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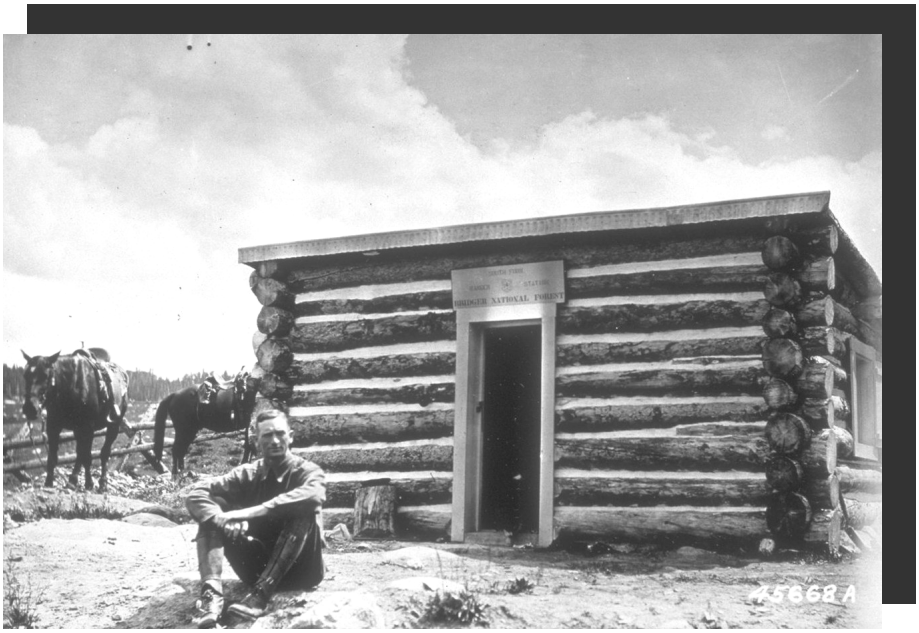
WITHIN A DAY'S RIDE
Forest Service Administrative Sites in Region 4, 1891-1960

A Contextual and Architectural History



Cover: Top left: New Peck Mountain Lookout, Payette National Forest. Top right: Great Basin Experiment Station, Manti-LaSal National Forest, 1924. Bottom: South Fork Ranger Station, Bridger-Teton National Forest, 1918.

WITHIN A DAY'S RIDE
Forest Service Administrative Sites in Region 4, 1891-1960

A Contextual and Architectural History

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Acronyms

AEC	Atomic Energy Commission
APW	Accelerated Public Works
AWS	Aircraft Warning Service
AS	Administrative Site
BLM	Bureau of Land Management
CCC	Civilian Conservation Corps
CO	Conscientious Objector
CPS	Civilian Public Service
DG	Division of Grazing (now the Bureau of Land Management)
DOI	United States Department of the Interior
DR	District Ranger
ECW	Emergency Conservation Work
ERA	Emergency Relief Act
FY	Fiscal Year
GLO	General Land Office
GS	Guard Station
NEPA	National Environmental Protection Act
NHPA	National Historic Preservation Act
NF	National Forest
NPS	National Park Service
NRHP	National Register of Historic Places
RO	Regional Office (headquarters of a Forest Service region)
RD	Ranger District
RMRS	Rocky Mountain Research Station
RS	Ranger Station

SCS Soil Conservation Service

SO Supervisor's Office (headquarters of a National Forest)

USDA United States Department of Agriculture

USFS United States Forest Service

USGS United States Geological Survey

USMC United States Marine Corps

WO Washington Office

WPA Works Progress Administration

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Introduction and Context Definition

PURPOSE AND SCOPE

The Intermountain Region (Region 4) of the USDA Forest Service is identifying and evaluating all historic administrative facilities in compliance with Section 110 of the National Historic Preservation Act. This regional historic context statement serves as the basis for that evaluation.

Federal law requires the Forest Service to identify, evaluate, and protect cultural resources on public lands under its jurisdiction. These and related requirements are mandated by the National Historic Preservation Act (NHPA) of 1966 as amended, the National Environmental Policy Act (NEPA) of 1974, the National Forest Management Act of 1976, the Antiquities Act of 1906, the Archaeological Resources Protection Act of 1979, and Executive Order 11593.

Region 4 has approximately 1400 administrative buildings that are over 50 years old and are potentially eligible for listing on the National Register of Historic Places (NHRP). Referred to as "administrative facilities" or "improvements," these include ranger station compounds, guard station compounds, work centers, experiment stations, fire lookouts, patrol cabins, and snow survey cabins. Most are located on "administrative sites," which are lands that have been formally designated for administrative use. In many cases, these sites have been withdrawn from public use. The scope of the evaluation is limited to administrative facilities that are at least 50 years old. The project does not include other cultural resources such as prehistoric sites, mining cabins, ranches, or other historic resources that are not considered administrative facilities.

The Forest Service receives only 12 percent of the funds needed to maintain its administrative buildings.[1] The cumulative effects of this budget shortfall are reflected in the deteriorated conditions of the agency's buildings. The goal of this context statement is to expedite the survey and evaluation of historic facilities, so that they may be responsibly addressed in facilities management, in accordance with the National Historic Preservation Act.

FORMAT

This regional historic context statement serves as the basis for evaluations. It documents the history of Region 4, including its architectural development and addresses historic significance, resource types, and evaluation strategies. Several appendices provide relevant information on significant events and people. The objectives of this document are:

- Document the history of Region 4 with a focus on the significant events, trends and people associated with its administration.
- Document the history and significance of the Civilian Conservation Corps and other New Deal relief programs relative to the administration of the national forests in Region 4.
- Document the architectural development of historic Forest Service sites and buildings.
- Identify characteristic features of historically significant sites and buildings.
- Provide guidance for a standardized approach to evaluating administrative sites.

This document will be supplemented by historic context statements for each Forest to identify significant events, trends, and people at the local level. The Forest-level contexts will also identify areas of national or

[1] Vaughn Stokes, "Vision of Opportunity," *Engineering Field Notes* 31 (January-June, 1999), 2.

statewide significance that are not applicable to the rest of the region. For example, the Humboldt-Toiyabe National Forest history identified the nationally significant role of Conscientious Objectors and their association with administrative site development. The Bridger-Teton National Forest history identifies Rudolph W. "Rosie" Rosencrans, an individual who made significant contributions to the mapping and boundary marking of the Teton National Forest.

FOREST SERVICE ORGANIZATION AND NOMENCLATURE

The unique identity and culture of the Forest Service are represented by its administrative organization and nomenclature. It is an agency within the Department of Agriculture and is directed by a Chief Forester. The main office is located in Washington, DC and is logically referred to as the Washington Office or the WO. The agency is divided into regions, of which there are nine headed by Regional Foresters. Region 4, also known as the Intermountain Region, has its headquarters (the "Regional Office" or "RO") in Ogden, Utah.

Within each region, there are several forests and Region 4 presently encompasses thirteen forests in Utah, Nevada, eastern California, southern Idaho, southern Wyoming and a small part of western Colorado. At one time, there were many, smaller forests in Region 4, but a trend toward consolidation resulted in fewer, larger forests. Many of the forests do not encompass contiguous lands but consist of numerous "pieces" or "divisions" along mountain ranges.

Each forest has a headquarters known as the Supervisor's Office (SO) and is administered by a Forest Supervisor. Traditionally, a forest is divided into smaller administrative units known as Ranger Districts that are managed by District Rangers. Each ranger district often consists of one or more divisions.

Certain terminology may sound peculiar to a person who is not familiar with the Forest Service. For example, "*on* the forest" is used in place of "*in* the forest." The terms "ranger station" and "guard station" have two meanings. They can refer to a specific building, usually one that served as a home and/or office for a forest ranger or guard, or they can refer to a compound that includes several buildings.

RESEARCH METHODOLOGY

Detailed research was carried out and included an investigation of active and closed (inactive) files in the RO, as well as several Supervisor's Offices and District Offices. The most useful information was found in files with the following designations:

1680 History Program
2500 Watershed Management
2700 Special Uses Management
2760 Withdrawals
5420 Purchases and Donations
6440 Real Property
7300 Buildings and Other Structure

Other valuable sources of information in the Forest Service offices included photo files, land status maps, and improvement atlases. Research was also conducted at the Forest Service Heritage Center, which is a repository for Region 4's archival documents located at Weber State University in Ogden, Utah. Some critical documents have been retrieved from the National Archives and Records Administration research centers.

Research of general Forest Service history, the Civilian Conservation Corps (CCC), Civilian Public Service (CPS) camps, snow surveys, and other topics was completed at the University of Utah, University of

Nevada Reno, Weber State University and various state museums and historical societies. Numerous websites were searched and proved useful. These include websites on lookout towers, the CCC, the CPS, and the New Deal, as well as the websites of the USFS History Collection at Duke University, the Forest History Society, the Library of Congress, and of other national forests. Formal and informal oral history interviews were conducted. These supplemented personal communication with Forest Service staff, retirees and local community members regarding specific sites and buildings.

SPATIAL BOUNDARIES

Region 4 consists of 13 National Forests and one National Grassland. It encompasses 34 million acres in Nevada, Utah, Idaho south of the Salmon River, southwest Wyoming, and small portions of eastern California and western Colorado. Region 4 represents a variety of geographic regions including the Basin and Range province of western Utah and Nevada. This province is characterized by north-south trending mountain ranges with elevations between 7,000 and 13,000 feet. The little rainfall it receives drains to interior sinks and lakes. The southeast part of Region 4 lies in the Colorado Plateaus province. It drains to the Colorado River and the Sevier River and includes the Uinta Basin and Canyonlands, which are relatively dry.

The Region's north and northeastern areas fall within the Rocky Mountains province and include the Wasatch range and the Uinta mountains (Utah), the Wind River and Teton ranges (Wyoming), and the Salmon River and Sawtooth ranges (Idaho). The highest mountains in these ranges reach elevations of 11,000 to 14,000 feet and receive the most precipitation in the region. Consequently, they provide the most plentiful source of timber and grazing land. The California/eastern Nevada part of the region is in the Sierra Nevada. Finally, the Columbia Plateau is represented by the Snake River and Payette areas in Idaho.

With this variety of geographic provinces, Region 4 has diverse natural resources. The most prevalent plant communities range from Englemann spruce and subalpine fir at the high elevations to pinyon-juniper at the lower elevations. Underground resources are abundant and include gold, silver, lead, copper, coal, gas, oil and phosphate.

TEMPORAL BOUNDARIES

This historic context statement covers a period beginning in 1891 when the Creative Act was passed to allow the establishment of Forest Reserves. The cut-off date is 1960. The period is divided into four subsets that represent relevant shifts in the culture, patterns, and events of the Forest Service at the national, regional and local levels. They are:

1891-1904, The Department of Interior Era
1905-1932, The Pinchot and Progressive Eras
1933-1942, The New Deal Era
1942-1946, The World War II Era
1946-1960, The Post-War Era

PART ONE
Statement of Historic Context - General

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Chapter One:
1891-1904, The Department of Interior Era

FOREST SERVICE OVERVIEW

As early as 1871, Congress considered legislation that addressed the management of forests on public lands in response to growing concern over the depletion of the nation's natural resources. In 1875, the American Forestry Association was formed and upon that group's lobbying, the Division of Forestry was created in the US Department of Agriculture (USDA) in 1881.

It was not until March 3, 1891 that the Forest Reserve Act, also known as the Creative Act, was passed. It allowed the President to designate areas as Forest Reserves, which were to be administered by the Department of the Interior's (DOI) General Land Office (GLO). Less than a month later, on March 30, President Benjamin Harrison established the country's first federal forest reserve, the Yellowstone Park Timberland Reserve.

