 329-3511.

<sup>19</sup>Doug Newman, comp., Network for Adaptive Uses of Historic Structures Directory (Eugene, Oreg.: U.S.D.A. Forest Service, Willamette National Forest, August 19, 1991).

<sup>20</sup>Frann Grossman, "For Rent: Room With a View," Brookings (Oregon) Curry Coastal Pilot, 6 June 1990, 12B; and Doug Newman, "On Top of the World," Eugene (Oregon) What's Happening, 29 August 1991, 29-30.



program encourages a greater awareness of these sites and gives people an opportunity to engage in the experience of life in a lookout in a direct manner.

The accommodations for this program can be approached on many levels. The lookout could be fully furnished with beds, stove, table and chairs, and storage cabinets. Or it could be minimally furnished and therefore less of a risk to vandalism. To a degree, the Recreation Cabin and Lookout Rental Program offers some security for the property. Use by these recreationists provides a regular presence at the structure, and the building may be less subject to vandalism because registration procedures by users provide a record of who has been there.

This program may be operated on a regional, national forest, or ranger district level. If a ranger district has more than one site for this program, the administrative aspects make the program more feasible from a ranger district level. This program also generates revenue for the maintenance of the buildings. A \$25.00 per day user fee for a three month summer season generates \$2,250.00. This program is by no means an income producer for the Forest Service, but does create maintenance funds to be redirected back to the lookout's rehabilitation. If the program operated year round for winter cross country and snowmobile enthusiasts, more revenue could be generated.



## Partnerships

Creating partnerships is a program whereby the Forest Service enters into a working relationship with a private organization or a number of organizations. The program applies to many activities and benefits both the Forest Service and the interest group. In terms of historic lookout stations, the rehabilitation of the structure is of interest to both the Forest Service and the organization. The level of interaction on the project is variable between the Forest Service and the group. The Forest Service may provide administrative assistance only or be much more involved.

"Challenge Cost Share" is a program whereby a ranger district can request funding from the Regional Forest Service Office to match with volunteer efforts from a special interest group to initiate a partnership for rehabilitation of a lookout station. The partnership can be short or long term in nature. A group may approach the project as an immediate stabilization project, and continue rehabilitation as funding is available. Sand Mountain Lookout is the prime example of a partnership within the Willamette National Forest.

### Adoption

Adopting a lookout station is a situation whereby an individual or organization maintains the structure out of personal satisfaction or for recreational intent. This is typically a long term endeavor. There is not necessarily any contract with the Forest Service, though some groups may have a formalized agreement. Park Butte Lookout Station in Washington is leased to the Skagit Alpine Club of Mount Vernon, which maintains the building. Club members have priority use of the facility, but otherwise the cabin is open to the public on a first-come, first-serve basis.<sup>21</sup> This is a good option for lookout stations that have not been evaluated as eligible for the National Register of Historic Places, and whose existence is tenuous until 50 years of age is reached. In the past, Gold Butte Lookout Station was adopted by the Pacific Crest Trust Fund.

### Relocation and Salvaging

Relocating a lookout station to a new site for a different function affects the historic context of the building. However, relocating to an outdoor museum situation does have its advantages--a greater public appreciation of its historic value is the result. Interpretation

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<sup>21</sup>Spring and Fish, 32.

opportunities abound when moving the lookout station to a museum setting. A broader spectrum of people can enjoy the educational aspects of the relocated lookout station: school groups, less active people, and disabled individuals can more readily experience its historic value. The Tillier Ranger District on the Umpqua National Forest has moved and restored the Red Mountain Lookout Station to a setting adjacent to the Tillier Ranger Station for interpretive use.

A second possibility for relocation is if a need for a lookout station at another site on the same national forest or another national forest presents itself. Here is the opportunity for dismantling and reconstructing the building on another site for the same purpose.

If a lookout station has suffered the ravages of time, weather, or vandalism, and the ranger district has opted to take no action to rehabilitate the structure, salvage is an alternative for management and preservation of other lookout stations. Since so many of these structures were standardized in their construction and materials, parts and pieces of one lookout can be removed from the site, stockpiled, and later used to rehabilitate other lookout stations. On the Willamette National Forest, Sand Mountain, Warner Mountain, and Iron Mountain Lookout Stations were constructed from re-used parts of other lookout stations.

Documentation and evaluation for eligibility to the National Register of Historic Places, and consideration of the effects of removal, would precede such action. Access and removal may require networking with other national forests and government agencies; helicopter transport of these buildings is often coordinated with the National Guard or Army Reserves. Volunteer groups are a good source of skill and labor for this option. Coordination, networking, and creating an inventory system of salvaged lookout stations is highly essential for this option.

#### Administrative Sites

The lookout stations on the Willamette National Forest have continuously served as administrative sites for Forest Service operations. Though many of these sites have been abandoned and no longer actively serve their original function, the Forest Service still retains the option to use them for fixed-point detection for fire control. In addition, these sites could also be used for other purposes, such as a base camp for Forest Service personnel conducting research or administrative duties in the area.

#### Summary

The development of management plans for the preservation of historic lookout stations involves a detailed

process and many considerations concerning the public, the impact on the historic structure, legal obligations, exploring the viable options for its future use, and wilderness issues if applicable to its location. The process of developing management plans is lengthy and requires interaction through public forums, various levels of management within the Forest Service, other government agencies, the State Historic Preservation Office, and expertise from consultants such as skilled craftspeople and historic preservationists.

## CHAPTER V

FIELD OBSERVATIONS AND RECOMMENDATIONS  
FOR THE FOUR HISTORIC LOOKOUTS ON  
THE WILLAMETTE NATIONAL FOREST

Site visits to all thirteen lookout stations on the Willamette National Forest were conducted during the summer of 1991. The condition of the four lookout stations evaluated as eligible to the National Register of Historic Places in 1991 was recorded in detail. Information from engineering reports for two of the lookout stations was also available for the consideration in developing these recommendations for rehabilitation. The Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings was also consulted as a basis for these recommendations (see Appendix C). All recommendations herein must be in compliance with legal requirements as described in Chapter IV. Specific plans must be documented and submitted by the Forest Archaeologist as a "Determination of Effect" to the State Historic Preservation Office for review.

Historic photographs for the following four lookout stations are found in Chapter III with each site history.

Information concerning historic building plans to be used in the rehabilitation efforts can be found in Appendix D. References to historic paint colors has not been included for each structure, as it is not within the scope of this study to provide color analyses. It is recommended that individual color analyses be conducted on each lookout station before rehabilitation begins. During the rehabilitation of Huckleberry Mountain Lookout Station in 1991, the appropriate colors were determined through a color analysis. It is not recommended that these colors be used automatically on the earlier lookout stations, as they may not be historically correct for those styles.

Observations concerning the present status of the other nine lookout stations is not documented herein, as it is not within the scope of this study.

#### Saddleblanket Mountain Lookout Station

##### Field Observations

Saddleblanket Mountain Lookout Station, a steel tower built in 1926, is accessed by a one half mile trail from a clearcut southeast of the site at the end of Forest Service road 1824-143, or a one mile trail from Little Blanket Shelter north of the mountaintop at the end of Forest Service road 1824-144 (plate 40).



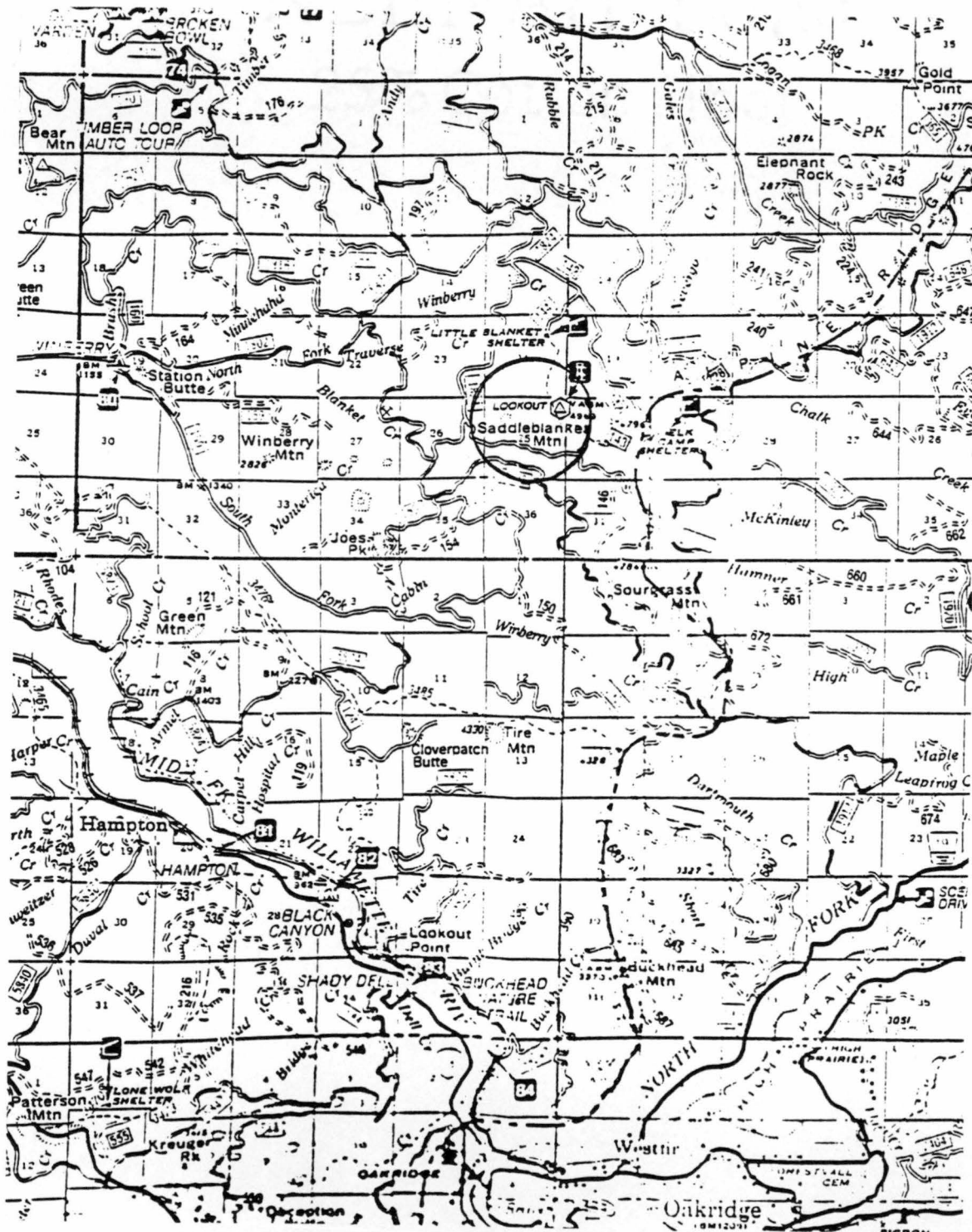


Plate 40. Location of Saddleblanket Mountain.  
Source: Willamette National Forest Map, 1990.

The site, which in historic photos is shown to have many trees removed for the construction of the tower, is now encroached upon by dense underbrush and tall trees (plate 41). Some trees are approaching the height of the seventy foot tower. Evidence of a dry laid rock fence edges the south side of the site. Rocks to the east of the tower at the base indicate the foundation of the non-extant cabin that provided living quarters for the lookout operator.

The tower, which has endured sixty-five years of harsh weather, is in good condition and remains structurally sound. The cab has sustained damage due to vandalism. Bullet holes have punctured the roof and walls. At these points, corrosion has occurred. The south and west exterior walls have also acquired patches of corrosion where the zinc finish has worn off the steel after years of weathering. The north and east exterior walls show no corrosion, but do exhibit the remains of a paint finish. An interesting fact is that the lookout operator must have had extremely long arms in order to have hung out the windows and slathered on the paint, as brushstrokes can still be seen on the north side. The exposed eaves of the steel roof also show some paint.

Historic photos indicate the windows were wood casements with four panes of glass. Remains of some of the window frames and hinges are still attached to the steel



Plate 41. Saddleblanket Mountain Lookout Station,  
1991. Dense Underbrush Encroaches Upon Tower.  
Source: Author.

structural members. These windows show evidence of green paint, both inside and out.

The interior of the cab exhibits numerous layers of paint in varying shades of green on the steel walls and ceiling (plate 42). The floor also shows green paint in the cracks of the tongue and groove boards. The flooring is still sturdy, but excessive moisture entering through the windows alternating with periods of extreme dryness has worn the wood to the extent that raised grain comprises the surface of some boards.

The tower structure remains stable. A few of the steel angle members are bent, but do not appear fatigued from corrosion. The steel guy cables do exhibit corrosion, though they are not failing.

The timber staircase which was built in 1939 exhibits the greatest amount of wear and instability. Some of the major support posts and beams have rotted at connection points. Stair treads are loose, rotting, or missing. Handrails are shaky in spots and have been ripped loose at the bottom (plate 43).

The majority of the original steel perimeter ladder is extant. The bottom section which was removed is lying in the brush to the northwest of the tower. The cantilevered access platform at the south side at the sixth level has had its wooden boards removed.