Harrison's proclamation followed a decade of debate over the fate of America's forested areas. Many scientists viewed the creation of this reserve as a crucial step in stemming the advancing juggernaut of unregulated timber harvests, overgrazing, mining, and watershed destruction. The creation of this land reserve marked one milestone in the beginning of America's conservation movement, while exemplifying the need for effective land management. Other reserves were soon created, often in response to petitions presented by individuals or groups seeking protection of timber, range and watersheds. Upon receipt of the petition, an inspector from the GLO would examine the area before making a recommendation to the President regarding designation.

President Grover Cleveland followed Harrison's lead and in 1893 created two forest reserves in Oregon. He waited four years, when Congress was ready to pass legislation on managing the reserves, before repeating the action. Only ten days before completing his term, President Cleveland created 13 forests on Washington's birthday, February 22, 1897, thus doubling the amount of reserve area. Known as the "Washington's Birthday Reserves," they included the Teton Forest Reserve in Wyoming and the Uintah Forest Reserve in Utah.

Cleveland did this without local or congressional consultation, creating a public outcry in the West. This was exacerbated by the lack of a proper investigation of the reserves and of any administrative procedures, thus leaving the reserves closed to use. The situation led Congress to pass the Organic Act on June 4, 1897. In addition to clarifying administrative policies, the Act opened the reserves, which had previously been closed, to use and provided for their thorough examination. It also postponed the designation of the Washington's Birthday Reserves for nine months.

At the turn of the century, both the DOI and the USDA had forestry divisions and the two were sharing forestry duties. While the DOI was in charge of administering the forest reserves, the USDA's Bureau of Forestry focused on gathering data about forests and forestry. Gifford Pinchot, appointed the Chief of the USDA's Bureau of Forestry in 1898, advocated the transferal of all forest administration and management to the USDA. He argued that such a move would correct the inefficiency experienced by forest users when dealing with the GLO. Gifford also believed that the unqualified GLO force of politically appointed forest officials should be replaced with trained and experienced men. The official transferal happened on February 1, 1905, and the Bureau of Forestry was renamed the United States Forest Service, effective July 1.

HISTORICAL SETTING

During the latter half of the nineteenth century, certain activities were consuming natural resources at an alarming rate. Hard rock and hydraulic mining had taken its toll as timbers were needed to build mineshafts and mills, wood and coal were necessary for ore reduction, and fuel was required for heating and cooking by the great numbers of people in the industry. With its rich ore and timber resources, the Sierra Nevada was significantly affected, as were the Wasatch and Oquirrh mountains in Utah, and the Boise Basin and Salmon River country in Idaho. By the 1860s, ranchers were driving cattle to provide food to the mining communities. It was not until the lull in activity, from 1880 to 1900, that ranching and agriculture replaced mining as the main economic pursuits in some areas.

The construction of the transcontinental railway, and subsequent smaller lines connecting population centers, created the need for millions of hand-hewn railroad ties. The availability of large stands of lodgepole pine and free-flowing streams and rivers perfect for log driving led to extensive tie-hacking activity in the High Uintas of Utah and the Green River drainage in Wyoming. The tie-hacking industry, active until roughly World War II, had a significant effect on the economy and settlement patterns of those areas.

The Mormon pioneers, who arrived beginning in 1847, were joined by settlers encouraged by the passage of the 1862 Homestead Act and the 1877 Desert Land Act. Facilitated by the ever-increasing railway system, they arrived in droves as mining, logging and railroad operations increased. Many took up cattle ranching, taking advantage of the mountains for summer grazing. Large cattle outfits were the norm, with the exception of Utah and southeastern Idaho, which were characterized by small farming operations sharing cooperative herds.

Sheep outfits soon threatened cattle ranching. Sometimes called “hooved crickets” because of their grazing habits, the sheep were not popular with the cattle ranchers. Transient sheep, those owned by non-residents, were a particular point of contention among the locals. Before long, the number of sheep surpassed that of cattle. In Idaho, cattle and sheep numbered 10,456 and 1,021 respectively in 1870. Thirty years later, there were 369,217 cattle as compared to 3.1 million sheep.[1] Utah, Nevada and Wyoming also saw huge increases as sheep were driven in from Oregon, Washington and California.

The decrease in adequate rangeland for cattle ranchers corresponded with an increase in their animosity toward the sheep outfits. Ranchers were pacified in 1897 when sheep were banned from forest reserves by federal order. Two years later, this ban was lifted, but the sheep were regulated – a situation that became permanent in 1901. Matters did not improve, however, and tensions between cattle ranchers and sheep owners escalated.

By the turn of the century, the public was focusing on overgrazing, deforestation and regional water rights Populist views espousing the "the greatest good for the greatest number” gained strength after Theodore Roosevelt became President in 1901. Roosevelt directed his powers toward resource protection, which included the designation of numerous forest reserves.

THE FIRST FOREST RESERVES

The present-day Bridger-Teton National Forest encompasses land that was part of the country’s first federal forest reserve, the Yellowstone Park Timberland Reserve, established on March 30, 1891. In Region 4, this was followed by Grover Cleveland's establishment of two "Washington's Birthday Reserves"

[1] Thomas G. Alexander, *The Rise of Multiple-Use Management in the Intermountain West: A History of Region 4 of the Forest Service,* USDA Publication FS-399, (Washington, DC: Government Printing Office, 1987), 11.

in 1897. These were the Teton Forest Reserve in Wyoming and the Uintah Forest Reserve in Utah. Another Washington's Birthday reserve, the Stanislaus Forest Reserve in California, also included lands that are now part of the Humboldt-Toiyabe National Forest.

Cleveland's successor was President Theodore Roosevelt, an ally of conservation interests and a good friend of Gifford Pinchot. During his tenure, Roosevelt accelerated the pace of forest reserve establishment, creating the following:

Forest Reserve	Date*	State
Fish Lake Forest Reserve	February 10, 1899	UT
Payson Forest Reserve	August 3, 1901	UT
Logan Forest Reserve	May 29, 1903	UT
Manti Forest Reserve	May 29, 1903	UT
Pocatello Forest Reserve	September 5, 1903	ID
Aquarius Forest Reserve	October 24, 1903	UT
Grantsville Forest Reserve	May 7, 1904	UT
Salt Lake Forest Reserve	May 26, 1904	UT

*Some dates are the approval dates; others are the effective dates.

The first forest reserves were withdrawn without proper examinations, thus leading to errors in land areas and boundaries. To avoid disputes like those encountered with the Washington's Birthday reserves, the GLO began to work closely with local people and other agencies to carry out intensive surveys before proclaiming reserves. In late 1901 and early 1902, the GLO recommended an addition to the Uintah Forest Reserve and the establishment of 11 new reserves along the Wasatch Mountains and the high plateaus in southern Utah. The GLO temporarily withdrew these areas from public entry in 1902, pending further investigation and a final recommendation.

Giffort Pinchot sent Albert F. Potter to complete the investigations. Potter not only played a significant role in the establishment of the Utah forests, but he is credited with developing a sound grazing policy for the Forest Service. He was with the Arizona Wool Grower's Association when he joined Gifford Pinchot and others in 1900 as a stockmen's representative on an examination of grazing in Arizona. Pinchot was so impressed that he hired Potter the following year to be head of the grazing branch. Potter began surveying the potential Wasatch Range reserves in July 1902, finishing his work the following November. He documented natural conditions and land uses, as well as the support and opposition of various groups.

Other Forest Inspectors investigated, recorded and reported on proposed reserves and the interests of the industries and residents involved. The reports prepared by these men provided an understanding of local concerns and conditions of water, timber and range resources. The inspectors made recommendations regarding the extent and administration of proposed reserves. They included men like Lage Von Wernsted, who examined central Nevada and proposed the creation of the Ely, Steptoe, Osceola, and Snake forest reserves. Robert Burns Wilson did the same for the Topaz Addition to the Bear River Forest Reserve, the Monticello Reserve, and the Bruneau Addition to the Independence National Forest. Other inspectors included Raymond E. Benedict who wrote the report on the Payette Forest Reserve in 1904, three years before becoming District (Region) 4's Chief Inspector. Robert R. V. Reynolds, formally trained in forestry, examined the La Sal Forest Reserve (1904) and the Proposed Addition to the Cache National Forest (1908).

ADMINISTRATION

Effective administration of the early forest reserves was lacking due to an unclear organizational system and no specific authority from Congress. In 1891, Bernhard Fernow recommended a system of administration, based on Prussian models, that included forest supervisors, rangers on small districts, and

centrally directed inspectors. It was not until Congress passed the Organic Act on June 4, 1897, however, that administration of the forests was specified. The Act defined the Secretary of the Interior's authority and clarified the purposes of the reserves.

The DOI administered the reserves, first through its General Land Office (1891-1901) and then through Division R, the forestry division (1901-1905). The DOI set up a system of Superintendents who oversaw a state or group of states, Supervisors in charge of individual reserves, and Rangers located on districts within the reserves. There were also Forest Inspectors who visited the reserves to deal with specific issues.

In the summer of 1898, the GLO employed the first forest officers, most of whom were political appointees.[2] The typical ranger was a male of northern European extraction with practical experience from working or growing up on a farm or ranch. He carried out his ranger duties as a secondary job while continuing to farm or operate a business. Many were illiterate and relied on fellow rangers to write reports and letters.[3] The ranger was required to provide his own equipment, horse, saddle, food, tent and other items needed for the job. Charlie Bayer, ranger on the Yellowstone Forest Reserve talks about his first day:

> When I reported for duty, I found I had to furnish a saddle and pack horses, my tent, axes, and shovels. I looked into the well-stocked room just of [off?] Zeph's office and asked, "can I have an axe and shovel from there?" "No, you can't," he retorted. "I'm saving all that for a real forest fire." Then he relented somewhat and…offered me a couple of canvas water buckets to put out small fires.[4]

The DOI's Division R evolved toward the Prussian model proposed by Fernow and supported by Gifford Pinchot. In the beginning, the system was fairly centralized, with all approvals coming from the Washington Office and with an emphasis on inspections and reports. Starting in 1901, forest supervisors received more responsibility that not only compensated for minimal funding, but also contributed to a sense of proprietorship and an *esprit de corps.* Decentralization also changed the ratio of administrators. In 1898, there were eleven superintendents and a few supervisors. By 1904, there were 5 superintendents and 50 supervisors.[5]

In the winter, the rangers were usually laid off and the forest supervisors were demoted to rangers although they too were sometimes furloughed. As the workload increased, several rangers received upgrades from temporary employees to year-round staff in 1904. As of 1899, all rangers were furloughed by October 15, but by 1904 over 40% were year-round employees. The position of forest guard was created for temporary employees, most of whom were charged with detecting fires during the summer months.

FIRE MANAGEMENT

Although the Forestry Division was charged with protecting the forest reserves under the Organic Act of 1897, minimal funding and staff prevented the development of advanced fire management strategies. Forest rangers were more effective in warning local communities of fires, rather than actually fighting or managing the fires. Forest guards hired during the field season often detected and reported fires while

[2] Gerald W. Williams, "Administrative Units and Reorganization Efforts," *History Line* (Summer 1994), 19.
[3] Arthur H. Carhart, *Timber in Your Life* (Philadelphia: J.B. Lippincott Company, 1955), 82.
[4] "Early Days as a Forest Ranger, as Told by Charlie Bayer," news clipping dated July 8, 1965, located in scrapbook "Historical Information Book 4, Bridger National Forest," Office of the Archeologist, Bridger-Teton National Forest Supervisor's Office, Jackson, Wyoming.
[5] Alexander, *The Rise of Multiple Use Management,* 21.

they were performing their other duties. It was not until later, after the tragic fires of 1910, that the Forest Service began developing a sophisticated system of fire management that included facilities construction.

Chapter Two: 1905-1932, The Pinchot and Progressive Eras

FOREST SERVICE OVERVIEW

As noted previously, the United States Forest Service was created in 1905 when forest administration and management duties were transferred from the DOI to USDA. As Chief Forester of the agency and friend of Theodore Roosevelt, Gifford Pinchot played an important role in developing the technical field of forestry, shaping national conservation policies, and laying the groundwork for the administrative structure and philosophy of the Forest Service. His combined approach of conservation and the promotion of "multiple uses" of the forests' resources, rather than strict preservation, was quite popular. Local governments and ranchers began to view this concept of land management as a solution to declining range and watershed conditions.

By 1907, controversy over executive proclamations to create forest reserves reached its zenith. On January 7, President Roosevelt temporarily withdrew an area of timber from the public domain in Washington State. Although Roosevelt restored the land to public domain after political pressure and intense lobbying, a Senate bill prohibiting presidential creation of national forests in Washington, Oregon, Idaho, Montana, Wyoming, and Colorado was passed. This effectively transferred to Congress the President's authority to create forest reserves in much of the West. Just before the bill was signed into law, Roosevelt created new reserves and enlarged existing ones for a total of 16 million additional acres. The "midnight reserves" included the Port Neuf (Idaho) and the Toiyabe (Nevada) reserves. The law, passed on March 4, also changed the name of "Forest Reserves" to "National Forests" in an effort to shed the perception that the forests were closed to use.

Pinchot lost his political ally when Roosevelt left office in 1909. Under President William Howard Taft, Pinchot clashed with Secretary of the Interior Richard Ballinger. Taft fired Pinchot in 1910, replacing him with Pinchot's colleague and friend, Henry Graves.

Many books have been written about the early conservation movement in this country and the subsequent establishment of the Forest Service. For detailed information about the agency's early legislation and development, readers are encouraged to refer to the following:

Boerker, Richard H. D. *Our National Forests.* New York: The Macmillan Company, 1918.

Dana, Samuel Trask. *Forest and Range Policy: Its Development in the United States.* New York: McGraw-Hill Book Company, 1956.

Robbins, William G. *American Forestry: A History of National, State, and Private Cooperation*. Lincoln: University of Nebraska Press, 1985.

Steen, Harold, K., editor. *The Origins of the National Forest: A Centennial Symposium.* Durham, NC: Forest History Society, 1992.

Steen, Harold K. *The U.S. Forest Service: A History.* Seattle: University of Washington Press, 1991.

Williams, Gerald D. *The USDA Forest Service: The First Century*. Washington, DC: USDA Forest Service, 2000.

HISTORICAL SETTING

This era, from 1908 to 1929, is marked by technological achievements such as the introduction of the Model T Ford (1909), completion of the Panama Canal (1914), the first commercial radio broadcast (1920), and the first feature-length talking movie (1927). The early part of this period is often referred to as the "Progressive Era" for its reformist and social justice movements. It is marked by labor laws, the women's suffrage movement, prohibition, and early civil rights efforts. Other landmarks of this time include tragic events: the worldwide influenza epidemic, World War I, and the Wall Street crash of 1929.

World War I affected the Forest Service as employees joined the armed forces and fewer people were available for the increasing workload. After April 6, 1917, when the United States officially declared war on Germany, many employees joined the US Army Engineer Regiments (10th and 20th Forestry), which were formed in 1917 and 1918. These regiments built sawmills in France to produce lumber for railroads and trenches. The US Army Spruce Production Division (1917-1918) worked in Washington and Oregon to cut trees for airplanes and ships, and constructed railroads.[6]

Seventeen Region 4 employees had enlisted in military service by August 23, 1917. A regional newsletter reported:

> . . . nine have been commissioned as officers or enlisted in the Forest Regiment; three have applied for admission to and been accepted for the Second Officers' Reserve Corps Training Camp at the Presidio, San Francisco, California; four have been called into the National Army; and one has enlisted in the Second Idaho Infantry.[7]

The years immediately following World War I are characterized by increasing affluence fueled by industrial expansion and technological developments. These were manifested in the average American home, which acquired telephones, plastic products, radios, modern bathrooms and electricity. These advances were not lost on the Forest Service. The agency promoted the use of telephones to improve communications, particularly in fire-prone areas, and increasingly provided electricity and modern bathrooms in many of its permanent facilities. Former ranger Ed Cazier remembers the stringing and maintaining of telephone wires to various administrative facilities in Wyoming, especially to fire lookout stations, as common work for seasonal and temporary employees during and after the war years.[8]

The introduction of the automobile also had a significant impact around the country. With the advent of this convenient conveyance, some forest officers were reimbursed three cents per mile for using their personal vehicles to conduct business. Due to the nature of the work terrain, the Forest Service was slow to officially adopt vehicles as the main mode of transportation. Some surplus vehicles were transferred to the agency after the war, but as of 1921, the Region 4 headquarters had no more than two or three trucks while the individual forests still had none.[9] Officials continued to rely on horses to carry out forest business but the automobile eventually altered the way forests were used and managed.

Increased recreational, mineral and timber use led to a boom in road construction in the 1920s. This provided rangers with easier access to larger areas and, consequently, their districts were consolidated or enlarged. The ranger could operate from town, which led to the conversion of year-round ranger stations in rural areas to summer guard stations.

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[6] Gerald W. Williams, *The USDA Forest Service: The First Century,* (Washington, DC: USDA Forest Service, 2000), 47.
[7] "The Intermountain Review Ranger," 1, no. 9 (September 10, 1917), 14.
[8] S. Edwin Cazier, Interview by Arnold R. Standing, 31 May 1965, transcript, History Files, Bridger-Teton National Forest Supervisor's Office, Jackson, Wyoming.
[9] Henry M. Shank, "Forty-Six Years Ago – And Later," in *The History of Engineering in the Forest Service,* (Washington, DC: Government Printing Office, 1990), 183.

The prosperity of the 1920s came to a sharp end in October 1929 with the stock market crash. This event heralded the Great Depression and the New Deal era, a significant period in the development of the nation's forests.

NATIONAL FOREST CREATIONS & ADJUSTMENTS

During the first two years of the Forest Service, from 1905 to 1907, the area of the national forests more than doubled from 63 million acres to 151 million acres. Much of this increase represented work started under the GLO.[10] Growth of the forest system in Region 4 is evident with the creation of the following national forests, some of which resulted from Albert F. Potter's 1902 field examination of Utah's Wasatch mountains:

Sevier	May 12, 1905	UT
Henrys Lake	May 23, 1905	ID
Weiser	May 25, 1905	ID
Sawtooth	May 29, 1905	ID
Payette	June 3, 1905	ID
Cassia	June 12, 1905	ID
Dixie	September 25, 1905	UT
Beaver	January 24, 1906	UT
La Sal	January 25, 1906	UT, CO
Vernon	April 24, 1906	UT
Ruby Mountains	May 3, 1906	NV
Fillmore	May 19, 1906	UT
Wasatch	August 16, 1906	UT
Raft River	November 5, 1906	UT/ID
Lemhi	November 5, 1906	ID
Salmon River	November 5, 1906	ID
Independence	November 5, 1906	NV
Charleston	November 5, 1906	NV
Caribou	January 15, 1907	ID, WY
Monticello	February 6, 1907	UT
Glenwood	February 6, 1907	UT
Toiyabe	March 1, 1907	NV
Port Neuf	March 2, 1907	ID
Toquima	April 15, 1907	NV
Monitor	April 15, 1907	NV
Vegas	December 12, 1907	NV
Challis	June 25, 1908	ID
Salmon	June 25, 1908	ID
Nevada	February 10, 1909	NV

Creation of these new national forests was supplemented by numerous changes to the configurations, sizes and numbers of others. As the first Chief Inspector of District 4 (Region 4), R.E. Benedict sought to increase administrative efficiency by placing small forests under a single supervisor and splitting up some of the larger ones.[11] The latter action solved the problem of difficult travel over mountain crests.

[10] Alexander, *The Rise of Multiple-Use Management,* 33.
[11] Ibid., 34.

The changes to the Yellowstone Forest Reserve illustrate typical actions around the country. On July 1, 1908, President Theodore Roosevelt abolished the large reserve, dividing it into smaller national forests. The former Teton Division of the Yellowstone Forest Reserve was now split into the re-established Teton National Forest in the northern half, while the southwestern section became known as the Wyoming National Forest. The former Wind River Division was renamed the Bonneville National Forest, and was subsequently transferred (for a short time) to District 2. The reserve's far northern and eastern sections were transferred to Districts 1 and 2 as the Absaroka (later Gallatin) and Shoshone national forests. The Targhee National Forest was formed from the Henry's Fork Reserve and part of the Yellowstone Reserve.[12]

Other significant reconfigurations in Region 4, with their approval dates, are as follows:

May 28, 1906 — The Logan Forest Reserve is combined with other land to establish the Bear River Forest Reserve.

May 26, 1908 — Pocatello National Forest absorbs the Port Neuf and part of the Bear River forests in Idaho. The other part of the Bear River becomes the Cache National Forest in Idaho and Utah.

June 18, 1908 — Nebo National Forest is established from the Vernon, Payson and part of the Fillmore forests. The remaining part of the Fillmore absorbs the Beaver National Forest.

June 26, 1908 — The Idaho forests are significantly reconfigured, with lands shifting between the existing Payette, Sawtooth, Weiser, Lemhi, and Salmon River forests and the newly established Idaho, Boise, Challis and Salmon forests.

July 1, 1908 — The Ashley National Forest is established from part of the Uinta.

July 2, 1908 — The Minidoka is established by combining the Cassia (ID) and Raft River (UT) forests.

The Humboldt National Forest is established by combining the Ruby Mountains and Independence (NV).

The Moapa National Forest is established by combining the Charleston and Vegas (NV).

June 28, 1910 — The Palisade National Forest (ID, WY) is established with land from the Targhee.

Some reconfigurations were brought about by the 1911 Weeks Act, which sought to create a national unified fire control policy. This significant act authorized cooperation between the Forest Service and states to protect watersheds through the purchase of lands along headwaters. Recognition of watersheds as ecological and geographic units resulted in the adjustment of forest boundaries. Many boundaries, which were set along rivers before 1911, were changed to ridgelines or mountaintops, thus allowing a drainage area to be administered as one unit. The Weeks Act also authorized the Forest Service to purchase land in the eastern United States, thus resulting in forest reserves created from land that was previously privately owned.