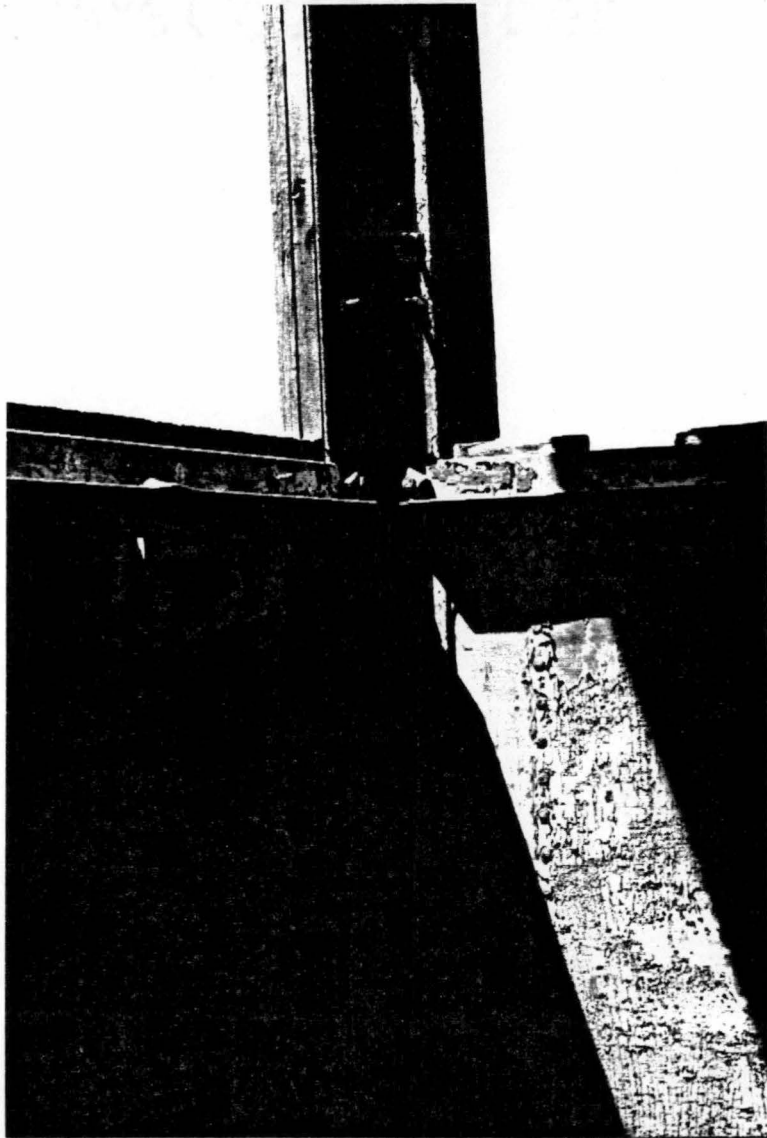


Plate 42. Interior of Cab. Saddleblanket Mountain Lookout Station, 1991. Source: Author.



Plate 43. Timber Staircase. Saddleblanket Mountain Lookout Station, 1991. Source: Author.



The panorama in all directions from the tower shows extensive clearcuts and logging roads. The showy peaks of the Cascade Range, Diamond Peak, Mt. Bachelor, the Three Sisters, Mt. Washington, Three Fingered Jack, and Mt. Jefferson puncture the eastern horizon. To the west, a vast layer of smog hovered over the Willamette Valley on the day of the site visit.

#### Future Use

The Lowell Ranger District has made the commitment to maintain Saddleblanket Lookout Station as an interpretive site. Themes of interpretation include fire detection history, the trail system, and the recently designated wildlife habitat area, which includes the lookout site. Saddleblanket Mountain Lookout Station is located along part of the historic Alpine Trail system that began in Oakridge, followed the Alpine Ridge, and connected with the Fall Creek Trail and the South Fork of the McKenzie River Trail. Thus, one could hike from the Oakridge Ranger Station to McKenzie Bridge Ranger Station or to the Big Fall Creek Ranger Station (see the 1921-23 Cascade National Forest map, plate 44.) Today this route has been erased by roads; only intermittent sections of the trail remain.

Using the tower as part of the fire detection aspect of the site's interpretation leads to public safety problems.



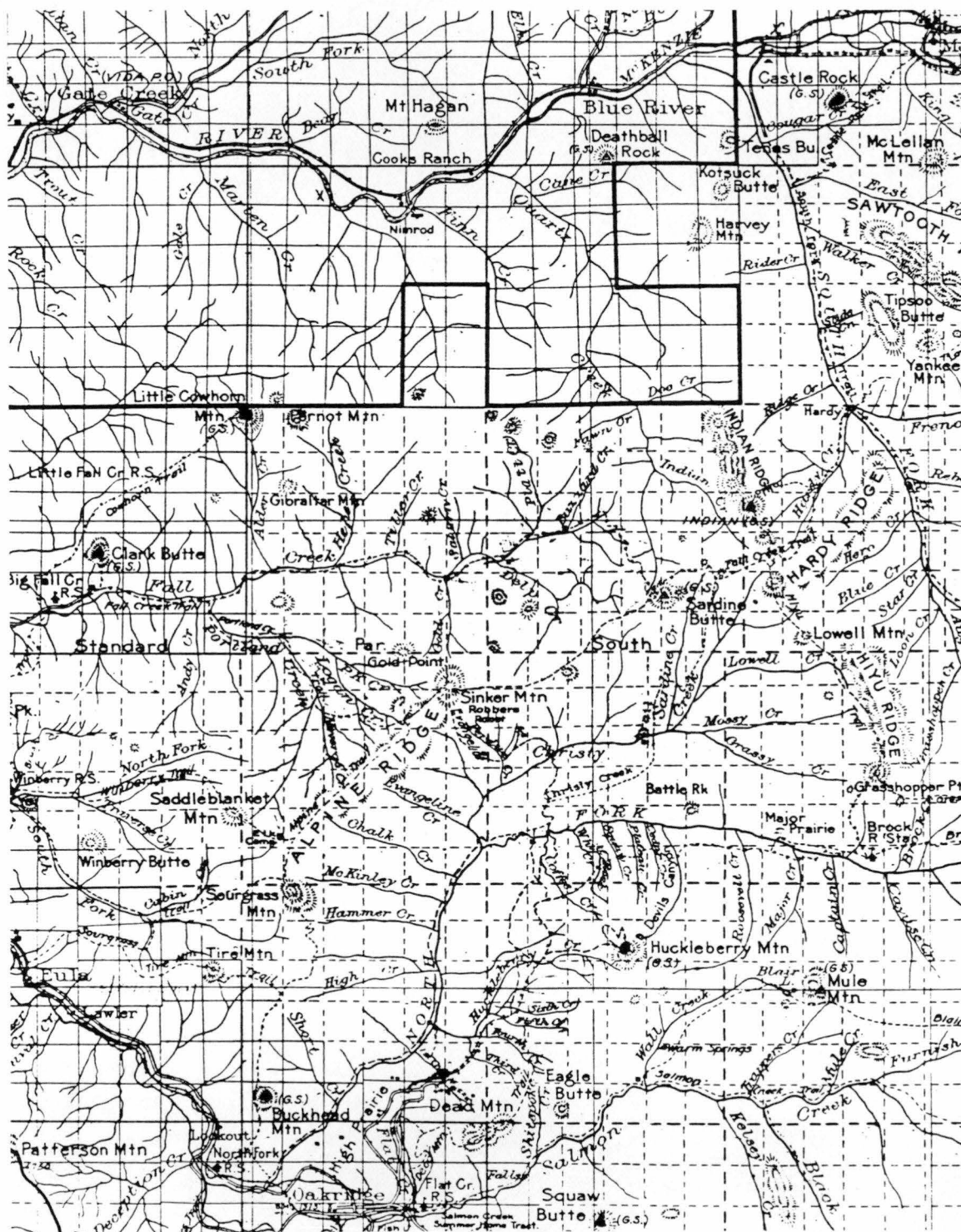


Plate 44. Historic Alpine Trail. Cascade National Forest Map, 1921-23. Source: University of Oregon Map Library.

The steep interior wooden staircase does not meet Occupational Safety and Health regulations if rebuilt as constructed in 1939. If using the tower for interpretation, the view from the cab itself is an important experience. A compromise on viewing is possible. If the staircase were rebuilt, the public could be allowed up a few flights to a level that is gated to further access. This would not provide as panoramic a view as from the cab. In this situation, clearing the underbrush and small trees from the site is necessary for a view from a few flights up. Historic photos show the site clear of trees, with stumps in the foreground.

A second possibility for interpretation of the site is not to allow public access to the tower. This could be accomplished by rebuilding the staircase, but leaving out the treads and decking on the bottom two flights of stairs and landings, thus discouraging public access. This diminishes the experience, but is better for public safety.

A future option for the site is to reconstruct the cabin that was associated with the site. This would provide shelter for additional interpretation, which could include more information, historic photos, displays, and so forth. Another possibility for the cabin would be the Recreation Cabin and Lookout Rental Program. The cabin could be furnished for overnight use. This would involve the

installation of a toilet facility at the site. If used for interpretation only, the toilet would probably be better located at the trailhead.

#### Recommendations for Rehabilitation

A structural report by the Forest Engineer was conducted in 1980. The following recommendations evolved from that report and the above field observations. The author advises that an updated structural analysis be conducted, which may affect some of the following recommendations.

##### First Priority

1. Clear brush and small trees from immediate area around tower.
2. Replace damaged angle members in the tower frame--approximately five.
3. Replace guy wires and clear soil and debris from anchorages to prevent corrosion of wires.
4. Repair holes in roof and cab walls. Sand and wire brush the rust from around holes first. Plumbing epoxy or auto body filler can be used to fill holes with discretion. If the metal is torn, patches may have to be riveted or welded over the area. Restore the southwest roof corner with in-kind material.

5. Clean interior and exterior of roof and cab walls and paint all surfaces. Prepare surfaces using rust removers and wire brushing. Paint surfaces using an oil base, rust inhibiting product. Oil based primers of red lead, red iron oxide, zinc chromate, basic lead-silico-chromate, or zinc dust is recommended. Paint should be maintained every five years.

6. Rebuild interior wood staircase and railings to match existing. Do not use an acidic producing species such as cedar, oak, sweet chestnut, or redwood. These woods produce a corrosive action when in contact with galvanized steel. Copies of the original plans for this staircase can be located at the Willamette National Forest Supervisor's Office and the Lowell Ranger Station (see Appendix D).

7. Replace floor boards in the cab, again not using an acidic producing wood. Paint flooring using an oil base product.

#### Not Recommended

It is not recommended that the wood casement windows be replaced. Documentation is advised using photos, drawings, and historic photos and plans of the remaining sash. If the windows were replaced, it might be an open invitation to vandalism. The glass would be the first component broken, with the wood muntins a secondary target for sharpshooters.

Unfortunately, the interior will continue to receive moisture, but, with maintenance of the finishes on all interior surfaces, deterioration can be retarded.

Carpenter Mountain Lookout  
Station

Field Observations

Carpenter Mountain Lookout Station, a hip roofed L-4 ground structure built in 1935, is accessed from the south via Forest Service road 1506-350 which crosses the H. J. Andrews Experimental Forest. A one mile trail to the lookout switchbacks through forest and open slope (plate 45). The final ascent to the top is over rocks which make up part of the basalt plug.

The lookout station, situated atop the basalt plug, is surrounded on three sides by a fence made of pipe cemented into the rock with wood and wire mesh. Historic photos do not show the fence. A narrow walk on top of the rock around the lookout station, about three feet, allows one to survey the landscape and remove the window shutters (plate 46).

The wood frame structure is anchored at the four corners to the basalt plug with pipe driven into the rock and bolted to the corner posts. Wood floor members placed on the rocks are sound and exhibit no dry rot. The south wall is bowed out and may be due to any or all of the following:



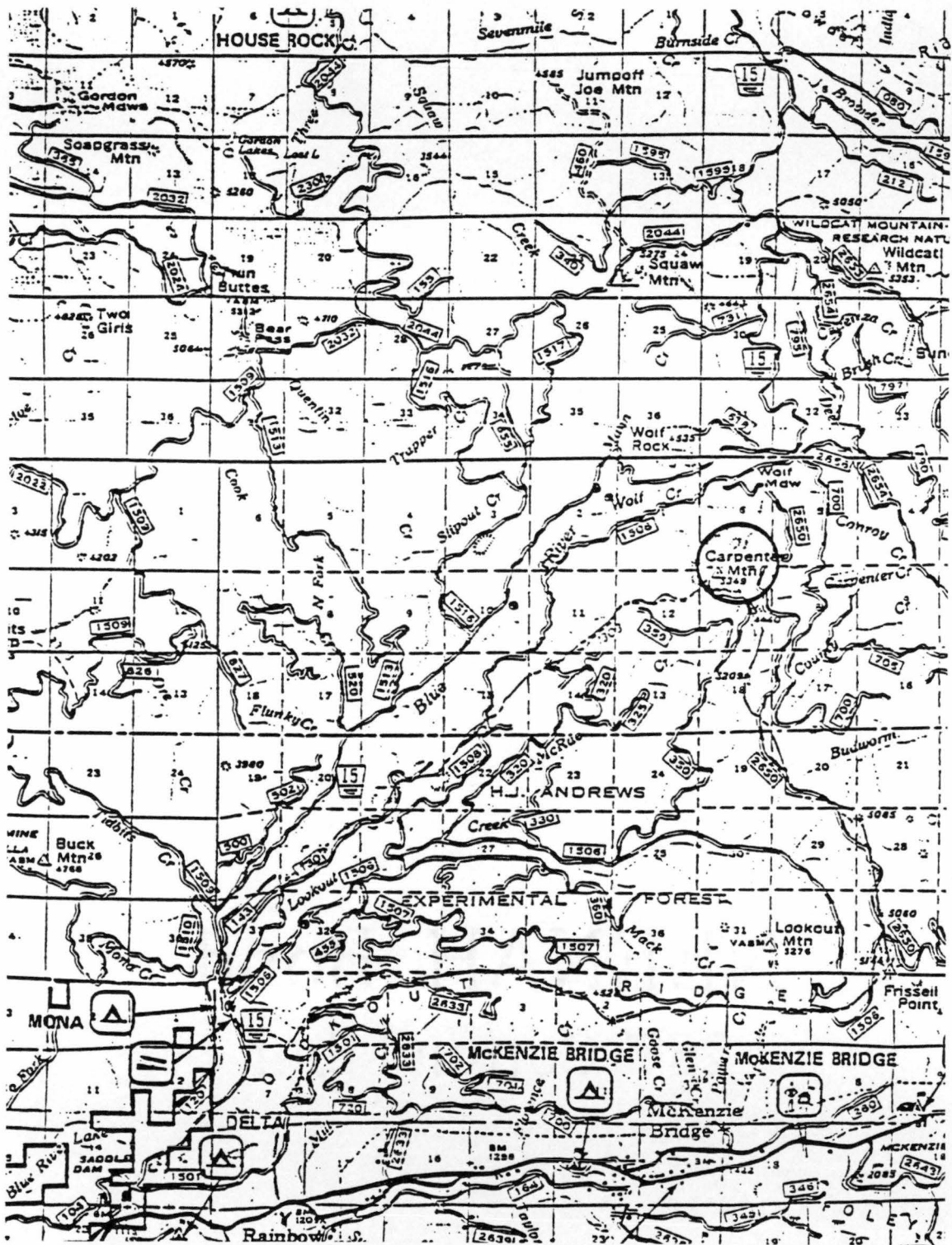


Plate 45. Location of Carpenter Mountain. Source: Willamette National Forest Map, 1990.



Plate 46. Carpenter Mountain Lookout Station,  
1991. Source: Author.



failure of a structural wall member, deflecting roof members, or foundation settlement (plate 47). The northeast corner, below the door, has also settled.

The window framing is showing signs of fifty-five years of weather and structural movement. The sill joints at the southwest and southeast corners have separated as the south wall settled. The window frame between the first and second window from the door on the north wall is split and broken. Two window panes are broken on the north wall, one on the west, and two panes and their muntin are missing at the east. Some window stops are missing throughout the building, allowing air and moisture to infiltrate. The door and all window shutters are plywood and not original. The door frame, which appears to have been retrofitted, is not air or water tight.

The wood siding is in good condition, except for the two bottom courses all around the building, which show some splitting and damage. The exterior appears to have been recently painted with latex paint; it is flaking off, particularly on the more weather-beaten sides of the building, the south and west.

The roof appears to have been resingled since its 1966 abandonment, as the stovepipe hole is shingled over. However, shingles have torn off the southwest corner and the



Plate 47. Foundation Anchorage, Splitting Window Sills, Bowed South Wall and Peeling Paint. Carpenter Mountain Lookout Station, 1991. Source: Author.

sheathing is exposed. The lightning cable at the southwest and northwest corners is loose from the wall and roof.

The interior has been painted white, apparently with latex, as some areas that have been exposed to the weather show flaking paint. The floor is sound and shows wear only at the door. The beaded ceiling boards are sagging, probably due to deflecting joists and possibly water damage from the leaking roof. The attic space reveals the addition of steel cables and toggle screws to tie the rafters together.

Furnishings that remain include the historic firefinder stand/cabinet in the center of the room; the firefinder has been removed (plate 48). A table, bedframe, and two low cabinet/shelf units also exist. The stove has been removed and all windows have been nailed shut with stops.

The views from Carpenter Mountain are similar to those of Saddleblanket Mountain. Clearcuts and logging roads interrupt the forested landscape. The Cascade Range to the east is visible and, to west, the Willamette Valley exhibited a dense haze and smog layer on the day of the site visit. Iron Mountain Lookout Station was barely visible eight miles to the north.

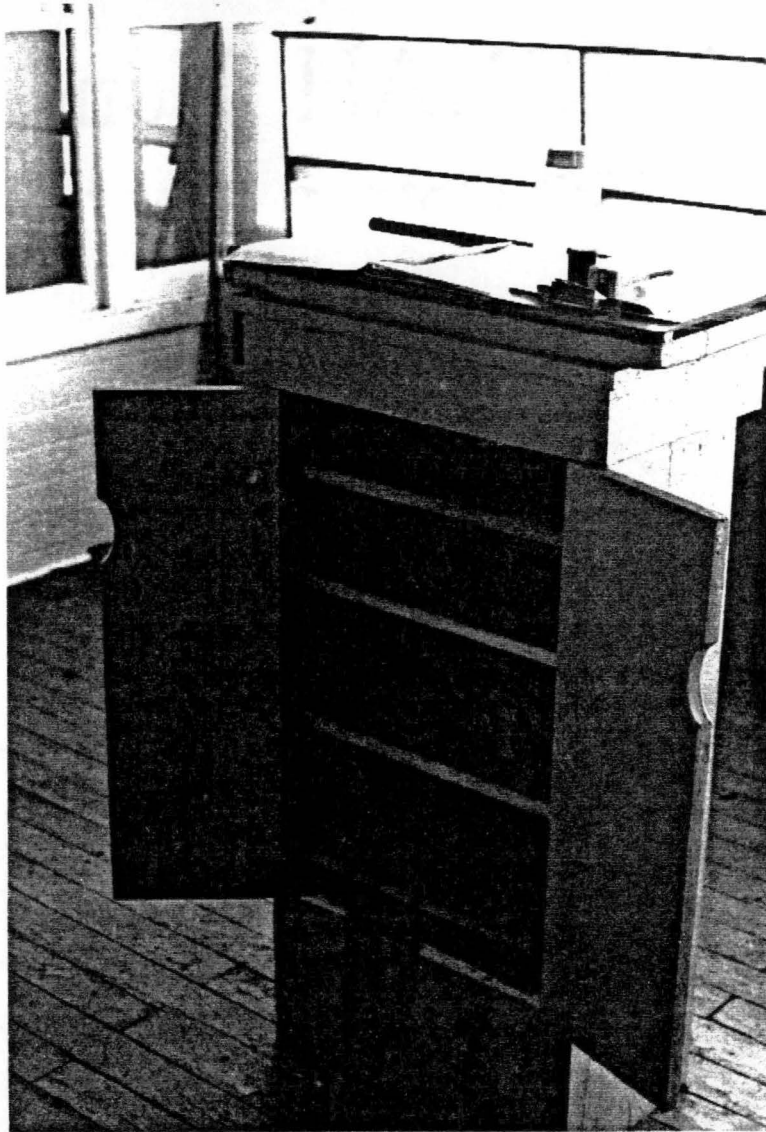


Plate 48. Historic Firefinder Stand. Carpenter Mountain Lookout Station, 1991. Source: Author.

### Future Use

A series of meetings during the summer of 1991 with an Interdisciplinary Team at the Blue River Ranger District established the future use of Carpenter Mountain Lookout Station to be an interpretive site staffed with a volunteer. The building will be rehabilitated, the trail upgraded, and a composting or pit toilet installed. The rehabilitation of Carpenter Mountain will involve long term planning and volunteer efforts. Having the lookout station staffed with a volunteer will deter vandalism and offer interpretive possibilities with various themes: fire detection history, the H. J. Andrews Experimental Forest, trails, and local geology. Once the building is rehabilitated, the future use as a rental can also be pursued, if the volunteer staffing does not continue.

As an interpretive site, furnishings and equipment for the lookout station should be acquired. Reproductions of original furnishings would be optimal. Plans for the L-4 style Lookout Station are on file at the Willamette National Forest Supervisor's Office. These could be used to make reproduction furnishings. Obtaining a firefinder may require networking with other national forests.

### Recommendations for Rehabilitation

A structural analysis was conducted by the Forest Engineer during the summer of 1991. The following recommendations evolved from this report and the above field observations.

#### First Priority

1. Initially, for safety purposes of the workers involved with the rehabilitation efforts, repair and replace any unstable sections of the fence to match the existing.
2. Reconstruct the rock foundation and reinforce the support girders to level and stabilize the floor system.
3. Plumb all wall framing.
4. Structurally insufficient splice joints at the ceiling joists require additional strengthening, then adjust the tension in the steel cables. Stabilize the roof to ensure against further water damage. Remove all shingles, replace rotten sheathing as required with in-kind material. Reshingle roof with cedar shingles. Renail ceiling boards as required after joists are leveled. Replace lightning protection system.
5. Repair windows: Remove all windows. Strip paint and repair frames as required, using in-kind materials. Repaint with oil base paint, reinstall windows, replace broken

panes, and make air and water tight. Strip, repair and repaint sills and door frame.

6. Reconstruct a new door and shutters to match the original, as per plans.

### Second Priority

After all stabilization and reconstruction has been accomplished, the exterior siding should be refurbished. Strip, prime, and paint all wood siding. Replace damaged boards as required with in-kind materials. Use oil base paint on all surfaces.

### Third Priority

After the exterior has been rehabilitated, interior work should be approached. Strip, prime, and paint all interior woodwork with oil base paint; ceiling and walls first, then floor.

## Ollalie Mountain Lookout Station

### Field Observations

Ollalie Mountain Lookout Station, a gable roofed L-4 "Grange Hall" style ground structure built in 1932, is accessed by a three and a half mile trail which begins at a trailhead along Forest Service road 1993. The trail leads through old growth forests and dense bear grass.



Huckleberry and blueberry bushes are thick along the last mile and a half of the trail (plate 49).

Ollalie Mountain Lookout Station exhibits a variety of structural problems (plate 50). The northeast, southeast, and southwest guy wire connections are embedded in concrete and are still intact. The northwest guy wire was connected to a boulder; the wire has snapped and provides no support for that corner.

The dry laid stone foundation has settled at some points. The mid-support on the east side has settled and the building has shifted accordingly. The south wall has moved, as is evidenced by the movement of the ceiling boards at the end of the building. The flooring exhibits sponginess, which indicates movement in the floor joists due to settling. The roof also indicates the building has shifted; daylight can be seen along the length of the ridgeboard from the attic space.

The roof itself exhibits badly weathered shingles and some missing shingles on the east side. The lightning rods and cables are intact, except the northwest cable, which is attached to the loose guy wire.

Some of the siding and cornerboards are split (plate 51). The window sill on the west is split and missing in some areas. The exterior appears to have been painted with latex paint which is flaking and peeling in places.

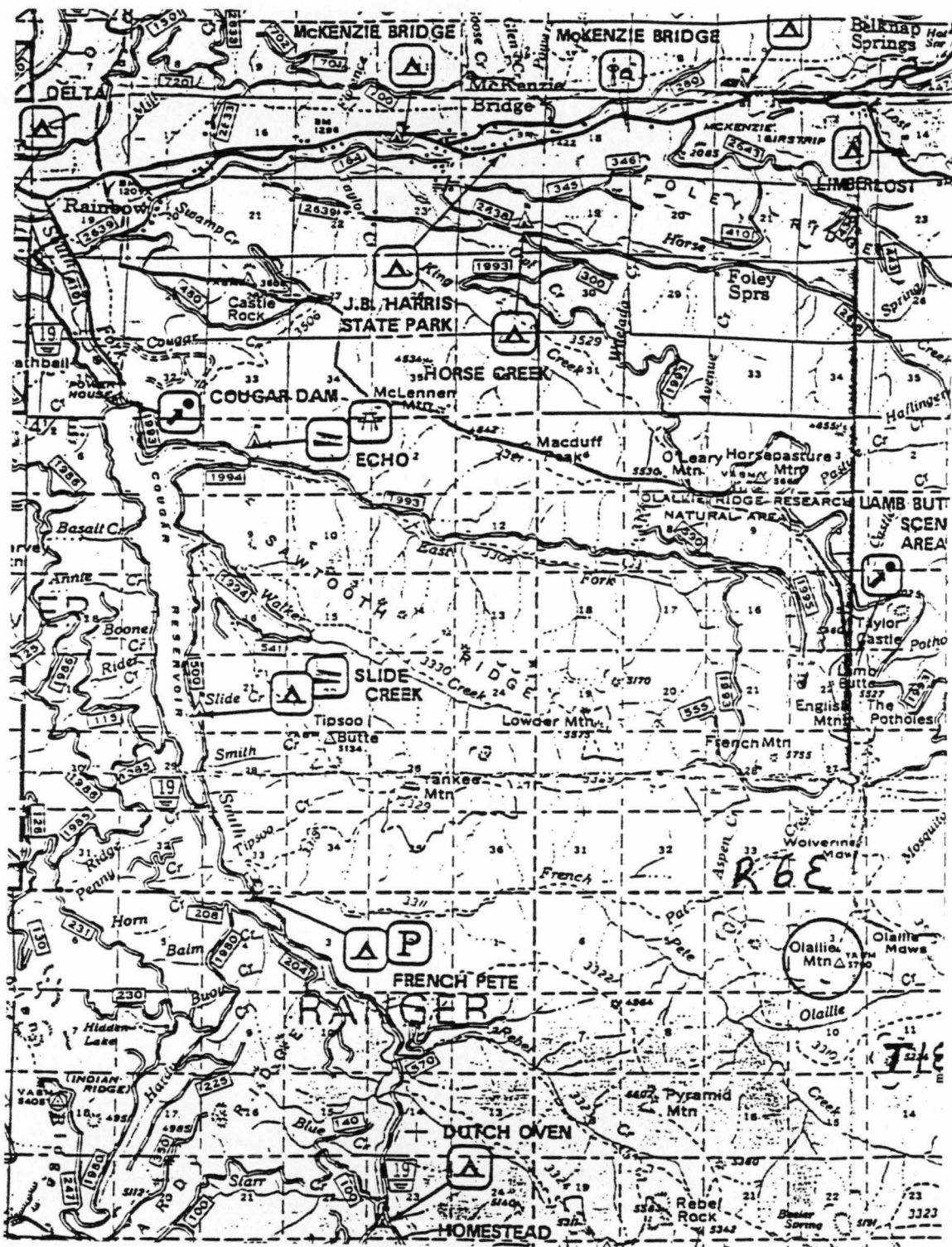


Plate 49. Location of Ollalie Mountain. Source: Willamette National Forest Map, 1990.