Land exchanges also contributed to forest reconfigurations, as Richard Boerker explained in 1918:

> There has also been a great need for consolidating the National Forest lands where these were interspersed with private or state lands. Congress has recognized this need

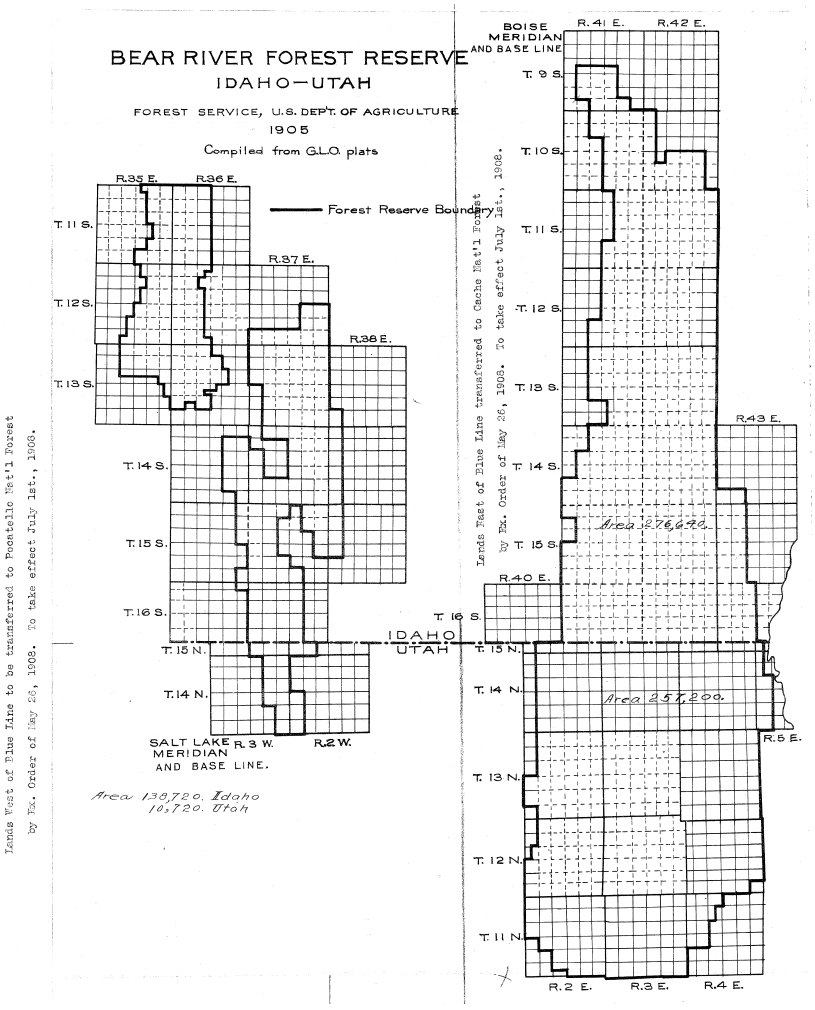
[12] USDA Forest Service Lands Staff, *Establishment and Modification of National Forest Boundaries, A Chronological Record 1891-1959*, (Washington, D.C.: USDA Forest Service, Division of Engineering, 1959), 21-22.

> and from time to time has granted authority to exchange lands with private owners or States where such an exchange would be advantageous to the Government through the resulting consolidation of holdings. Thus by getting the government lands into a more compact body their administration and protection are materially facilitated in many ways.
>
> Before any exchange is made it must be ascertained that the land which the Government is to receive has equal value with that relinquished, also that the land is chiefly valuable for the production of timber and the protection of stream flow.[13]

To counteract the argument that the government was holding valuable land, forest lands were examined for agricultural potential. If the lands were judged suitable for agriculture or unsuited for forest uses, they were eliminated from the forest or opened for homestead entry, per the 1906 Homestead Act. Between 1912 and 1917, over 127 million acres had been examined and classified and 12 million acres were eliminated from the nation's forests.[14] While some work was carried out by crews from the Washington and regional offices, rangers on several forests conducted field surveys and wrote numerous reports in 1916-18.

Congress passed legislation that supported additions to the national forests. The Clarke-McNary Act of 1924 broadened the authorization for purchasing forested, cutover or denuded lands within watersheds. The Woodruff-McNary Act of 1928 provided additional funds for land purchases.

Another force behind reconfigurations was the creation of the National Park Service (NPS) in 1916, which the USFS did not support. This led to a sometimes-adversarial relationship between the two agencies on recreation roles, exacerbated by the transfer of national forest lands to the national parks. The Grand Canyon was transferred from the Kaibab National Forest (part of Region 4 at that time) to the NPS. Lands from the Powell National Forest went to the Bryce Canyon National Park in the 1920s and 1930s. The Grand Teton National Park was created in 1929 with significant acreage from the Teton National Forest. Timpanogos Cave, created as a national monument under the USFS in 1922, eventually went to the NPS also.



[13] Richard H. D. Boerker, *Our National Forests* (New York: The Macmillan Company, 1918), 63.
[14] Ibid., 62.

ADMINISTRATION

ORGANIZATION

Upon transfer of the forest reserves from the DOI to the USDA in 1905, Gifford Pinchot set about implementing a more efficient administrative structure. In an effort to decentralize the Forest Service, he reorganized the field staff into three inspection districts in 1906. Headed by Chief Inspectors, these three were known as the Northern District (Idaho, Montana, Wyoming, South Dakota and Minnesota), the Southern District (Utah, Colorado, New Mexico, Arizona, Nebraska and Oklahoma) and the Western District (Washington, Oregon, California and Alaska).

A year later, in 1907, the three districts were reconfigured into six districts, which were eventually renamed "regions" (in 1929) to avoid confusion with ranger districts. Chief Inspector Raymond E. Benedict administered District 4, which included Utah, western Wyoming, eastern Nevada, southern Idaho and northern Arizona, from Salt Lake City.

As administration of the six districts proved cumbersome from Washington, Pinchot once again directed a re-organization in an effort to decentralize administration. Effective December 1, 1908, the six inspection districts were transformed into field headquarters or districts headed by District Foresters.[15] Each headquarters was organized in a manner similar to the Washington Office with a law office, operations division (which included engineering), grazing division, products division and silviculture division.[16] This move toward decentralization gave Forest Supervisors more freedom in making decisions. It also led to changing duties and more paperwork for the field staff.[17]

As part of the 1908 reorganization, the headquarters of District 4 was moved from Salt Lake City to Ogden, which was designated the Forest Service's supply depot for all six districts in 1909. As a starting point for the railway shipments heading east, west and north, Ogden offered lower costs and faster deliver to remote administrative sites. All supplies were previously sent from the Washington Office, resulting in long delays.[18] As of May 1, 1929, the districts were referred to as “regions” to differentiate them from the increasingly important ranger districts. District Foresters became Regional Foresters and, by 1934, they were supervising ten regions across the country.[19]

Clyde Leavitt, Chief of Operations in the WO, became was the first District Forester for the new District 4, serving from 1908 to 1910. For a short time, Leavitt operated from the Central Building at the corner of 24th Street and Washington Boulevard.[20] The quarters were merely temporary, as Leavitt approved the lease of a supply depot/headquarters to be built by Ogden businessman Fred J. Kiesel at the corner of Lincoln Avenue and 24th Street. The Regional Office moved into 24,466 square feet of Keisel's building in 1909 but, by the late 1920s, the leased space was considered inadequate.[21] One employee later described it as "a three-story converted warehouse in the slummiest of Ogden's slum area, near the extensive railroad yards."[22]

George L. Nichols, then Chief Draftsman in the RO, began designing a new four-story headquarters in late 1928, revising his plans several times over the next two years. In 1930, the Intermountain Forest and Range Experiment Station was created and, due to overcrowding in the RO, was placed in the Hotel

[15] Additional districts were created in 1914 (Eastern District), 1921 (Alaska District) and 1929 (North Central District). In 1934, the Eastern District/Region was divided into two regions.
[16] Alexander, *The Rise of Multiple-Use Management,* 34.
[17] Ibid., 37.
[18] Ibid., 34.
[19] There are now nine regions. Region 7 was eliminated and divided between Regions 8 and 9 in 1965-66.
[20] George L. Nichols, "Our Building: A Record of Events and Facts of Interest, 1956" TMs [photocopy], p. 9, located with author.
[21] Ibid.
[22] Shank, 182.

Bigelow.[23] With the support of Utah senator Reed Smoot and the Ogden Chamber of Commerce, the Forest Service in 1931 finally received an appropriation of $300,000 to construct a new building. It was completed two years later.

Leavitt was followed by Edward A. Sherman who had previously worked for a newspaper and as a forest inspector in Montana and Idaho. He was known as "Old Smoothie" for his diplomatic skills while working in the Bitterroot Mountains. Sherman was District Forester from 1910 to 1915 when he became Assistant Chief of Lands in the WO, where he remained until at least 1930.

The next District Forester was Leon F. Kneipp. Originally from the "Chicago waterfront," Kneipp was a political appointee to the GLO Division R in Arizona. Although he had little formal education or training in forestry, he continued his career through the Pinchot era and later. Kneipp was a ranger and acting supervisor of the Pecos National Forest in New Mexico while serving on the 1905 *Use Book* Revision Committee. He was the Assistant Chief of Grazing in the WO until 1915 when he became District Forester in Ogden at the age of 26. After five years, he returned to the Washington Office. Like Sherman, he was still there in 1930.[24]

Richard H. Rutledge was the last District Forester of this period, serving from 1920 until 1938. He was considered an expert in grazing administration. In fact, he left his position as District Forester, by then renamed "Regional Forester," to become Chief of the Grazing Division (now the Bureau of Land Management) in the Department of the Interior.

FOREST OFFICERS

A Professional and Trained Force

Gifford Pinchot implemented numerous changes in hiring practices to eliminate the politically appointed workforce that had worked under a corrupt GLO. He started by increasing the level of professionalism and dedication. A major shift in policy was the requirement of rangers and supervisors to pass a two-part Civil Service exam. The written portion took two to three hours to complete while the practical portion tested a man's skills in packing a horse, using a compass, elementary surveying, shooting, and cutting a tree. These tests, discontinued after 1929, resulted in a more qualified work force and eliminated political appointees.[25]

Pinchot pushed for formally educated personnel and in 1908, the Forest Service offered a short course in forestry at the Utah State Agricultural College in Logan. That same year, the agency began offering a 5-week training program in Washington, DC.[26] By the 1910s, conflicts between trained men and those with only field experience became apparent. The Forest Service sought to close the gap by encouraging all personnel to continue their training and education. Region 4 began offering a correspondence program during World War I and nearly 100 men had completed it in 1917. Eventually, more forest officers enrolled in forestry schools established in Utah and Idaho.[27]

Another accomplishment of Pinchot was the publication and distribution of the 1905 *Use Book*, a redesign of *The Forest Reserve Manual of 1902*. Designed to fit into a ranger's pocket, the 142-page *Use Book* contained all the regulations and instructions needed by the ranger. It outlined administrative procedures

[23] Nichols, "Our Building," 12.
[24] Alexander, *The Rise of Multiple-Use Management,* 39 and 57.
[25] Charles D. Simpson and E.R. Jackman, *Blazing Forest Trails* (Caldwell, Idaho: The Caxton Printers, Ltd., 1967), 32.
[26] Alexander, *The Rise of Multiple Use Management,* 37.
[27] Charles S. Peterson and Linda E. Speth, "A History of the Wasatch-Cache National Forest, 1980" TMs [photocopy], p. 101, located with author.

and policies regarding timber and water management, mining, farming, construction, and grazing on the forest reserves.

1907 Ranger Exam, Elko, Nevada.

Pinchot further defined the administrative structure by clarifying certain positions and duties. The 1905 *Use Book* identified the hierarchy of field officers starting with the Forest Inspector, followed by Assistant Forest Inspector, Forest Supervisor, Deputy Forest Supervisor, Forest Assistant, Forest Ranger, Deputy Forest Ranger, Assistant Forest Ranger, and Forest Guard. The manual explained that the Forest Inspectors had, through training and experience, great familiarity with forest reserve business. His duties included providing advice to forest officers, inspecting and reporting on the reserves, and making recommendations to improve their management.