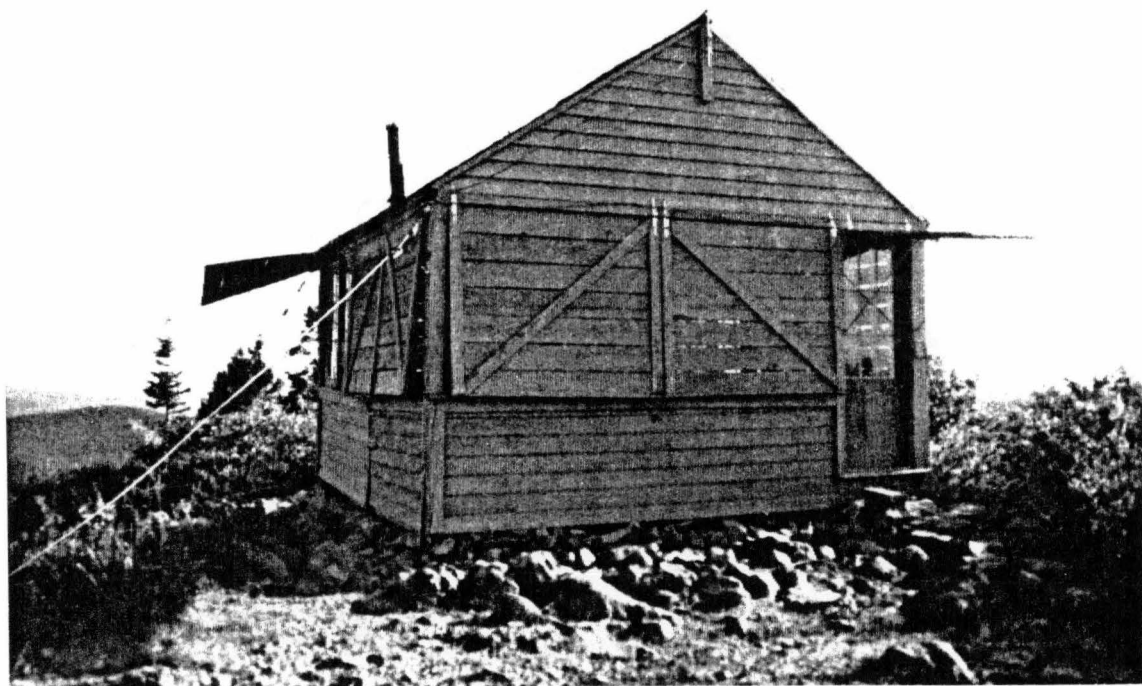


Plate 50. Ollalie Mountain Lookout Station, 1991.  
Source: Author.

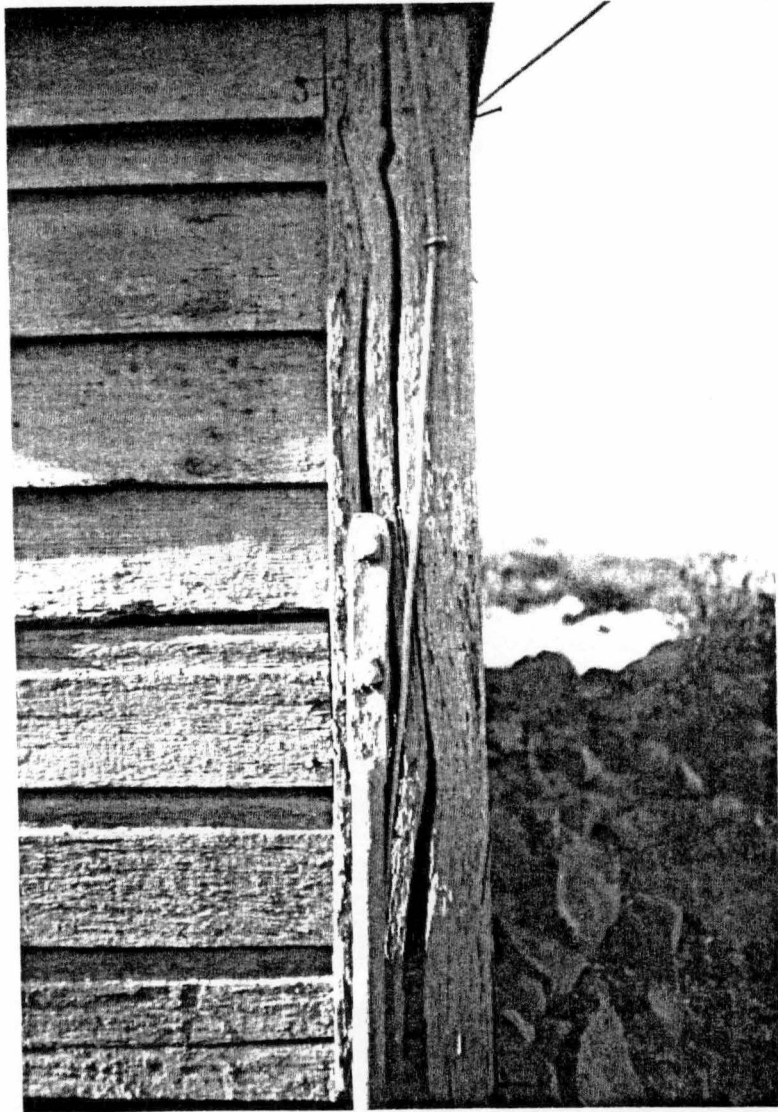


Plate 51. Split Cornerboards and Siding. Ollalie Mountain Lookout Station, 1991. Source: Author.

The west-southwest shutter has blown off its hinges and some of its boards are missing (plate 52). The windows in this location have been repaired using caulking instead of glazing compound.

The interior shows evidence of the leaking roof, as the ceiling boards have water stains. All the windows are in good shape, except the two at the west-southwest--the bottom rails on both are badly worn. One pane of glass on the south side and four panes on the west side are cracked.

The walls and ceiling show flaking paint. The flooring is in good shape, but needs paint. The threshold is badly worn.

Furnishings include the historic firefinder stand and lightning stool minus its insulators, and nonhistoric cot, wood table, and folding metal chair (plate 53).

Ollalie Mountain Lookout Station, located in the Three Sisters Wilderness Area, offers views of vast expanses of dense forest. The only visible clearcuts are at a distance to the northeast and west. Mountain peaks from Mt. Hood at the northeast to Mt. Thielson at the southeast dominate the eastern horizon. Other mountains with lookout stations that can be seen from this point are Coffin to the north, Indian Ridge to the west, Huckleberry to the southwest, and Waldo to the south.



Plate 52. Detached Shutter. Ollalie Mountain  
Lookout Station, 1991. Source: Author.



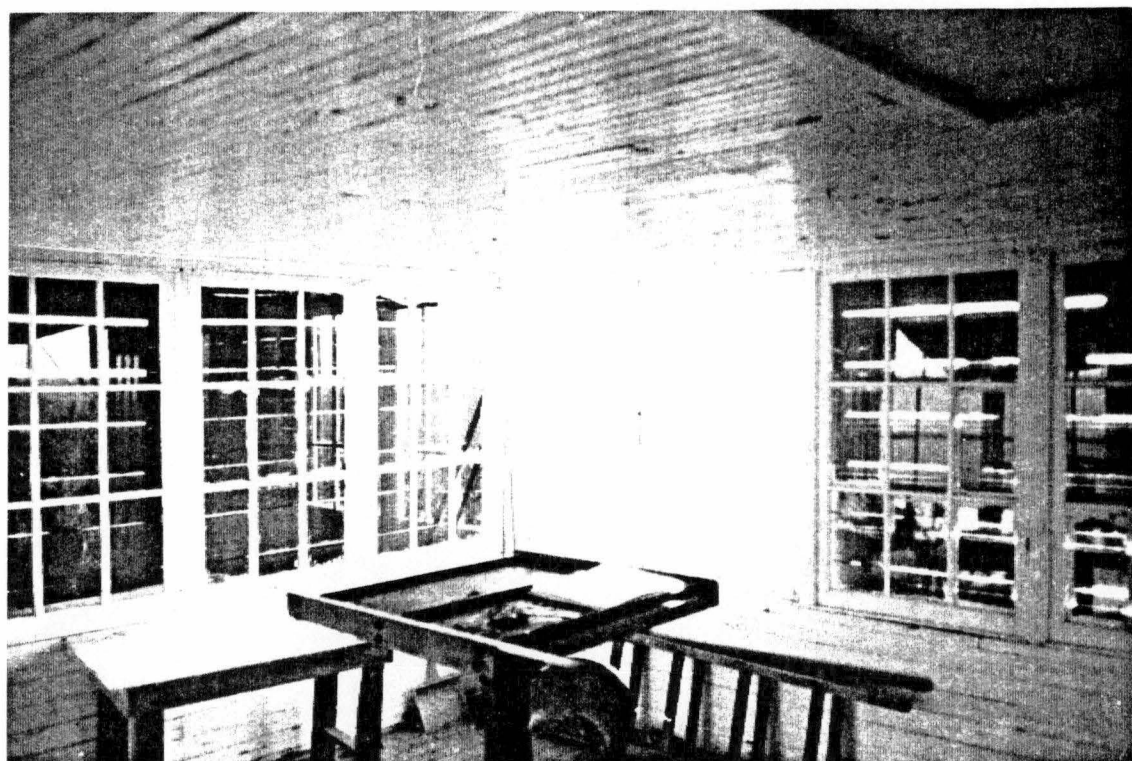


Plate 53. Interior of Ollalie Mountain Lookout Station, 1991. Source: Author.



### Future Use

The Blue River Ranger District has not begun planning for the future of Ollalie Mountain Lookout Station. Its location in a wilderness area creates greater controversy about its future use, and the practical aspects of its rehabilitation are amplified in terms of accessibility and transportation of materials and supplies.

Ollalie Mountain Lookout Station's wilderness location does enhance the historical character of this site. Compared to the other historic lookout stations on the Willamette National Forest, one must hike three and a half miles to this site. Roads have not eased access quite as much as the other lookout stations.

Views from this site are interrupted by far fewer logging roads and clear cuts. These factors of isolation and historic scenic quality intensify the user's experience and understanding of the era, in which Ollalie Mountain Lookout Station was a part of an extensive fire detection system protecting a vast forested landscape. The National Register of Historic Places states that the "integrity of location, design, setting, materials, workmanship, feeling, and association" are elements in determining the historic significance of a property (see Appendix B). Ollalie Mountain Lookout Station certainly retains the "feeling" of an

era when this area was protected from fire through the presence of this structure and an observer. Now due to the Wilderness Act, this area would be allowed to burn should a natural fire occur.

Ollalie Mountain Lookout Station, built in 1932, was associated with the Ollalie Guard Station two and half miles to the southeast, which is also extant (plate 54). Together, these two structures thematically represent a part of the former fire detection system in this area. Currently, the Ollalie Guard Station is staffed with volunteers who maintain the structure and give interpretive value to this wilderness area.

As future considerations, the Blue River Ranger District could entertain the option of a partnership with a volunteer group to rehabilitate the structure. The public has already expressed interest in volunteering time and effort to maintain this historic lookout station. The present condition of the station is equal to or better than that of the other two historic wood frame lookout stations on the forest. Since it was abandoned in 1971, it does not seem to have experienced much use by recreationists. Being more remotely located than Carpenter or Gold Butte Lookout Stations, it seems to have sustained very little damage as a result of vandalism.



Plate 54. Ollalie Guard Station, 1991. Source:  
Author.

The Blue River Ranger District has decided to use Indian Ridge Lookout Station, built in 1958 and not yet eligible for the National Register of Historic Places, as part of the Recreation Cabin and Lookout Rental Program. If this proves successful, Ollalie Mountain Lookout Station could be another candidate. Its unique style, the only original example of a "Grange Hall" style lookout station on the Willamette National Forest, represents an earlier era of the fire detection system. Its location offers the recreationist a variation on the mountaintop experience, compared to Indian Ridge's drive-up accessibility.

#### Recommendations for Rehabilitation

A structural analysis of the building should be conducted by the Forest Service Engineer which may affect some of the following recommendations.

##### First Priority

1. Stabilize and level the dry rock foundation. Flooring may need renailing after leveling. The walls should be plumbed square.

2. The roof rafters and ceiling joists should be aligned and bracing squared. Realign ceiling boards at the south wall after rafters are stabilized.

3. After structural aspects of the building are corrected, all components of the guy wire system should be replaced and the guy wire support at the northwest re-attached.

4. The roofing should be replaced with in-kind materials, and any damaged sheathing replaced also. The lightning protection system should be replaced.

5. Repair/reconstruct the damaged windows. Strip paint and repair frames as required, using in-kind materials. Repaint with oil base paint, reinstall windows, replace broken panes, and make air and water tight.

#### Second Priority

After all stabilization and reconstruction has been accomplished, the exterior siding should be refurbished. Strip, prime, and paint all wood siding. Replace damaged boards as required with in-kind materials. Use oil base paint on all surfaces.

#### Third Priority

After the exterior has been rehabilitated, interior work should be approached. Replace threshold to match existing. Strip, prime, and paint all interior woodwork with oil base paint; ceiling and walls first, then the floor. If the structure is to be used as a rental, furnishings

can be reconstructed using the plans available at the Willamette National Forest Supervisor's Office.

### Gold Butte Lookout Station

#### Field Observations

Gold Butte Lookout Station, a hip roof L-4 ground structure with catwalk built in 1934, is accessed by one-half mile of trail from a parking area at the end of Forest Service road 4697 (plate 55). The building is placed upon concrete piers. The southeast pier has settled, causing a shift in the corner of the building. Consequently, the door does not open all the way. The wood floor joists are in good condition and show no signs of dry rot (plate 56).

The roof shingles are badly weathered and a few shingles are missing. Metal ridge caps installed along the hips of the roof are typical. Historic plans indicate this roof detail (see Chapter II, Figure 8). The lightning cables are loose in some places.

As the southwest corner settled, gaps have appeared. Below the window sill on the east side at the southeast corner, a piece of quarter-round trim was used to cover the space where the wall has pulled away from the sill. The trim at the eave line at the southeast corner has split apart also as the building settled.



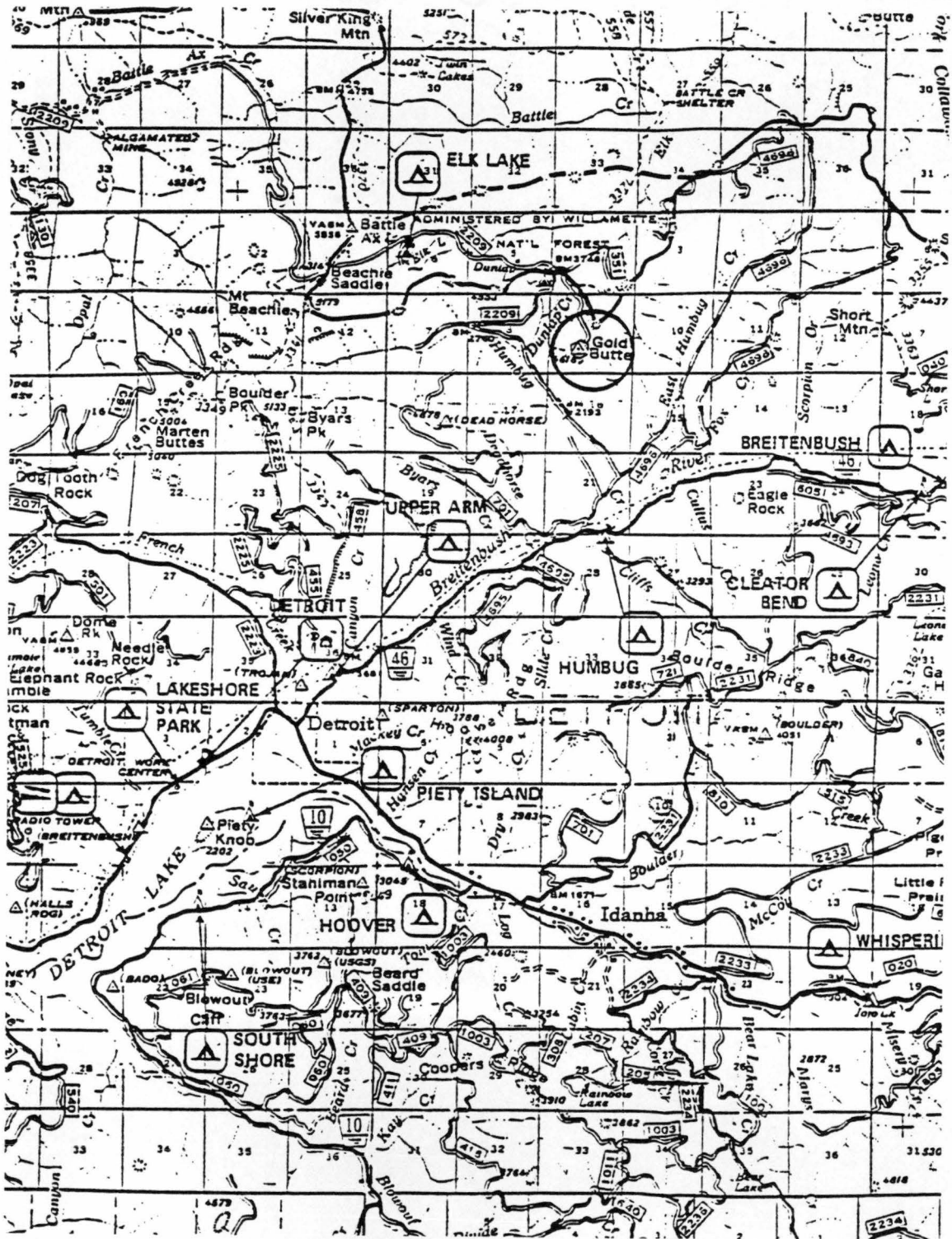


Plate 55. Location of Gold Butte. Source: Willamette National Forest Map, 1990.





Plate 56. Gold Butte Lookout Station, 1991. Note No Shutters on Windows. Source: Author.

The exterior appears to have been painted with latex paint, which is peeling. The siding itself is in good condition.

The windows are in amazingly good shape, considering that there are no shutters on the building. Some hinges remain where the shutters were attached. A few window panes are cracked, and glazing is chipped off.

The catwalk structure is in fair condition. The decking itself has suffered the worst weathering. Some boards have split and nails have popped. The railing at the northeast corner is broken, and the corner support is crushed and split (plate 57).

The ceiling indicates some water damage at the south, above the door in particular. Batt insulation has been added in the attic space. The floor has suffered damage next to the stove where wood has been chopped; axe marks are evident. The floor in general is rough and worn. The interior also appears to have been painted with latex paint, as some areas are peeling.

Furnishings consist of a built-in woodbox at the north wall, a bed frame, three cabinets, and a nonhistoric stove (plate 58).

Clearcuts and logging roads dominate the immediate scenery. The Bull of the Woods Wilderness Area a mile to the north and the northernmost part of the Mt. Jefferson

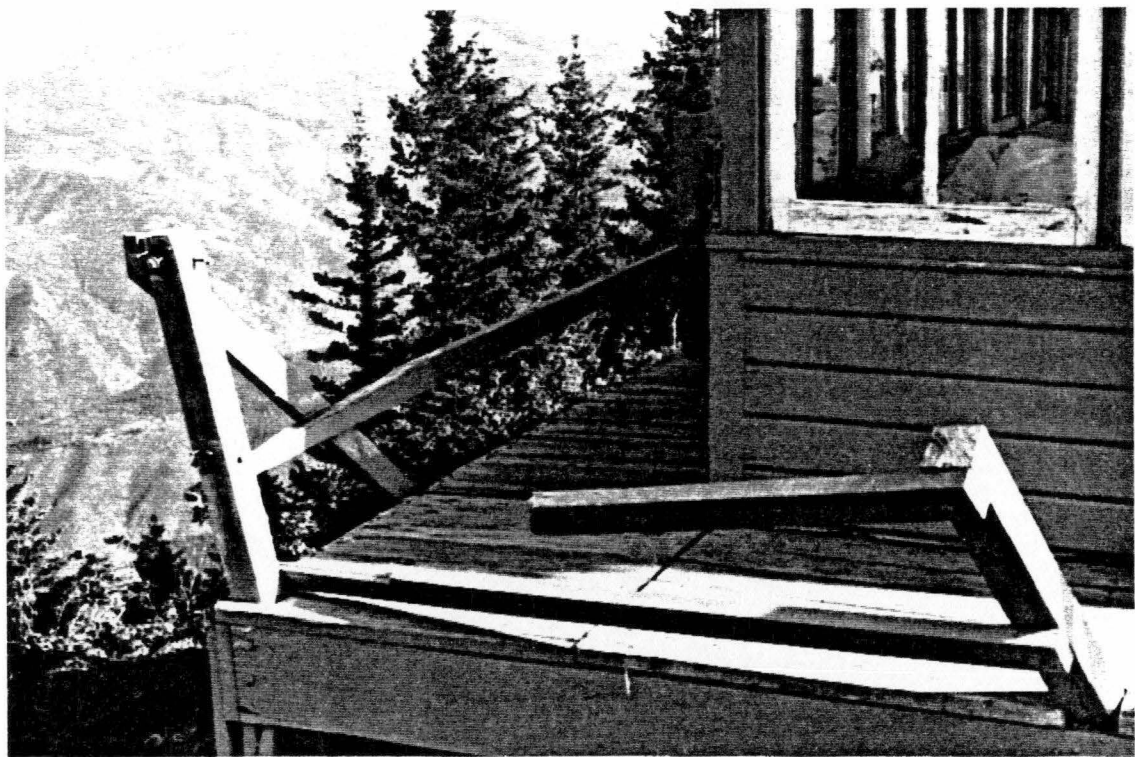


Plate 57. Broken Railing and Support At Northeast Corner of Catwalk. Gold Butte Lookout Station, 1991. Source: Author.

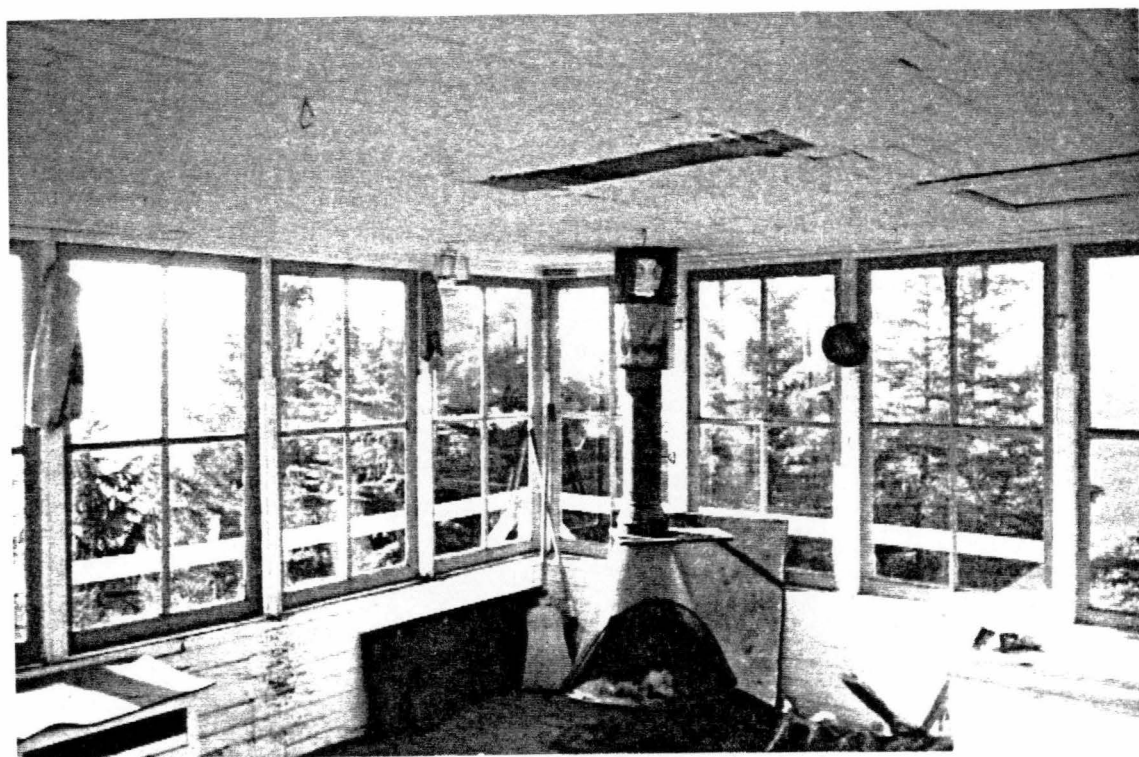


Plate 58. Interior of Gold Butte Lookout Station, 1991. Note Nonhistoric Stove. Source: Author.

Wilderness Area ten miles to the east offer views of uninterrupted forested mountains. Mt. Hood to the northeast and Mt. Jefferson to the southeast dominate the landscape. Considerable haze and smoke from field burning in the Willamette Valley to the west clogged the atmosphere on the day of the site visit.

#### Future Use

Since the site was abandoned as a fixed-detection point in the early 1960s, the Detroit Ranger District has allowed recreational use of the lookout station. This is obvious from the interior condition of the building. Forest Service officials at the Detroit Ranger Station have expressed a desire to maintain the site for further recreational use, but have not pursued any planning process to establish goals for its rehabilitation.

In order to rehabilitate the structure, an endeavor to plan its future should be initiated. If the District wants to continue recreational opportunities for the site, a form of agreement with a volunteer group could be pursued. This can be done through either the adoption or partnership option.

If a group adopts Gold Butte, as was done in the past with the Pacific Crest Trust Fund, all fund raising and maintenance might be the responsibility of the group. This

in turn might lead to a possessive attitude by a particular interest group and deter greater public use of the lookout station.

The partnership option reflects commitment by the Forest Service to maintain their historic property and to work with a public volunteer group to rehabilitate it. The partnership option entails coordination and action by the Detroit Ranger District to seek ways to fund the rehabilitation of Gold Butte Lookout Station.

From an administrative standpoint, the Detroit Ranger District is not enthusiastic about the Recreation Cabin Rental Program. The positive aspects of the program need to be proven by other national forests, such as the ventures that the Siskiyou and Umpqua National Forests have made in this area in the past two years. If a partnership agreement can be pursued and the lookout station rehabilitated, a rental program may be a future possibility.

#### Recommendations for Rehabilitation

A structural analysis of the building should be conducted by the Forest Service Engineer, which may affect some of the following recommendations.

NEENAH Bond  
25% Cotton Fiber

### First Priority

1. The floor framing system needs to be leveled to ensure the operation of the door and prevent any further racking of the building. The southwest corner should be reconstructed to prevent continued settlement and crushing of the structural members.

2. Repair and replace structural members of the catwalk. Replace the decking. Reconstruct the railing at the northeast corner to match existing.

3. The roof needs to be resingled with cedar shingles. Replace any damaged sheathing with in-kind material. Replace the lightning protection system.