The *Use Book* stated that Forest Supervisors were men promoted from the position of Forest Ranger or Assistant and were to be residents of the state in which the reserve was located. According to a 1907 public guide titled *The Use of the National Forests:*

> The Supervisor has direct charge of a National Forest. He runs all the business upon it and is responsible for the work and the efficiency of the force under him. From training and experience he must be thoroughly familiar with western conditions. To do the work he must be sound in body, fit to endure a hard and rough outdoor life. He must be able to handle men well and deal wisely with all kinds of people. The business requires him to have a good working knowledge of timber and lumbering, the live-stock industry, the land laws, and ordinary office work. His position is a very responsible one, for he manages a public estate worth many millions of dollars. At present Supervisors are paid from $1,500 to $3,000 a year, and are reimbursed for actual living expenses when on field duty away from their headquarters.[28]

Forest Rangers

The Forest Ranger has received much attention in historical accounts of the Forest Service. A certain level of romance and myth has surrounded the early rangers, who were truly field men blazing new trails in the management of the country's forests. These men were required to be "thoroughly sound and able-bodied, capable of enduring hardships and of performing severe labor under trying conditions." To discourage slackers and recreation seekers, it was noted "Invalids seeking light out-of-door employment need not apply." The ranger was also prohibited from holding other jobs.[29]

> The Rangers are the men who carry out the work on the ground. They are directly under the Supervisor. They must thoroughly know the country, its conditions, and its people. They live in the Forests, often in localities far from settlement and sources of supply. The Ranger must be able to take care of himself and his horses under very trying conditions; build trails and cabins; ride all day and all night; pack, shoot, and fight fire without losing

[28] US Department of Agriculture, Forest Service, *The Use of the National Forests* (n.p.: 1907), 32.
[29] US Department of Agriculture, Forest Service, *The Use Book. Regulations and Instructions for the Use of the National Forest Reserves* (Washington, DC: Government Printing Office, 1906), 148-49.

> his head. He must know a good deal about the timber of the country and how to estimate it; he must be familiar with lumbering and the sawmill business, the handling of live stock, mining, and the land laws. All this requires a very vigorous constitution. It means the hardest kind of physical work from beginning to end. It is not a job for those seeking health or light outdoor work. Rangers are now paid from $900 to $1,500 a year. They have to furnish and feed their own horses. The Government builds them cabins to live in and fences pastures to keep their stock in.[30]

The hardiness of these rangers is evident in a description of a trip that Clarence Woods took in late 1905. Woods, then on the Teton National Forest, was instructed to investigate a coal company that was reportedly cutting mine props without a permit.

> First, he crossed from Jackson over Teton Pass into the Teton Basin where his horses had wintered and brought them back to Jackson. He expected to ride his horse southerly along the Hoback River to Kemmerer, then up Hams Fork to the trespass area. Along the Hoback, he found the snow so deep that he had to ride in the river through much of the canyon. He spent one night in lower Hoback Basin and started out the next day on crusted snow. By the time he reached the upper end of the basin, the crust was too soft to support his horse. He left the horse on a grassy south slope and walked ten miles to a ranch where he had dinner. He expected the snow would crust over during the night, so he went back for the horse. The crust was still too weak, so he left the horse again and walked eighteen miles to the Horse Creek Ranger Station. He met with Ranger Dick Smith and the two decided to ski the remaining sixty miles to Kemmerer. After several days of travel, they lost the trail. Then they followed a drainage to a ranch where they hired some horses which they ride on to Kemmerer.[31]

After investigating the coal company, Woods returned to Kemmerer.

> Then, since he was without transportation, he walked for two and half days to the South Cottonwood Ranger Station, borrowed a horse from the ranger, then returned to Jackson by way of the Hoback Basin where he picked up the horse he had left. He reported at the end that he "reached Jackson, none the worse for the trip.[32]

The language in the 1928 *Forest Manual* was a bit more refined than the 1906 *Use Book*. Instead of declaring, "invalids need not apply," the manual directed rangers to be “young, of rugged physique, and in good mental and physical health.” They needed a certain amount of schooling, preferably a high school education, and training, either under another district ranger or in a Forest Service training camp. The manual emphasized technical training, which could be acquired while working as a guard or assistant ranger between school terms. Among his various duties, the district ranger also served as a part-time builder who was "skilled in the use of the tools and equipment of a woodsman.”[33] When he was not carrying out administrative tasks, he was expected to construct improvements and/or “personally supervise improvement work and other crews.”[34]

There was a shortage of qualified men in the early years. In a 1907 recruitment effort, the work was described as ideal “for those who like a hard active life in the open.”[35] Although the salaries were low, there was potential for advancement within the Forest Service. Applicants were required to be residents of the state or territory in which the forest was located, be between the ages of 21 and 40, and to pass the civil service exam. Ranger salaries in 1905 were $900 per year and rose little over the following years. In

[30] US Department of Agriculture, *The Use of the National Forests,* 33.
[31] Thomas G. Alexander, “Reflections on the Heritage of Region 4, 1988(?)” TMs [photocopy], located with author.
[32] Ibid.
[33] US Department of Agriculture, Forest Service, *The National Forest Manual: Regulations and Instructions,* (n.p.: July 1928), 5-A.
[34] Ibid.
[35] US Department of Agriculture, *The Use of the National Forests,* 33.

1920, the salary was $1,100 – the same it had been in 1910. Many could not tolerate the meager pay and, during a fourteen-month period in 1918-19, 460 technical foresters resigned.

Upon reporting for work, the new ranger received some equipment such as a marking hatchet to stamp timber, pencils, stationery, and a scale rule. He still had to provide the larger items such as his tent, horse, saddle, feed, and cooking utensils. In the first few years of the Forest Service, the ranger's duties consisted of posting forest boundaries and classifying land by use. Upon Pinchot's orders, supervisors delegated more work to the rangers. This successfully made the ranger feel responsible for his area and taught the public to go to the ranger rather than the supervisor.

The forest ranger oversaw work on the smallest administrative unit, the ranger district. Ranger districts were created around 1908 and were organized around grazing units. The number of days the ranger spent carrying out his duties, which was done on horseback, depended on the size of his district. By 1915, the average size of a district was 60,000 acres although they could be larger when permitted by good travel and communication.[36] It was common for a ranger to be in charge of more than one ranger district.

Rangers answered directly to the Forest Supervisor and had authority over Deputy and Assistant Rangers, as well as the Forest Guards. The latter position was created in 1902 to assist with the increased workload during the field season.[37] The guards had the same powers and duties as assistant forest rangers. Upon passing the civil service exam, the guards could be promoted to rangers when such positions became available.

Most forest officers developed a sense of proprietorship for their forests, as they had to accomplish great deeds with limited manpower and funds. They examined and mapped millions of acres, built ranger stations, roads and trails, and initiated management policies. They lived on or near the forest and were part of the community. The type of work and decentralization contributed to camaraderie among forest officers and a high level of dedication. Pinchot proudly reported that his staff "used only 7 percent of earned sick leave and 66 percent of their annual leave."[38] Pinchot wisely required annual ranger meetings to give staff "the benefit of each other's experience, to keep them in touch with the entire work of the reserve, and to promote *esprit de corps* in the service."[39]

The 1928 Forest Manual described the recommended life of a district ranger beyond his work duties:

> The district ranger should by all means consider himself a part of the community in which he is located and take part in community affairs to the fullest extent compatible with his duties and the legal and departmental limitations on political activity. He should be content to raise his family in the village or isolated locality where the headquarters of district rangers are often necessarily located.
>
> As a rule the district ranger's prestige, and therefore his usefulness, increases with the length of stay in, and consequent firmer establishment of himself as part of the community. For this reason frequent transfers are not desirable. On the other hand, transfers may become advisable for several reasons: (1) To a more responsible position or more important district, or a district where a man with certain qualifications is needed; (3) to get a man out of a rut, or prevent his getting into one; (3) to broaden a man's training, for advancement. By successful service on a less desirable ranger district a man acquires a right to be considered for vacancies on more desirable districts.[40]

[36] US Department of Agriculture, *The Use Book. A Manual for Users of the National Forests,* (Washington, DC: Government Printing Office, 1915), 15.
[37] Alexander, *The Rise of Multiple-Use Management,* 21.
[38] Harold K. Steen, *The U.S. Forest Service: A History*, 3d ed. (Seattle: University of Washington Press, 1991), 83-84.
[39] US Department of Agriculture, *The Use Book* (1906), 151.
[40] US Department of Agriculture, *The National Forest Manual* (1928), 4-A.

The manual did not mention some of the social hardships that the ranger experienced. He and his wife, who was often expected to be an unpaid Forest Service employee, typically experienced challenges from living in isolation. As a result, some couples divorced or transferred to a less remote location.[41] Rangers' children developed initiative in creating their own entertainment but, according to one ranger, they also suffered from a lack of social skills.[42]

Women in the Forest Service

An unsung hero of the Forest Service was the ranger's wife. Although unpaid, these women were expected to carry out many support duties. Many served as camp cooks, clerks, and telephone operators. Some wives served in the capacity of a deputy or assistant ranger by preparing reports, inspecting the forests, and fighting fires. A wife who did not perform these unofficial duties adequately was seen as holding back her husband and even hurting his career.[43]

Some progress was made in 1913 with the employment of the first female, Hallie Morse Daggett, who worked as a fire lookout on the California forests. More women were hired in this capacity in response to a labor shortage during World War I and the suffrage movement that led to a woman's right to vote in 1920. The latter contributed to the Forest Service's decision to open ranger examinations to women in 1921. This action was reported in a Region 4 bulletin that stated:

> Doubtless the reason for the Civil Service Commission throwing down the bars was the recent enfranchisement of the women of the country. They may also have reasoned that having women lookouts we might also use women Rangers.[44]

FIRE MANAGEMENT

Although Pinchot promoted a policy of fire prevention and suppression, he received little support until 1910 when disastrous fires swept through Montana and Idaho. During that severe fire season, 85 people were killed and three million acres burned in Idaho and Montana. The Weeks Act was passed in 1911, authorizing and funding federal and state cooperation in forestry and fire protection. That same year, California's District Forester Coert DuBois developed a fire plan with the Stanislaus National Forest as a model. His plan included a network of lookout points on mountaintops. He expanded his plan in a 1914 document titled, "Systematic Fire Protection in the California Forests," which served as a basis for fire control in California.

Fire research and management became more scientific and many of DuBois' ideas were implemented outside of California. Nationally, lookout networks were established, often with lookout cabs and towers built at key points, although often times the lookout structure was merely a platform in a tree. Forest officials placed caches of fire tools around the forests and reached agreements with local ranchers, companies, mines and settlers to help fight fires. A 1912 letter discussed fire detection:

> In order to utilize the ranchers who have been very helpful in informing us of Forest fires, a system of fire range stations has been installed at considerable distance from the Forest by which fires are located by proper observations. This system is very similar to that used

[41] R. T. King, *The Free Life of a Ranger. Archie Murchie in the U.S. Forest Service, 1929-1965* (Reno: University of Nevada Oral History Program, 1991), 193.
[42] Ibid., 201.
[43] Lee F. Pendergrass, "Dispelling Myths: Women's Contributions to the Forest Service in California," *Forest & Conservation History* 34, no. 1 (January 1990), 18.
[44] US Department of Agriculture, Forest Service, District 4, *Alumni Bulletin* (April 1921), 24, original located at the Forest Service Heritage Center, Weber State University, Ogden, Utah.