4. Reconstruct and install shutters to match the original design.

5. Window panes should be replaced where cracked, and glazing repaired where it is cracking or missing.

### Second Priority

After all stabilization and reconstruction has been accomplished, the exterior siding and catwalk decking should be refurbished. Strip, prime, and paint all wood. Replace damaged boards as required with in-kind materials. Use oil base paint on all surfaces.



### Third Priority

After the exterior has been rehabilitated, the interior requires attention. The damaged areas of the floor and wall boards need to be replaced with in-kind materials. Then strip, prime, and paint all interior woodwork with oil base paint; ceiling and walls first, then floor.

### Summary

The four historic lookout stations on the Willamette National Forest, when rehabilitated, will offer recreational, interpretive, and educational experiences for a variety of users. Initiating the planning process and implementing the decisions have not yet occurred on the Detroit District concerning Gold Butte Lookout Station and on the Blue River District concerning Ollalie Mountain Lookout Station. An interested public awaits their decisions about these structures. An abundance of documentation such as historic photos and original building plans are available to assist in the rehabilitation efforts.

## CHAPTER VI

## CONCLUSIONS

The Willamette National Forest offers a variety of styles and interesting histories in its thirteen extant lookout stations. Each site depicts a unique link in the historic fire detection system that once guarded the Forest. As of 1991, the Willamette National Forest initiated the evaluation process for nominating these structures to the National Register of Historic Places.<sup>1</sup> As of this writing, the Forest has not formally nominated the four eligible structures. An amendment to the National Historic Preservation Act of 1966, Executive Order 11593 enacted in 1971, states that:

[The] federal government shall provide leadership in preserving, restoring, and maintaining the historic and cultural environment of the nation; shall ensure that federal plans and programs contribute to the preservation and enhancement of non-federally owned sites; shall locate, inventory, and nominate to the National Register all eligible properties under federal control or jurisdiction; and shall exercise caution to ensure that cultural resources are not inadvertently damaged, destroyed, or transferred before the completion of

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<sup>1</sup>Cox, Historic Fire Lookouts.

inventories and evaluations of potentially eligible properties.<sup>2</sup>

This legislation also mandated that these federal agencies complete these inventories, evaluations, and nominations by July 1, 1973! It was not, however, until the late 1970s that any cultural resource specialists, e.g., archaeologists and historians, were hired on the Forest to begin this vast endeavor to establish a Cultural Resource Management Program. Therefore, the Willamette National Forest is about twenty years behind in this process. If a Region-wide inventory of all the historic structures in Region 6 were conducted as in Region 1, each national forest would not have to go about this in a piecemeal manner.<sup>3</sup> Also, if Region 6 or the Willamette National Forest had initiated this process sooner, there is the possibility that more historic structures would be remaining on the Forest.

According to Appendix A, seven lookout stations were removed after 1971. We cannot expect all historic structures to be preserved, but a few of these lookout stations

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<sup>2</sup>Janet Friedman, "Federal Cultural Resource Management: Constraint or Opportunity?" Journal of Forestry 79 (March 1981): 145; and United States Code, Annotated, 16 Section 470, Executive Order 11593, May 13, 1971.

<sup>3</sup>Historical Research Associates, Evaluation of Region 1 Forest Service-Owned Buildings for Eligibility to the National Register of Historic Places (Missoula, Mont.: Historical Research Associates, March 11, 1991); to obtain information, write to P.O. Box 7086, Missoula, Montana, 59807-7086.

that were removed after 1971 would have added to the variety of styles still remaining on the Forest. The seven removed lookouts were: Castle Rock, an L-4 style lookout built in 1938 and removed in 1974; Coffin Mountain, an L-4 style lookout built in 1936 and replaced in 1984 with a modern flat-top; Eagles Rest, an Aladdin style L-6 (eight by eight feet) built in 1933 and removed in 1971; Foley Ridge, a twelve by twelve foot open shed built in 1961 and removed in 1974 (it had two firefinders used for training lookout operators); Grass Mountain, a flat-top built in 1962 and removed in 1982; Monument Peak, an L-4 built in 1942 and removed in 1973; and Twin Buttes, a "Grange Hall" L-4 built in 1930-32 and removed in 1986.

Of these seven lookout stations removed in the past twenty years, two of these structures, Eagles Rest and Foley Ridge, would have added stylistic value to the remaining thirteen on the Forest. Using the fifty-year guideline for eligibility to the National Register of Historic Places, Eagles Rest would not have been fifty years old until 1983 and Foley Ridge in 2011. This brings up another point concerning the Forest Service and the National Register of Historic Places.

The Forest Service and the State Historic Preservation Office seem to adhere strictly to the guideline that a property must be fifty years old or older to qualify for the

National Register of Historic Places. Criteria "G" of the National Register guidelines for evaluation states that "a property achieving significance within the past fifty years if it is of exceptional importance" can be nominated.<sup>4</sup> The exact meaning of "exceptional importance" can be debated. By strictly adhering to the fifty-year guideline Castle Rock would have been eligible in 1988 and Twin Buttes in 1982. The point is that the Forest Service on various levels has been negligent concerning Executive Order 11593.

Conversely, it is also true that if the inventory and evaluation of the Forest's lookout stations had occurred in the early 1970s, the four case study structures in this thesis would all have been less than fifty years old and not eligible for the National Register at that time. Therefore, by being negligent, the Willamette National Forest has retained four examples of 1920s and 1930s lookout stations.

Also the fifty-year guideline does not provide protection for nine of the existing thirteen lookouts on the Willamette National Forest. Five of these lookout stations are actively used and maintained by the Forest Service: Waldo Mountain, Coffin Mountain, Sand Mountain, Warner Mountain,

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<sup>4</sup>National Register Bulletin 16, Technical Information on Comprehensive Planning, Survey of Cultural Resources, and Regulations in the National Register of Historic Places (Washington, D.C.: United States Department of the Interior, National Park Service, Interagency Resources Division, September 30, 1986), 1.

and Iron Mountain. Huckleberry Lookout Station, built in 1938 and also actively used for fire detection, is undergoing rehabilitation to qualify for eligibility. This leaves Indian Ridge built in 1958, Little Cowhorn Mountain built in 1960, and Rebel Rock built in 1955 abandoned and not maintained by the Forest Service. What will happen to these three mountaintop stations that have no laws to protect them? Can they survive the effects of time and weather until they reach fifty years of age?

As previously mentioned, the Blue River Ranger District has decided to establish Indian Ridge Lookout Station as a rental for recreational use. This structure is in good condition, and rehabilitation for rental purposes would not entail much investment of money or effort. The Indian Ridge site offers a variety of interpretive opportunities which the District plans to develop also: fire detection history, prehistoric peoples, and the flora and fauna of the area.

The Lowell Ranger District has no immediate plans for Little Cowhorn Lookout Mountain Station, but has expressed interest in using this building as a rental for recreational use. No plans have been initiated to pursue this option.

Rebel Rock Lookout Station faces similar issues as Ollalie Lookout Station in its wilderness location, plus it has fourteen years to endure before possible eligibility to the National Register of Historic Places. Rebel Rock is



structurally sound, but needs a thorough painting. Here is a good opportunity for an interested group to adopt this lookout station and maintain it without much effort. Or if the District decides to remove the structure, its condition certainly warrants its use in another location outside the wilderness or on another forest.

The National Register of Historic Places does offer the opportunity to register the four eligible lookout stations as a multiple property or thematic nomination instead of individual nominations. This includes a group of resources dispersed geographically, but related to one another in a clearly distinguishable way.<sup>5</sup> The multiple register nomination creates a context statement for the lookout stations and their general historical significance. Then individual lookout stations can be added to the nomination as they are evaluated eligible. This provides the opportunity to expand the nomination with lookout stations as the later ones reach the fifty-year guideline. This encourages the continual evaluation of these structures.

#### The National Lookout Register

Efforts to preserve lookout stations can now be recognized by the National Lookout Register. In 1990, the American Resources Group, publisher of National Woodlands

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<sup>5</sup>Ibid., 17-36.



magazine, created this project as a means of listing historic lookout stations on a nationwide basis. This project is not meant to compete with the National Register of Historic Places; it is different in many ways. Criteria for eligibility entails meeting at least one of five qualifications:

1. Minimum age of 30 years; or
2. Authentically reproduced replica of a vintage lookout, employing design and materials equivalent to the historic original; or
3. The last lookout existing in a park, forest, state, or county, regardless of model or year of construction; or
4. Any station currently being maintained or restored by volunteer workers, organizations, or government agencies, regardless of age or architectural design.

The long term goal of this registry is to publish a guidebook identifying each qualifying station with its location, history, and administering agency, and ultimately to provide more publicity for the preservation of these structures. In 1990, Sand Mountain Lookout Station in the Willamette National Forest was the first to achieve such designation.<sup>6</sup> During the summer of 1991, two more lookout

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<sup>6</sup>Doug Newman, "Announcing: The National Lookout Registry," National Woodlands (July 1990): 5-7; for information on this project, contact National Lookout Register, 374 Maple Avenue, Suite 210, Vienna, Virginia 22190, (703) 255-2700.

stations on the Willamette National Forest were added to the National Lookout Register--Huckleberry and Saddleblanket.<sup>7</sup> The National Lookout Register emphasizes a broader spectrum of historic significance than does the National Register, giving recognition to younger lookout stations and acknowledging the volunteer aspect of their preservation. The other three lookout stations that are not eligible for the National Register of Historic Places--Indian Ridge, Little Cowhorn Mountain, and Rebel Rock--could certainly be nominated to the National Lookout Register under criteria 1, i.e., minimum age of 30 years.

#### Interpretive Opportunities

As the Willamette National Forest expands recreational interests into the multiple-use aspects of the Forest, a broad-based interpretive opportunity for historic lookout stations could be developed. A Forest-wide interpretive program could incorporate historic lookout stations as a self-guided tour program. Brochures explaining the Forest's fire detection history and locations of the historic lookout sites could be developed from the information in this thesis. As a multiple property nomination can increase with

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<sup>7</sup>Nominations were completed by Doug Newman and approved by the National Lookout Register. This information was stated by Newman during a telephone conversation on October 9, 1991.

younger lookout stations coming of age, the scope of the tour program could broaden with the addition of other historic lookout stations in the forest. Another option would be to include all the lookout stations on the Willamette National Forest and relate the history of fire detection with those that are still in service.

#### Volunteer Opportunities

The volunteer aspect of preserving lookout stations does not have to be directed towards the manual labor of rehabilitation of the structure; not everyone is a carpenter or likes to scrape paint. Preservation of these mountaintop sites includes information gathering and documentation of all phases of fire detection history associated with this building type. Individuals interested in lookout stations on the Willamette National Forest have begun collecting old photos, Forest maps, and building plans pertaining to these lookout stations. Creating an "oral history" library by interviewing former Forest Service employees who staffed these stations provides valuable information about the social history of these sites and the evolution of the fire detection system.

A networking system has recently been initiated by an enthusiast of lookout stations. It originally encompassed Region 6 and now incorporates information about lookout

stations in other western states. This guide provides references about rehabilitation projects and individuals seeking information concerning a particular site. It includes a broad-based spectrum of people from Forest Service personnel throughout the region to history buffs and preservation-minded individuals.<sup>8</sup>

A networking system for each particular project is necessary on a local level to activate volunteers for the actual hands-on, nail-pounding, paint-scraping aspect of rehabilitating the lookout station. A large support group demonstrates the necessary public interest required to initiate a particular project with the Forest Service. But it takes the coordinating effort of a few people to keep the project moving through the planning and manual labor phases. This can be achieved through a telephone network or a newsletter.

Through the course of this study, it became clearly evident that public concern and volunteer effort is what is saving lookout stations. Organizing an interest group to press the Forest Service into action is the key factor in preserving these structures. Rehabilitation of lookout stations are labor intensive. Since the labor source is primarily volunteers, it seems only fair that the Forest

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<sup>8</sup>See Newman, Network for Adaptive Uses of Historic Structures Directory.

Service provide the funds for materials and supplies. But every year the Forest Service's budget tightens and facilities maintenance is not a high priority for funding. Obviously, rehabilitating historic lookout stations is given low priority, and rehabilitating non-historic lookout stations may not even be acknowledged. Acquiring funding through grants is highly competitive, but seems to be the only other option. Creative grant writing is clearly necessary. It should not be the burden of volunteers to solicit the local lumber yard and hardware store for materials to rehabilitate buildings managed by a federal agency.

It seems realistic to think that the rehabilitation of such a small, compact building, typically fourteen by fourteen feet or smaller, and comprised of four walls, a roof, and a floor, would not involve much effort, as compared to an historic building on Main Street, U.S.A. It is, in fact, not so simple a task. Coordinating the rehabilitation of the structure is time dependent. The planning process from a Forest Service perspective and the levels of interaction with the public involves considerable time and effort. Planning the project must occur during the fall, winter, and spring, so that the actual work can proceed during the summer. The planning process requires a series of meetings to develop a management and implementation plan for rehabilitation. Coordination with the State Historic Preservation

Office is also necessary to ensure rehabilitation of the historic lookout station is in compliance with federal guidelines. This all takes a lengthy period of time before the work actually starts.

The summer season is short for doing the hands-on work. Weekend work parties is when most volunteers can assist, but there is also the weather to take into consideration. A mountaintop can be sunny and hot, windy and cool, or it can be enveloped in a rain cloud when the valley below is dry. It takes key people to coordinate volunteers and maintain enthusiasm throughout the duration of the project. As an example, it is currently anticipated to take two summer seasons to finish the rehabilitation of Huckleberry Mountain Lookout Station.

If the planning process is delayed, it is the lookout station on the mountaintop that suffers. If a summer season passes without any progress towards rehabilitating the structure, by the following summer, one may find a lookout with less integrity remaining. The efforts of an interest group to press the Forest Service into action to rehabilitate an historic lookout station has then come full circle.