> in warfare, for determining the range of a distant object, and the system promises to be very helpful to us.[45]

Rangers and guards constructed telephone lines that linked the lookouts with the ranger stations. Former ranger Ed Cazier recalled the arduous task of stringing and maintaining a telephone wire to the top of the forest's (and Wyoming's) highest lookout atop Wyoming Peak, elevation 11,378 feet. It was physically demanding to maintain the phone connection, when dealing with a straight-up climb of nearly 5,000 vertical feet from the Greys River:

> The lookout lived in a tent. A telephone wire ran from Greys River to the top of the peak. It was my job to maintain this line. Climbing a tree or pole with climbers was always a hard job for me until I worked up a good sweat. Usually, it did not take long. Luckily I was sweating profusely as I climbed the poles strung along a side ridge running up to the peak, for every one got more difficult. The last pole was the worst. From the top of it I could fall into Greys River or Middle Piney Lake, it seemed. What a relief to get the job done.[46]

The military played a role in fire management after World War I. Cooperative agreements between the USFS and the Army Air Corps resulted in airplane patrols in some areas of the West. Eventually, the USFS adopted two-way radios, invented during the war, resulting in cheaper and more reliable communications.[47]

Other advances were made in the 1920s. Central dispatch systems were set up, first on the Weiser (1921) followed by the Payette (1922) and Boise (1925) forest, to improve reporting and response times.[48] The 1924 Clarke-McNary Act expanded federal assistance to state forestry programs, while research stations experimented with fire suppression and detection techniques. The 1920s also saw regular fire training for employees and the adoption of standard firefighting techniques in Region 4 with the publication of a fire control manual.[49]

Gold Rock Lookout, Payette National Forest, 1921.

NURSERIES

By 1908, Region 4 had established two large nurseries, one near Salt Lake City, Utah and the other near Pocatello, Idaho. The first was on the Wasatch National Forest in Big Cottonwood Canyon, near the current Spruces Guard Station, and had the distinction of being the largest in the Forest Service.[50] The Pocatello nursery, the second largest in the agency, was started in 1906 up Mink Creek and near Scout Mountain. There, Douglas fir seeds from the Payette and Pocatello forests were sown in nine beds, each measuring 5' x 70', while yellow pine seeds were sown in six 5' x 30' beds. Seedlings were sent to the Payette, Salmon and Wyoming forests, but in 1917, it was decided to close the nursery when the remaining seedlings were distributed. When the Pocatello nursery closed around 1918,[51] little nursery

[45] Clinton G. Smith to District Forester, 28 May 1912.
[46] S. Edwin Cazier, *The Last Saddle Horse Ranger* (Logan, UT: Educational Printing Service, 1971), 44.
[47] Williams, *The USDA Forest Service: The First Century*, 49
[48] Alexander, *The Rise of Multiple Use Management,* 66.
[49] Ibid.
[50] Ibid., 48
[51] Cache National Forest History Binders, located in the Logan Ranger District Office, Wasatch-Cache National Forest.

work was carried out until 1936 when the Tony Grove Nursery was established in Logan Canyon on the Cache National Forest.

On the Sawtooth National Forest, the Flowers Administrative Site was withdrawn as a nursery in 1907, although it was not developed as such until 1910. That year, yellow pines were grown in four 5' x 40' beds from seeds acquired from the Boise National Forest. After only six years, the nursery operations were ceased due to poor productivity, which may have been aggravated by drought.[52]

Smaller nurseries were also established throughout Region 4 in the 1900s. Known locations included Poorman Creek (Boise National Forest) and Beaver Creek (Wasatch National Forest).[53] In the summer of 1907, Cache Supervisor W. W. Clarke and/or Ranger Leatham set up an enclosed nursery in the left hand fork of Blacksmith Fork canyon in response to local timber needs. Others were withdrawn as potential nurseries but were not developed. These included the Wilson Creek Administrative Site (Sawtooth National Forest, 1907) and the Rainey Creek Nursery (Targhee National Forest, 1909).

Beaver Creek Nursery, Wasatch National Forest, 1912.

EXPERIMENT STATIONS

In the early 1900s, there was considerable concern about the watershed, range and forest management in the West. Realizing that research was necessary to form a scientific basis of land stewardship, the Forest Service set up several forest experiment stations. The first was established in 1908 on the Coconino National Forest in Arizona. Other stations were soon created in Colorado, Idaho, Washington, California, and Utah. In 1915, the Branch of Research was formed in the Washington Office to plan research projects nationally. There were 12 regional stations by the 1920s, supplemented with smaller branch or field stations.

The Utah Experiment Station was established in 1912 in response to serious flooding originating in the Wasatch Mountains. Charged with a mission to carry out research on watershed management, the station was set up a few miles east of Ephraim on the Manti National Forest. Its name was changed six years later to the Great Basin Experiment Station to avoid confusion with the experiment station at the Utah Agricultural College (Logan).[54] In 1928, Regional Forester Rutledge reported, "Range management research is confined largely to three stations of the Forest Service, - the Great Basin Experiment Station in

[52] Anthony Godfrey, "From Burley to Hailey, Idaho: Administrative Facilities on the Sawtooth National Forest, 1891-1960" TMs, p. 70-71, completed under contract with Region 4 Engineering Office, 15 February 2004.
[53] Alexander, *The Rise of Multiple Use Management,* 48-49.
[54] Wendell M. Keck, *Great Basin Station – Sixty Years of Progress in Range and Watershed Research,* USDA Forest Service Research Paper INT-118 (Ogden, Utah: USDA Forest Service, Intermountain Forest and Range Experiment Station, February 1972), 1.

the intermountain region, a smaller station each in New Mexico and Arizona . . ."[55] Rutledge described the operation of the Great Basin Experiment Station and its sub-stations:

> In the Forest Service a forest experiment station has gradually come to mean a group of technical men with the necessary clerical and non-technical assistants working on the problems of the management of forest lands for an entire region. This technical force has a convenient central headquarters from which all parts of the region may be reached with the greatest possible facility. At this headquarters there is or will be located such permanent laboratories as are needed. Certain phases of the work is done at suitable substations where a large number of individual sample plots and investigative projects may be concentrated in one place.
>
> This class of work will require the permanent residence of a non-technical force and housing facilities for a technical force, as well as necessary field laboratory, nursery, and such other equipment as are needed.[56]

Field stations supported the work of the Great Basin Experiment Station. The Salina Experiment Station on the Fishlake National Forest was a cooperative venture with the Bureau of Animal Industry. With C.D. Morse as its head, the station focused on plant toxicity. The Bureau of Animal Industry's Sheep Experiment Station in Dubois, Idaho was another cooperative effort that began in 1929.

Gooseberry/Salina Experimental Station, Fishlake National Forest, 1920.

SNOW SURVEYING

A certain type of structure on the national forests, the snow survey cabin, is associated with the development of snow surveying by Dr. James Edward Church. A graduate of the University of Michigan, Church began teaching Latin and Greek at the University of Nevada in Reno (UNR) in 1892. He left for two years to get his doctorate in classics from the University of Munich in Bavaria, but returned to UNR where he pursued his love of mountaineering. In 1901, he began to study the water content of the snowpack on the summit of Mt. Rose near Reno, Nevada. Church soon developed a method of measuring snow that allowed him to forecast the likelihood of flood or drought. Although advanced techniques and equipment were developed later, Church's fundamental precepts established the scientific approach of snow surveys and studies.

On June 29, 1905, Church established one of the first high-altitude meteorological observatories on the Mt. Rose summit (10,778 feet). This marked the beginning of the Mt. Rose Observatory that, through his work, became the Department of Mountain Meteorology and Climatology of the Nevada Agricultural Experiment Station in 1906. By 1907, Dr. Church and his students had built an 8' x 8' building on the summit. They constructed the four-bunk building in Reno, disassembled it and arduously packed it up the mountain.

[55] R.H. Rutledge, "Forest Research," lecture given at the Idaho Forest School, 1928, transcript, p. 8, located at the Forest Service Heritage Center, Weber State University, Ogden, Utah.
[56] Ibid., 10-11.

By 1911, Dr. J.E. Church had refined his technique for predicting summer water supplies by measuring the water content of snow. He knew that this information was crucial in arid states, particularly for agricultural pursuits. Church described his innovative measuring instruments, sampling techniques, and a snow course survey system in a 1926 report:

> The basic principle of snow surveying is the determining of the relative water content of the snow cover at the beginning of the spring run-off. This can be done with certainty only by ascertaining the water content of the snow rather than its depth or the seasonal precipitation measured storm by storm.
>
> The snow sampler, which records the water content of the snow directly on a dial by weighing, can be driven to a depth of twenty feet or more, and has penetrated the deepest snow yet found in the snow study of the Sierra. A specially adapted toothed cutter makes it possible to cut thru [sic] thin crusts of ice and penetrate the upper layers of congealed snow on glaciers.
>
> Since the snow falls more or less uniformly over wide area, it is necessary only to maintain a few snow courses in each basin or group of closely situated basins. These courses consist of 20 to 40 measurements, usually 50 feet apart, maintained unchanged in the same place from year to year. The average water content of several annual measurements made as the mean from which to estimate the seasonal percentage for the current year.[57]

Before he became so well known, Church's work focused on the watersheds of California and Nevada, with some of the first snow surveys carried out in the Lake Tahoe, Carson, and Mokelumne basins.[58] Through his efforts and the cooperation of numerous state and federal agencies, snow surveying spread throughout the Intermountain West in the 1920s. In Wyoming, the first snow survey measurements were taken in 1919, followed by Idaho in 1921 and Utah in 1924. Numerous power companies and water control entities in Washington, Idaho, New York, Canada, Norway and Switzerland had also adopted Church's innovative techniques by the 1920s to manage their hydrological resources.

The international significance of Church's work is indisputable and a 1944 newspaper article described him as the "world's leading snow scientist and inventor of the principal snow survey and forecasting system used in almost every nation of the world."[59] Not only did Church serve as Chairman of the International Commission on Snow and Ice, but he was also invited by the governments of India and Argentina to set up snow surveys in those countries.[60]

In 1926, the Forest Service issued a permit to Church for construction of a snow survey cabin, on the condition that the agency's ranger could use it for administrative purposes. The log structure, known as the Buckeye Snow Cabin, still stands in the Hoover Wilderness Area on the Bridgeport Ranger District. Eventually many forest rangers carried out snow surveys on the national forests, staying in ranger stations, guard stations, or specially built snow survey cabins such as the Buckeye Cabin.

[57] J.E. Church, "Nevada Cooperative Snow Surveys, 3 January 1926" TMs [photocopy], p. 2, Carson City Office, Humboldt-Toiyabe National Forest, USDA Forest Service.
[58] Ibid., 3.
[59] "Snow Scientist Tells Philosophy," *Reno Evening Gazette*, 11 May 1944.
[60] Harold E. Klieforth, "James Edward Church: Snowman of Nevada, n.d." TMs [photocopy], p. 6-7, Carson City Office, Humboldt-Toiyabe National Forest, USDA Forest Service.

Chapter Three: 1933-1942, The New Deal Era

HISTORICAL SETTING

This period is marked by the tremendous effect of the Great Depression on the nation. Although the Wall Street crash of 1929 was not felt immediately in non-industrial states of the West,[61] it was not long before people suffered as unemployment rates rose. In Utah, the unemployment rate of 36 percent in 1932 outpaced the national rate of about 25%.[62]

Under his New Deal administration, President Franklin D. Roosevelt implemented numerous relief programs. Federal agencies, including the Forest Service, were charged with administering these programs, most notably the Civilian Conservation Corps. This resulted in increased funding and larger labor pools that allowed the Forest Service to construct numerous improvements and carry out a significant amount of conservation work. In contrast, the agency saw a decrease in timber and grazing activity and receipts as the markets for these products declined.