A lookout station eligible for the National Register of



Historic Places can also be removed.<sup>9</sup> One of the criteria for its removal is its loss of integrity through benign neglect. The Forest Service can then remove the structure if its historic character has diminished due to lack of maintenance. The time delay on the part of the Forest Service is what the public interest group fears the most, as some of the historic lookout stations on the Willamette National Forest are fragile and cannot endure too many more winters. And, if wilderness issues enter into the process, a longer delay is created, as with Ollalie Lookout Station.

On a more positive note, it is interesting that in the past decade on the Willamette National Forest two new lookout stations have been constructed. Sand Mountain, which historically was used as a lookout point, now exhibits a reconstructed "Grange Hall" style lookout station. Warner Mountain, where no lookout station existed before, now supports a modern cupola style lookout station. In addition, Coffin Mountain's 1936 L-4 style lookout station was replaced in 1984 with a flat-top style building. This leads one to believe that with the expense and limitations of aerial surveillance, the use of fixed-point detection sites is increasing. Rehabilitated lookout stations may once

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<sup>9</sup>Code of Federal Regulations, Parks, Forests, and Public Property, Parts 1-199 (Washington, D.C.: Office of the Federal Register, National Archives and Records Administration, Revised July 1, 1990), 257.



again be used as active sites for fire detection. This causes one to wonder whether the historic lookout stations can technologically fulfill the future aspects of fire detection. Will computers be installed, requiring electrical systems, and heating and cooling systems, which in turn involves security systems? Will satellites beam information to these mountaintop stations?

Whether historic lookout stations can be adapted technologically to a revival of fixed-point detection remains to be seen, but the sites will continue to attract visitors, as they have in the past. The lure to these high places can best be summed up by Wallace Hutchinson in his article, "The Eyes of the Forest":

Ever since the time when the descendants of Noah undertook to build a tower reaching unto heaven on the plains of Shinar, the people of this world have instinctively sought high elevations from which to look out over the earth. Thus in the olden days kings viewed great battles from the crests of hills, and watchmen were set in high towers to guard cities from the menace of flood or fire. Even in our own time the lure of height, as exemplified by the Eiffel Tower, Woolworth Building, Washington Monument, and numberless high mountain peaks, annually attract thousands of visitors.<sup>10</sup>

This article, written in 1922, reflects an attitude of the human spirit that validates the preservation of lookout stations today.

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<sup>10</sup>Hutchinson, 461.

## APPENDIX A

KNOWN LOOKOUT LOCATIONS ON THE  
WILLAMETTE NATIONAL FOREST\*

\*The following list of lookout stations was compiled by James B. Cox in the Historic Fire Lookouts on the Willamette National Forest: A Determination of Eligibility to the National Register of Historic Place (Eugene, Oreg.: U.S.D.A. Forest Service, Willamette National Forest, February 8, 1991).

The FC-1/L4 style designation that has been used in this list does not differentiate between gable or hip roof styles. Nor does the "Grange Hall" label occur anywhere in this list. It appears as though the term "Aladdin L-4" equals the gable roof L-4 style as found on Sand Mountain originally. However, Cox uses "FC-1G, hip roof" to describe the existing building on Ollalie Mountain. The hip roof label is incorrect, as it is a gable roof. The structures on both Ollalie Mountain and Sand Mountain were/are L-4 gable roof "Grange Hall" style structures. This author has clarified this discrepancy by adding the designation [gable roof, "Grange Hall"] to both descriptions.

## KNOWN LOOKOUT LOCATIONS ON THE WILLAMETTE NATIONAL FOREST

The following list of lookout locations on the Forest is based on the list of locations in Western Oregon prepared by Gerald Williams of the Willamette and Umpqua National Forests with additional material from Ron Johnson. Both are still actively researching lookouts and should be contacted by anyone either having or looking for additional information. Jerry can be contacted at the Umpqua National Forest, Box 1008, Roseburg, Oregon, 97470 (503-672-6601). Ron can be contacted at Box 803, Oakridge, Oregon, 97463.

Some confusion exists over the numbering system applied to particular styles of lookouts. Photographs of the FC-1 style lookouts show them to be virtually identical to the L-4. The same holds true for the FC-2 and L-5 styles. While no documentation has been located, it appears that these are alternate numbering systems for the same buildings.

Name and Legal Location	County	When Built	When Removed	Style
Bachelor Mt. T11S, R6E, 12	Linn	1934	1967	FC-1
Balm Mountain T25S, R3E, 23	Douglas	1924 1933	1934 1962	Alidade? FC-2
Battle Ax Mt. T9S, R5E, 1	Marion	c.1910 1922 1952	c.1922 1952 1969	Alidade Cupola L-4
Bear Point T9S, R8E, 32	Marion	1934	c.1968	CCC built FC-1
Bearbones Mt. T23S, R2E, 25	Lane	1933	1964	FC-2
Buck Mountain T15S, R4E, 27	Lane	? 1934	1933 1968/69	Alidade FC-1
Buck Mountain T22S, R4E, 33	Lane	1955	1963/64	Tower w/ platform w/ firefinder
Burnt Top T18S, R7E, 3	Lane	1934	1965	FC-2

Carpenter Mt. T15S, R6E, 7	Linn	1915	?	Alidade?
		1917	1921	Covered firefinder
		1935	Standing	FC-1
Castle Rock T16S, R5E, 28	Lane	1917	c.1925	Covered alidade
		c.1924	1938	D-6 Cupola
		1938	1974	FC-1
Chimney Peak T12S, R5E, 8	Linn	1933-35	1967	L-4
Clarke Butte T18S, R2E, 21	Lane	c.1912	c.1944	2 Lookout trees
		1944	1968	Nonstandard cabin, 12 x 14 w/ alidade in front
Coffin Mountain T11S, R6E, 14	Linn	c.1905	c.1921	Nonstandard cabin
		c.1921	1936	Cupola
		1936	1984	FC-1
		1984	Standing	15 x 15 flat-top
Crescent Mt. T13S, R6E, 16	Linn	1908	?	Compass
		1914	1922	Crude shake cabin
		1922	1938	Cupola
		1938	1948	FC-1
Dead Mountain T21S, R3E, 1	Lane	c.1924	c.1940	Alidade
Deer Butte T16S, R7E, 14	Lane	c.1918	c.1940s	Lookout tree
Detection Point T16S, R6E, 20	Lane	1916	?	Alidade
Diamond Peak T24S, R5.5E, 5	Lane	c.1918	?	Alidade
Dome Rock T24S, R3E, 36	Lane	c.1936	c.1948	Lookout house
		1948	1969	FC-1

Dome Rock T9S, R5E, 33	Marion	1928	1951	D-5 Supervisor Hall Special
Eagle Rock T9S, R6E, 26	Marion	1934	1953	FC-2
Eagles Rest T20S, R1W, 12	Lane	c.1922 1933	? 1971	Alidade or compass Aladdin style 8 x 8 (L-6)
Emigrant Butte T24S, R5E, 36	Lane/ Klamath	1933	1957	Tower w/ 10 x 10 platform
Fawn Rock T17S, R3E, 36	Lane	1930	1970	Open shelter w/ alidade on roof
Foley Ridge T16S, R6E, 17	Lane	1961	1974	12 x 20 open shed w/ 2 firefinders used for training.
Frissell Point T15S, R6E, 33	Lane	c.1914 1928	c.1928 1968	Alidade D-6 Cupola
Fuji Mountain T22S, R5.5E, 15	Lane	1919 1926 1959	1926 1959 1968	Alidade D-6 Cupola R-6 flat-top
Gold Butte T9S, R6E, 9	Marion	1934	Standing	FC-1
Gold Hill T15S, R4E, 32	Lane/Linn	1935	1958	FC-2
Gold Point T18S, R3E, 34	Lane	c.1920 1928 1934/35 1959	1937 c.1935 1959 1968	Lookout tree Pole tower w/ platform FC-1 on tower FC-1 on tower

Grand Butte T?S, R?E, ?	Lane	c.1933	?	Alidade
Grass Mountain T23S, R2E, 11	Lane	1933	1962	Tower w/ hip roof cab
		1962	1982	Tower w/ flat-top Tower moved to Warner Ridge in 1986.
Grasshopper Mt. T19S, R5E, 22	Lane	c.1919 1933	c.1933 1965	Alidade? FC-2
Grizzley Peak T11S, R7.5E, 1	Linn	1934	1965	CCC built FC-1
Hardesty Mt. T20S, R1E, 27	Lane	1912 1921 1939	c.1921 1939 1968	Alidade Cupola CCC built FC-1
Heckletooth Mt. T21S, R4E, 17	Lane	1917	192?	Crude cupola style
Hehe Mountain T18S, R4E, 5	Lane	1919	c.1925	Nonstandard LO house
		1934	1968	Tower w/ FC- 2
Hemlock Butte T23S, R5E, 15	Lane	1933	1962	FC-2
Henline Mountain T8S, R4E, 27	Marion	1933	c.1967	FC-1
High Rock T10S, R3E, 22	Linn	c.1935	?	?
Hills Peak T25S, R5E, 14	Douglas	1923	c.1935	Alidade
		1923	1953	Pole/shake cabin
		1935	1966	FC-2
Hoover Ridge T10S, R6E, 8	Marion	1932	c.1950	Tower w/ L-6



Horse Mountain T18S, R7E, 28	Lane	c.1923 1932	c.1932 1965	Alidade FC-1
Horsepasture Mt. T17S, R6E; 4	Lane	c.1915 1922	c.1923 1965	Alidade D-6 cupola
Huckleberry Mt. T20S, R4E, 10	Lane	c.1915 1918 1938	c.1918 1938 Standing	Lookout tree Cupola CCC built FC-1 Standard '36
Indian Ridge T18S, R5E, 18	Lane	c.1918  1928 1958	c.1928  1958 Standing	Open cupola style, log Cathedral Tower w/ flat-top
Iron Mountain T13S, R5E, 36	Linn	c.1924 1931 1976	1931 1975 Standing	Alidade L-4 Flat-top
Jumpoff Joe Mt. T14S, R5E, 11	Linn	1935	1965	FC-1
Kinney Ridge T10S, R5E, 20	Linn	c.1936  1950	c.1960  1960	Possibly only a shelter FC-1
Lamb Butte T17S, R6 E, 22	Lane	1933	1959	FC-2
Larison Rock T21S, R3E, 29	Lane	c.1918  1927 1940	c.1927  1940 1970	Alidade & tent camp D-6 Cupola FC-1
Little Bunchgrass T21S, R5E, 19	Lane	1934	1966	FC-2
Little Cowhorn Mt. T18S, R3E, 6	Lane	1923 1960	1960 Standing	D-6 cupola Flat-top
Logger Butte T23S, R4E, 28	Lane	c.1917 1926	c.1926 1969	Alidade D-6 Cupola
Lookout Mt. T15S, R6E, 31	Lane	c.1920s	?	Alidade

Lookout Point T20S, R2E, 26	Lane	c.1935	?	Alidade?
McGowan Mt. T28S, R4E; 12	Douglas	c.1920s	c.1947	Alidade w/ tent camp
Marion Mountain T12S, R7.5E, 3	Linn	1934	1965	CCC built FC-1
Maxwell Butte T13S, R7.5E, 9	Linn	c.1916 1933/34	c.1934 1965	Compass L-4
Minniece Point T11S, R5E, 19	Linn	1934	c.1965	L-4
Monument Peak T10S, R4E, 6	Linn	c.1914 1921 1942	1921 c.1942 1973	Alidade Lookout house L-4
Moon Point T23S, R3E, 25	Lane	1955	?	Alidade
Moose Mountain T13S, R4E, 11	Linn	c.1923	c.1947	Alidade
Mule Mountain T20S, R5E, 22	Lane	1950 1952	1952 1968	Lookout tree Tower
Ollalie Mountain T18S, R6E, 3	Lane	c.1922 1932	c.1932 Standing	Alidade FC-1G, hip roof, [Gable roof, "Grange Hall"]
Outerson Mountain T10S, R7E, 4	Marion	c.1918 1933/34	? 1962	Possible compass or alidade CCC built FC-1
Packsaddle Mt. T19S, R7E, 20	Lane	c.1930 1941	c.1941 1960	Alidade FC-1
Rebel Rock T18S, R6E, 30	Lane	1954	Standing	FC-1 Standard '36
Red Butte T12S, R7.5E, 23	Linn	c.1931	c.1936	Aladdin L-5

Rooster Rock T13S, R4E, 22	Linn	1927 1934/35 1935	c.1934 c.1965 c.1965	Cupola L-4 6 x 6 cabin on rock pinnacle south of main cabin to view blind spot
Saddleblanket T19S, R2E, 25	Lane	1922 1926	c.1926 Standing	Lookout Tree Aermotor tower w/ cab
Sand Mountain T14S, R7E, 2	Linn	1922 1930/31  1969  1988/89	c.1931 1968  c.1972  Standing	Alidade Aladdin style (L-4) Trailer w/ pop up cupola Tower w/ replica L-4 [gable roof, "Grange Hall"]
Sardine Butte T18S, R4E, 26	Lane	1933	1954	Aladdin Style 8 x 8 (L-6)
Scar Mountain T12S, R6E, 5	Linn	1926	1965	Supervisor Hall Special
Scott Mountain T15S, R7E, 25	Lane	1929	1959	Cathedral
Slate Rock T11S, R5E, 6	Linn	1935	1965	CCC built FC-2
Spring Prairie T20S, R5E, 21	Lane	c.1925 1933	1933 1955	Alidade FC-1
Stahlman Point T10S, R5E, 13	Linn	1947	1967	FC-1
Station Butte T19S, R2E, 19	Lane	1907 c.1920	? c.1958	Compass Tower

Substitute Point T17S, R7E, 9	Lane	1923 1933	c.1933 1963/64	Osborne Fire finder FC-1
Taylor Butte T21S, R3W, 10	Lane	?	?	?
Three Pyramids T12S, R6E, 22	Linn	1934	1968	L-5
Tidbits Mountain T15S, R4E, 15	Linn	c.1915 1925/26	c. 1928 1967	Alidade Supervisor Hall Special
Tipsoo Butte T17S, R5E, 27	Lane	1934	1966	Tower w/FC-1
Tire Mountain T20S, R2E, 13	Lane	1930	Standing	Lookout Tree
Triangulation Pk. T10S, R7E, 11	Marion	1933	1967	CCC built FC-1
Twin Buttes T14S, R5E, 19	Linn	c.1923 1930-32	? 1986	Lookout house Aladdin design house
Waldo Mountain T21S, R5.5E, 11	Lane	1921 1926 1929 1957	c.1929 1929 1957 Standing	Alidade? Pole/shake structure D-6 Cupola R-6 flat-top
Warner Ridge T23S, R4E, 29	Lane	1985-87	Standing	Tower w/ replica cupola
Westfir T21S, R3E, 7	Lane	c.1930	195?	Nonstandard building
Whetstone Mountain T8S, R5E, 21		Marion	1934	1968 CCC built FC-2
Whitman Rock T10S, R5E, 6	Marion	1936	?	Alidade?