CHANGES TO THE FORESTS

During this period, the areas of America's national forests increased, with much of the land acquired by purchase while some was received by donation. President Roosevelt considered public lands a critical factor in the success of his relief programs, and sought authorization to acquire more. During the first three years of the New Deal, forest purchase appropriations were 76 percent more than appropriations between 1911 and 1932.[63] The Bankhead-Jones Act authorized the purchase and development of sub-marginal lands and the resettlement of farmers in more fertile areas. Under this act, the Southeastern Idaho Project lands in Region 4 were acquired, later becoming the Curlew National Grass Lands. The Widtsoe Project lands were eventually added to the Dixie National Forest, while the Central Utah Project was incorporated into the Benmore Experimental Range on the Wasatch National Forest.[64]

The alterations to Region 4 resulted in a configuration that has remained, for the most part, to the present time. Perhaps the most significant adjustment was the connection of isolated northern Arizona, or the "Strip" north of the Grand Canyon, to the rest of the state. The Colorado River essentially cut off the strip from the southern section, a situation that changed with the 1933 construction of a highway bridge near Lees Ferry and the 1935 completion of Hoover Dam. With the geographically disparate areas connected, the Kaibab National Forest was transferred from Region 4 to Region 3. Thus, the new southern boundary for Region 4 was now set at the Arizona/Utah border.[65]

A factor affecting Forest Service lands was the growing wilderness preservation movement led by landscape architect Arthur Carhart, the Forest Service's Aldo Leopold, and naturalist/writer Bob Marshall. The movement led Congress to set aside large sections of wild, pristine areas of many western national forests as primitive/wilderness reserves in the late 1920s and 1930s.[66] Leopold, in particular, was instrumental in examining how the permanent preservation of pristine forest areas could help maintain

[61] Ralph Hartley and James Schenck, "Administering the National Forest of Colorado" (Lincoln, NE: National Park Service, Midwest Archeological Center, 1996), 17.
[62] Alexander, *The Rise of Multiple Use Management,* 101.
[63] Hartley and Schneck, 17.
[64] Alexander, *The Rise of Multiple Use Management,* 101.
[65] Ibid., 102.
[66] "Primitive" was the first term used, then later supplanted by "wilderness" sometime after WWII. Once the Wilderness Act of 1964 was signed into law, the use of "primitive" was dropped. For the purpose of this study, both have the same meaning.

watershed and wildlife health. His arguments worked. On June 3, 1924, Congress set aside 500,000 acres in New Mexico's Gila National Forest as America's first primitive/wilderness area. By 1937, there were 72 primitive areas in 10 Western states, including the High Uintas Primitive Area in Utah, the Idaho and Sawtooth primitive areas in Idaho, the Hoover Wild Area in California, and the Bridger and Teton wilderness areas in Wyoming.

ADMINISTRATION

The Great Depression and subsequent relief programs affected the roles and duties of forest personnel. As emergency funds and labor became available, rangers were relieved from construction work and could direct their attentions to forest planning, protection and management. Some forest officials became involved with the relief work crews as foremen, supervisors and liaison officers. More emphasis was placed on technical ability as a condition of employment. A forestry or range management degree was required and technical skills were valued over practical experience and general skills.

Some Civilian Conservation Corps (CCC) men became enamored with working on the forests and joined the Forest Service. Basil Crane, a Toiyabe ranger, served in the CCC at Paris, Idaho before attending Utah State Agricultural College where he earned his forestry degree. He began working in 1938 on the Toiyabe National Forest and eventually became an Assistant Regional Forester in Colorado.

As discussed in the previous chapter, Region 4 received funds to construct a new headquarters. The northeast corner of 26th Street and Ogden Avenue was first proposed, but the site of the Kiesel residence at the southeast corner of 25th Street and Adams Avenue was chosen.[67] In late 1931, the Forest Service hired architects Leslie S. Hodgson and Myrl A. McClenahan, designers of the Ogden Municipal Building, Ogden High School, Peery's Egyptian Theater and other buildings now listed on the National Register of

Region 4 Headquarters in Ogden, Utah, 1938.

[67] Nichols, "Our Building," 13 and 15.

Historic Places. Hodgson and McClenahan worked with Region 4's architect, George L. Nichols, to develop Nichols' preliminary design for the new building.[68]

After demolition of the Kiesel residence in May of 1932, the St. Louis firm of Murch Brothers Construction was awarded the construction contract in December of that year. The company began work on January 10, 1933, completing the fine Art Deco structure the following January at a cost of $235,869.[69] The building was admired by the public and praised as an "artistic structure" that was "outstanding in beauty,"[70] In addition to housing permanent Regional Office employees, the Forest Service headquarters also accommodated the Intermountain Forest and Range Experiment Station as well as people temporarily employed under New Deal programs such as the ECW (CCC).

THE DEPRESSION AND RELIEF PROGRAMS

As the Great Depression developed, fear and panic gripped the nation. Lines at soup kitchens grew, as did the number of homeless and unemployed. Work was desperately needed and the population clamored for relief from its desperate situation.

Presidential candidate Franklin D. Roosevelt cared deeply for the land and was a staunch supporter of conservation. As New York governor, he set up a relief program of tree-planting work by 10,000 unemployed people in 1932. He envisioned a similar program on a much larger scale to combat the unemployment situation in the nation, including other relief programs as part of his campaign platform. The concept of “soil soldiers” or a peacetime army of conservation workers was not new. It was previously implemented in some northern European countries and examined in an essay titled “Moral Equivalent to War” by Harvard professor William James. In response to high unemployment and a severe fire season, the State of California implemented a work corps program in late 1931, giving its management to the Forest Service.[71]

Within days of being elected, Roosevelt set about implementing his vision. One program addressed conservation work and came to be known as the Civilian Conservation Corps. Chief Forester Robert Stuart and some presidential cabinet members helped draft the bill that Roosevelt signed on April 5, 1933. The law created the Emergency Conservation Work (ECW) with Robert Fechner as director. Although it was not officially named the Civilian Conservation Corps (CCC) until June 28, 1937, the program was referred to as such in its early years. Other relief programs followed and included the Works Progress Administration, created in 1935.

Region 4 received more CCC expenditures than other area of the country. On a per capita basis, Nevada benefited the most with $213, followed by Idaho ($127) and Wyoming ($108). At $70 per capita, Utah ranked seventh in the nation.[72]

ADMINISTRATION OF THE CCC

Administering the CCC was a complex affair involving multiple agencies. The Department of Labor was responsible for recruitment while the War Department trained the CCC enrollees. There were nine corps areas, each commanded by a one- or two-star general. The individual camps were commanded by an army officer, assisted by junior officers and some camp enrollee leaders. At first, the officers were from the

[68] Ibid., 15.
[69] Ibid., 4 and 27.
[70] Ibid., 29.
[71] Alison T. Otis, William D. Honey, Thomas C. Hogg, and Kimberly K. Lakin, *The Forest Service and the Civilian Conservation Corps: 1933-42,* USDA Forest Service Publication Forest Service-395 (Washington, DC: Government Printing Office, 1986), 5.
[72] Alexander, *The Rise of Multiple Use Management,* 104.

regular army, but reserve officers eventually replaced them. According to one enrollee, the reserve officers "saved the day" because they were glad to have the steady work and did not try to run things in the army way.[73]

The CCC men carried out conservation work under the guidance and supervision of the USDA and DOI. The agencies within these departments chose work projects based on suitability of character and location. Camp locations were chosen and assigned a number that indicated the type of camp and the sequence of establishment. For example, S-51 was on a state forest, F or NF-4 on a National Forest, P-68 on private land, E-3 an Erosion Camp, NP-6 a National Park and SP-18 a state park. Each CCC company had a numbering system that referred to the corps area and the order of formation. For example, Company 973, which was stationed in northeast Nevada's Lamoille Canyon, came from Corps Area 9 and was the 73rd company formed.

The agencies administered the camps in different ways. The Forest Service, which operated the majority, generally split each camp into two platoons of 95 or 96 men. These, in turn, were divided into three sections, each of which was under the guidance of a foreman. The sections were further split into subsections that were made up of six- or seven-men squads and were under the charge of camp enrollees.[74]

Many of the foremen were Local Experienced Men (LEM). The requirement that these men be locals reinforced Roosevelt's intent to stimulate the local economy as well as involve the community. The LEM contributed significantly to the success of the CCC, as noted by one author:

> [They] played a significant role in building construction projects, where knowledge of a variety of trades was essential. The success of many of these projects was, to a great extent, due to the experience and oversight of the LEMs.[75]

ENROLLMENT

Young, unemployed, single men were allowed to enlist in the CCC for six-month periods and the response was immediate. On April 17, 1933, the first camp was set up near Luray, Virginia on the George Washington National Forest. Within a few more days, 50 camps on the national forests in the eastern and southern United States were approved.[76] Eventually, there were camps in every state, as well as in Alaska, Hawaii, Puerto Rico and the Virgin Islands. By July 1, 1933, there were 1,265,000 enrollees including 15,000 Native Americans. Later, 25,000 war veterans were added.[77]

Despite concerns from labor unions and cries from the Socialist and Communist parties that the scheme was fascist, the CCC proved to be very popular. In its first three months, the program was recognized as the country's largest peacetime government labor force ever. During the second enrollment period, many men reenlisted and the number of new enrollees was overwhelming. There were over 300,000 men in 1,500 camps on the forests and parks by July of 1937.

The President issued an executive order in July of 1934 that allowed a larger enrollment of 350,000 men, 50,000 of whom would be from drought areas. In that year, Army Reserve officers replaced most of the regular army officers administering the camps. By the end of this two-year period, the program was

[73] Simpson and Jackman, 268.
[74] John A. Salmond, *The Civilian Conservation Corps, 1933-1942: A New Deal Case Study* (Durham, NC: Duke University Press, 1967), 87.
[75] Hartley and Schneck, 20.
[76] Otis, et.al, 8.
[77] Ovid Butler, ed., *American Conservation in Picture and Story* (Washington, DC: The American Forestry Association, 1935), 131.

popular enough to warrant its continuation. This was authorized by the Emergency Relief Appropriations Act (ERA) of 1935. After becoming law on April 8, the ERA allowed the continued operation of camps until March 31, 1937 and provided funding for fifteen months. Roosevelt once again expanded the CCC program by extending the maximum age limit to 25 and accepting 600,000 enrollees.

Many enrollees were from the inner city and, according to some, the CCC probably helped them from going to jail. One commander searched his company once a week and often confiscated razors, knives, guns and other weapons.[78] The men were provided with food, housing, and clothing. They also received $30 per month, most of which was automatically sent to the man's family.

Remedial education raised the literacy rate of thousands of CCC men. While some received a high school education, a few pursued college degrees. Vocational training was the emphasis and opportunities in areas such as carpentry, masonry, landscaping, road building, mechanics, and typing were offered. The education of the CCC men went beyond practical schooling and technical training. The program sought to build pride and to reward men for taking on responsibility. It also focused on developing a good work attitude and maintaining general fitness. The goal was to provide the enrollee with the skills and disposition to earn a living after leaving the CCC.

An unfortunate side to the CCC program was the treatment of African-Americans. Although the law forbade discrimination in camp enrollment, it was routinely practiced in the North and South. In a manner reflective of the time, CCC officials in Georgia went as far as stating that "it is vitally important that Negroes remain in the counties for chopping cotton and for planting other produce."[79] In response to pressure from the federal government, Georgia's officials agreed to obey the law, but soon returned to their discriminatory practices.

States were given the mandate to enroll a certain number of African-Americans but were not required to integrate the enrollees. This led to a number of segregated camps except in areas where there were too few African-Americans to form a camp. In those cases, the men were allowed to be part of the white camps. It is not surprising that many white communities exhibited their prejudices by protesting against the location of African-American camps in their areas.