Wildcat Mountain Linn T14S, R6E, 21	1933	1965	L-4
Windberry Mountain T19S, R2E, 28	Lane	c.1921	c.1925 Alidade?
Wolf Mountain Lane T22S, R5E, 33	c.1920 1931 1940	c.1931 1939 1966	Alidade Tower w/ 6 x 6 cab Tower w/ FC-1

## APPENDIX B

## THE NATIONAL REGISTER CRITERIA\*

\*Source: National Register Bulletin 16, Technical Information on Comprehensive Planning, Survey of Cultural Resources, and Registration in the National Register of Historic Places (Washington, D.C.: U.S. Department of the Interior, National Park Service, Interagency Resources Division, September 30, 1986), p. 1.

## THE NATIONAL REGISTER CRITERIA

The quality of significance in American history, architecture, archeology, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

- A. That are associated with events that have made a significant contribution to the broad patterns of our history; or
- B. That are associated with the lives of persons significant in our past; or
- C. That embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D. That have yielded, or may be likely to yield, information important in prehistory.

Criteria Considerations (Exceptions): Ordinarily cemeteries, birthplaces, or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years shall not be considered eligible for the National Register. However, such properties will qualify if they are parts of districts that do meet the criteria or if they fall within the following categories:

- A. A religious property deriving primary significance from architectural or artistic distinction or historical importance; or
- B. A building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or events.
- C. A birthplace or grave of a historical figure of outstanding importance if there is no other appropriate



site or building directly associated with his or her productive life; or

D. A cemetery which derives its primary significance from graves of persons of transcendent importance, from distinctive design features, or from association with historic events; or

E. A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived; or

F. A property primarily commemorative in intent if design, age tradition, or symbolic value has invested it with its own historical significance; or

G. A property achieving significance within the past 50 years if it is of exceptional importance.

APPENDIX C

THE SECRETARY OF THE INTERIOR'S STANDARDS  
FOR REHABILITATION\*

\*Source: Gary L. Hume and Kay D. Weeks, Developers. The Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (Washington, D.C.: United States Department of the Interior, Technical Preservation Services Division, Revised 1983), 5-6.

THE SECRETARY OF THE INTERIOR'S STANDARDS  
FOR REHABILITATION

The Standards for Rehabilitation (36 CFR 67) comprise that section of overall historic preservation project standards addressing the most prevalent treatment today: Rehabilitation. "Rehabilitation" is defined as the process of returning a property to a state of utility, through repair or alteration, which makes possible an efficient contemporary use while preserving those portions and features of the property which are significant to its historic, architectural, and cultural values.

The Standards for Rehabilitation are as follows:

1. Every reasonable effort shall be made to provide a compatible use for the property which requires minimal alteration of the building, structure, or site and its environment, or to use a property for its originally intended purpose.

2. The distinguishing original qualities or character of a building, structure, or site and its environment shall not be destroyed. The removal or alteration of any historic material or distinctive architectural features should be avoided when possible.

3. All buildings, structures, and sites shall be recognized as products of their own time. Alterations that have no historical basis and which seek to create an earlier appearance shall be discouraged.

4. Changes which may have taken place in the course of time are evidence of the history and development of a building, structure, or site and its environment. These changes may have acquired significance in their own right, and this significance shall be recognized and respected.

5. Distinctive stylistic features or examples of skilled craftsmanship which characterize a building, structure, or site shall be treated with sensitivity.

6. Deteriorated architectural features shall be repaired rather than replaced, whenever possible. In the event replacement is necessary, the new material

should match the material being replaced in composition, design, color, texture, and other visual qualities. Repair or replacement of missing architectural features should be based on accurate duplications of features, substantiated by historic, physical, or pictorial evidence rather than on conjectural designs of the availability of different architectural elements from other buildings or structures.

7. The surface cleaning of structures shall be undertaken with the gentlest means possible. Sandblasting and other cleaning methods that will damage the historic building materials shall not be undertaken.

8. Every reasonable effort shall be made to protect and preserve archaeological resources affected by, or adjacent to any project.

9. Contemporary design for alterations and additions to existing properties shall not be discouraged when such alterations and additions do not destroy significant historical, architectural, or cultural material, and such design is compatible with the size, scale, color, material, and character of the property, neighborhood or environment.

10. Wherever possible, new additions or alterations to structures shall be done in such a manner that if such additions or alterations were to be removed in the future, the essential form and integrity of the structure would be unimpaired.

APPENDIX D

HISTORIC BUILDING PLANS

WENNAH Bond  
25% Cotton Fiber

The following list of plans are located in two locations at the Willamette National Forest Supervisor's Office in Eugene, Oregon. Atlas 18, Lookout Houses, Willamette National Forest and Atlas 21, Miscellaneous Buildings, Willamette National Forest are located in the storage warehouse for the Forest. Each contains various sets of building plans, sometimes multiple copies of each, for the numerous styles of lookout stations found on the Forest. Gerald Williams, the historian on the Forest, also has plans in his files. The following plans are referenced according to the style of each of the four historic lookout stations on the Forest. Other existing plans are also listed.

## HISTORIC BUILDING PLANS FOR REHABILITATION PROJECTS

Saddleblanket Mountain Lookout Station, built in 1926,  
Aermotor steel tower.

Specifications and Plans  
for Lookout Towers  
United States Department of Agriculture  
Forest Service  
W. B. Greeley, Forester  
1924.

This set of plans contains twenty pages of designs for steel towers and instructions for buying and construction. Drawings and material specifications for various heights of towers are included. This booklet is located in the files of Gerald Williams, the Historian for the Willamette National Forest. (The booklet is stamped "State College of Washington Library" which may have been the source for this information at one time).

Timber Stairway for  
Aermotor Steel  
Lookout Tower  
Feb. 25, 1939

The plans for the timber staircase, built in 1939, are located in Atlas 21. This contains one sheet with a general elevation, footing details, and stair construction details. The Lowell Ranger District also has a copy of these plans in their files at the Ranger Station.

The following three sets of plans are relevant to Ollalie Mountain Lookout Station, built in 1932, a gable roof L-4 "Grange Hall" style structure.

Lookout House  
Modified R-1 Plans  
6/16/30  
Region-6  
Portland, Ore, June 1930

This gable roof style set of plans was modified from a design from Region 1, the Northern Region. A penciled note on the drawing indicates it was to be adapted to, the Aladdin Jr. Lookout House manufactured by the Aladdin Company of Portland,



Oregon (see below). This single drawing is located in Atlas 21 and contains the following:

- Sheet 1. Floor construction, side and end elevations, roof framing, front framing, and a detail of the device for attaching guy wires to the corner of the building.

Aladdin Company Portland, Oregon

Aladdin Jr.

Style Lookout House

1930

Size 14'-0" x 14'-0"

This style structure is most likely the one used for Ollalie Mountain Lookout Station. The door and shutter details match those of the existing building. This set of plans is located in Atlas 21 and contains four sheets as follows:

- Sheet 1. Floor plan and solid and pier foundation plans  
 Sheet 2. Framing elevations  
 Sheet 3. Elevations; front rear and side  
 Sheet 4. Rafter and joist plans, gable siding, and details for sway braces, cornice, sill, mullion stud, and pivot sash

U. S. Department of Agriculture

Forest Service

Building Plans R-6

Plan L-4

R-6 1931 L. O. House

14' x 14'

This set of plans is similar to the 1930 modified R-1 plans and the Aladdin Jr. plans, but includes the option for using either a gable roof or hip roof. This set of plans is located in Atlas 21 and contains four sheets of drawings as follows:

- Sheet 1. Solid and pier or tower foundation plans and floor plan  
 Sheet 2. Front, side, and rear elevations and framing elevations  
 Sheet 3. Rafter plan A (gable), rafter plan B (hip), joist plan, gable siding, and sway brace detail  
 Sheet 4. Sill, mullion stud, pivot sash, cornice,

and guy strap details, stand for  
firefinder, and shutter and shutter rod  
detail

Gold Butte Lookout Station, built in 1934, an L-4 hip roof  
style with catwalk and Carpenter Mountain Lookout Station,  
built in 1935, an L-4 hip roof style.

Building Plans R-6  
1930 Lookout House  
Plan L-4, 14' x 14', 1932 Revision  
Tracings made by the Enterprise Planing Mill Co.

This set of plans is located in Atlas 21 and  
contains eight sheets of drawings as follows:

- Sheet 1. Foundation and Sill plans and details  
Joist Framing and Floor Plan
- Sheet 2. Front, side, and rear framing elevations  
Front, side, and rear elevations
- Sheet 3. Roof framing, ceiling framing, and front  
elevation
- Sheet 4. Window details
- Sheet 5. Shutter and foundation anchorage details
- Sheet 6. Cross Section of building and firefinder  
stand details
- Sheet 7. Bunk and table details, flue details.
- Sheet 8. Catwalk details

Atlases 18 and 21 also contain sets of plans for other  
styles of lookout stations that are or were located on  
the Willamette National Forest. The following sets of  
plans can be found:

U. S. Department of Agriculture  
Forest Service  
Standard-1936  
14' x 14' Lookout House  
Region Six  
Revised Mar. 6, 1936, Feb. 16, 1937, Feb. 6, 1938

These drawings were used in the rehabilitation of  
Huckleberry Lookout Station during the summer of  
1991 and would also be useful for Rebel Rock  
Lookout Station. This set of plans contains five  
sheets as follows:

- Sheet 1. Section-side wall, ceiling, roof, and

- Sheet 2. joist framing, foundation, sill and floor plans, elevation, and building section  
Foundation anchorage details, wall/window sections, and shutter elevation
- Sheet 3. Catwalk decking and details and cabinet details
- Sheet 4. Furniture details; firefinder stand, cabinets, table, and bunk
- Sheet 5. Window and door details

Typical Wood Tower  
R-6, September 1930

This drawing contains one sheet of construction details for timber towers

Firechaser's Lookout House  
D-6 Standard Buildings.  
D-6 Plans Committee, 1928

This set of plans is for the cathedral style lookout station as was found on Indian Ridge from 1928-58. The set of plans contains fourteen sheets of drawings as follows:

- Sheet A. Axonometric and Index to following sheets
- Sheet B. Front elevation
- Sheet C. Rear elevation
- Sheet D. Left side elevation
- Sheet E. Floor and foundation plans, floor joists, and front elevation timbering
- Sheet F. Details
- Sheet G. Details
- Sheet H. Tower timbering
- Sheet I. Window
- Sheet J. Window details
- Sheet K. Window details
- Sheet L. Anchorage details
- Sheet M. Shutters, bunk, and table details
- Sheet N. Lightning protection

U. S. Department of Agriculture  
Forest Service  
Building Plans R-6  
Plan L-5  
R-6 L. O. House for  
Emergency Points  
10' x 10'  
1933

This set of plans is for the smaller version of the L-4 style lookout station used on the Forest and contains four sheets of drawings as follows:

- Sheet 1. Sill, joist, and floor plans, side wall framing and finish
- Sheet 2. Rafter, roof sheathing, rear wall framing and finish
- Sheet 3. Anchorage details, flue detail
- Sheet 4. Details

U. S. Department of Agriculture  
Forest Service  
District 6  
Ready Cut  
Lookout House  
Portland, Ore.  
Dec. 1921

This set of plans is for the cupola style lookout station built in the 1910s and 20s on the Forest. This set of drawings is located in Atlas 21 and contains twelve sheets of drawings as follows:

- Sheet A. Perspective rendering and index
- Sheet B. Floor sills and levels, floor joists, sub flooring, and finished flooring
- Sheet C. Framing elevations, sheathing elevations, tower joist-flooring and ladder location, and tower braces
- Sheet D. Tower frame and details of flashing, rafters, sheathing and shingles, siding elevations
- Sheet E. Detail of main cornice, detail of tower cornice, window sill details, and block under tower window sills
- Sheet F. Tower floor plan showing windows, tower floor plan, details of door, threshold, tower shutter, tower shutter fastener, and ladder
- Sheet G. Detail of framing windows on lower floor
- Sheet H. Detail of tower windows
- Sheet I. Plan of shelving, details of fire finder stand, anchor rods, anchor fastening cable, turnbuckle and anchor rod
- Sheet J. Lightning protection
- Sheet K. Buttons for fastening shutters, lower floor window shutters, blocks under lower floor window sills, and corner iron

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