THE CAMPS

The enrollees were assigned to a main camp, but in the latter half of 1933, a decision was made to establish small sub-camps set apart from the main site. Also known as "spike," "side," or "stub" camps, these allowed peripheral jobs to be carried out far from the main camps. These spike camps quickly proved an efficient way to accomplish work.

In addition to conservation work, there was a social aspect to camp life. There were opportunities for the men to participate in religious services, plays, dances, choirs, and sports activities. Most CCC camps published newsletters, giving them imaginative names such as *Reno Stooge* and *Saga of the Sage*. *Happy Days,* the authorized weekly newspaper of the CCC, was published in Washington, DC. The writers often discussed their work with humor as reflected in this poem by a Rhode Island enrollee:

STUMPS

I hope that I shall never see,
A stump outside the CCC;

[78] Simpson and Jackman, 277.
[79] Leslie Alexander Lacy, *The Soil Soldiers. The Civilian Conservation Corps in the Great Depression* (Radnor, PA: Chilton Book Company, 1976), 74.

A stump whose wire roots are found
Deep in the earth's tenacious ground.
A stump at which I slave away,
All during a torrid summer day,
Stumps are dug by guys like me
And others in the CCC.

THE CCC AND THE FOREST SERVICE

The extent of projects administered by the Department of Agriculture, particularly the Forest Service, was extensive. The Forest Service administered about half of all CCC camps, most of which worked on national, state or private forests.[80] The agency also supervised projects for other agencies such as the Navy Department and the Tennessee Valley Authority.

For work on the national forests, the Forest Service procured and distributed tools and equipment.[81] The agency also provided project superintendents who were typically experienced Forest Service men.[82] Under them, the CCC men carried out a variety of work, including forest improvement and protection, soil erosion prevention, and wildlife protection. They were responsible for half of the forest planting carried out in American history and contributed greatly to fire protection. They also established tree nurseries, thinned forests, and battled moths, beetles, grasshoppers, weevils, blister rust and Dutch elm disease.[83]

By April of 1937, there were 38 CCC camps on Region 4's 23 national forests. This was half the total number of CCC camps carrying out work for the numerous agencies in the Intermountain Region.[84] Regional Forester Rutledge expressed the significance of the CCC to his region in a 1937 radio address:

> This country is primarily one of agriculture and stock raising. Both of these industries depend upon irrigation and the necessary water supply for their perpetuity. Assured and constant water supplies mean watersheds that are protected and maintained in good condition. Where watersheds have been abused and floods have resulted, the CCC have stepped in and are applying the necessary remedies. We have as an example the work in Davis County and the Willard Canyon areas in Utah. The stockman benefits further because of the many betterments that are being made on his range allotment. So the tie or close relationship between the farmer and stockman, or agriculture in general, with Forest Service work and that of our CCC camps is natural, distinct and important.
>
> But this is not the whole story – the man in the city, the camper, the fisherman, the hunter, and others, all are influenced by this work. Recreation improvements, fish planting, road and trail construction, tree planting, and the one hundred or more important activities improve the National Forests and make them more usable and valuable as public properties.[85]

Of particular significance was the CCC's construction of numerous forest improvements such as ranger stations, warehouses, garages, overnight cabins, shelters, shops, campgrounds, roads and trails. Region 4, which suffered from declining receipts from timber sales and grazing permits, benefited more than other regions from the CCC funding and labor.

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[80] Salmond, 121.
[81] Charles Price Harper, *The Administration of the Civilian Conservation Corps* (Clarksburg, WV: Clarksburg Publishing Company, 1939), 24-25.
[82] Simpson and Jackman, 274.
[83] Salmond, 122-23.
[84] R.H. Rutledge, "Radio Talk by R.H. Rutledge over K.S.L., April 2, 1937, 10:15 P.M. On Occasion of Fourth Anniversary Observance" TMs [photocopy], p. 2, located with author.
[85] Ibid., 12-13.

FINAL YEARS OF THE CCC

In its early years, there were efforts to make the CCC a permanent agency. Ovid Butler, secretary of the American Forestry Association, called for it in 1933 and two years later, the Forest Service drafted a bill in support of this move. The Forest Service proposed that the structure stay the same but that its conservation aspects should be further emphasized. The War Department agreed and the president drafted a bill to make the CCC permanent. In 1937, the bill received initial approval but in its final vote, Congress decided the program would not become permanent and authorized its continuation for another two years. Although the CCC was popular, there was concern about its potential military use and as an extension of the president's power.

CCC enrollees being trained for fire suppression work on the Payette National Forest, 1937.

More Americans supported the idea of military training in the CCC camps as the possibility of war loomed. Not surprisingly, the Army liked the idea but the CCC officials were against it, stating a corps that was part civilian and part military was a mistake. Discussions continued and a compromise was reached. By September of 1940, a plan was implemented to provide general defense training in areas such as signal communications, radio operation, first aid and cooking. Some CCC companies were assigned to construct defense projects on military reservations. This pseudo-military training remained in place until the CCC was dissolved.

The final years of the CCC were signaled by Robert Fechner's death in 1939, loss of enthusiasm among the agencies, the possibility of war and a smaller budget for 1940-41. Desertion was becoming a problem with one in five enrollees leaving the corps illegally in 1939.[86] An inquiry found that this was partly due to the increasing availability of better jobs in the work force. The later enrollees were also younger, inexperienced and physically less developed. The Forest Service recognized the changing climate of relief work on the eve of the World War II:

> The advent of the CCC and ERA was accompanied by a heavy cut in the Forest Service regular appropriations for essential construction and maintenance works and CCC and ERA funds are now being cut down without being replaced. Means should be made available so the Forest Service can, through essential work projects, provide at least part-time employment to people who must look to it for a means of livelihood. Forest guards, to whom the Forest Service owes a longer period of employment than the usual three months, men for construction and maintenance in road work and other projects, etc., are included here.[87]

On June 30, 1942, the Civilian Conservation Corps was eliminated after nine years of existence. By this time, over half of the 2.5 million enrollees had worked on national, state, and private forests under the

[86] Lacy.
[87] "A Forest Program. Background Information for Nevada, 1941(?)" TMs, located with author.

Forest Service's supervision.[88] Many of these men learned to work, received an education and traveled to new parts of the country. Their skills in cooperation, supervision and discipline prepared many for military service during World War II.

The enrollees weren't the only ones to benefit from the CCC program. The Forest Service received a large labor pool that allowed construction of much-needed facilities. The new buildings provided a cohesive and professional image, while the new or improved roads and trails afforded better access to the forests and its resources. The significance of the CCC to the entire nation was recognized by one author who wrote:

> Despite its shortcomings, the CCC was of the profoundest importance. It was important because of its effect on the nation's national resources and the health of its enrollees, and it is important to the story of reform in the United States. It marked the first attempt by the federal government to provide some specific solution for the problems of youth in an increasingly urban society. In its makeshift, loose way it was a pathfinder, the precursor of more sophisticated programs and ideas.[89]

THE WORKS PROGRESS ADMINISTRATION

Another well-known relief program was the Works Progress Administration (WPA). The WPA started out as the Works Division of the Federal Emergency Relief Administration (FERA or ERA), which was created on May 12, 1933 to support city and state work relief projects. The Works Division was responsible for initiating federal projects and supplementing state and local projects. In 1935, it became the Works Progress Administration, administered nationally by Harry Hopkins.

The WPA became a significant employer, providing numerous jobs to artists, actors, writers, historians, and musicians. Between 1934 and 1941, there was an average of over two million WPA enrollees per year. The majority of WPA funds (78%) paid for public construction and conservation, with the remainder going toward community projects.[90] Some WPA employees worked in administrative positions for the Forest Service. Others constructed administrative facilities in Region 4, but their contributions are rarely recognized or are often attributed to the CCC.

FIRE MANAGEMENT

Relief programs contributed significantly to Forest Service fire detection and suppression efforts, specifically by constructing much-needed infrastructure. In addition to building 3,470 fire towers and houses, and miles of roads, trails and fire breaks, the CCC men laid 65,000 miles of telephone line to support communications.[91] As World War II approached, officials began to recognize the value of this multi-feature network as a defense measure against enemy aircraft and incendiary devices.

The late 1930s realized the concept of dropping firefighters with parachutes near forest fires, with the purpose of increasing response time. The idea was tested in 1939 on the Okanogan National Forest (Washington) and the first smokejumpers successfully went into action in July of 1940 on the Nez Perce National Forest (Idaho). Other advances during this period included formal training programs and fuel

[88] William G. Robbins, *American Forestry: A History of National, State, & Private Cooperation,* (Lincoln: University of Nebraska Press, 1985), 141.
[89] Salmond, 221-22.
[90] Arthur S. Link and William B. Catton, *The Age of Franklin D. Roosevelt, 1921-1945,* vol. 2, *American Epoch. A History of the United States Since 1900,* 4th ed. (New York: Alfred A. Knopf, 1973), 151.
[91] Lacy, 122-23.

mapping, which classified forest fuels. These supported the national goals, developed by Region Five Forester Stuart B. Show, of controlling any fire by 10:00 a.m. of the day after it was detected.[92]

NURSERIES

During the 1930s, Region 2's Monument Nursery supplied most of the seedling stock planted in Region 4.[93] In an effort to become more independent, the Cache National Forest established the Tony Grove Nursery in 1936 with the goal of growing 2 million seedlings annually for planting in Utah and Idaho. That same year, the Boise National Forest opened a small nursery on Bannock Creek while the Payette National Forest established a larger one in McCall by the 1940s.

EXPERIMENT STATIONS

The McSweeney-McNary Forestry Research Act of 1928 authorized the establishment of regional experiment stations, effectively separating it from national forest administration. The act provided for 12 regional experiment stations, but it was not until July 1, 1930 that Region 4 created its Intermountain Forest and Range Experiment Station (IF&RES). That same year, the Great Basin Experiment Station was designated as a branch of the IF&RES.[94] The IF&RES was significant to the development of professional range management, thus influencing grazing policies throughout the agency.

New Deal programs and labor were used to improve or build field and branch stations throughout Region 4. New facilities were constructed and old ones redeveloped. In 1933, the Boise Basin Experimental Station was established to study management of ponderosa pine. An area that has never been logged, it consists of three units near Idaho City, Idaho.[95] The Central Utah Project (part of the Resettlement Administration) was incorporated into the Benmore Experimental Range on the Wasatch National Forest.[96]

The Desert Experimental Range, 43 miles northwest of Milford, Utah near the Nevada border, was also created in 1933.[97] There, the CCC constructed an office, living quarters, support buildings, roads and fences by 1935. In the early years, studies focused on sheep grazing, followed soon by cattle grazing studies. In 1976, UNESCO designated it a Biosphere Reserve.[98] The site was listed in the National Register of Historic Places on April 11, 1994.

The Davis County Experimental Watershed, with headquarters in Farmington, Utah, was created in 1933 although it was not formally designated as such until April 1953. Located on the Wasatch National Forest, this area was the subject of watershed experiments to address several years of serious flooding. The Utah State University Experimental Forest was established in 1936 on what is now the Logan Ranger District of

[92] Ibid., 121.
[93] Alexander, *The Rise of Multiple Use Management,* 119.
[94] Keck, 1.
[95] Alexander, *The Rise of Multiple Use Management,* 169 and Wyman C. Schmidt and Judy L. Friede, ed., *Experimental Forests, Ranges, and Watersheds in the Northern Rocky Mountains: A Compendium of Outdoor Laboratories in Utah, Idaho, and Montana,* General Technical Report INT-GTR-334 (US Department of Agriculture, Forest Service, Intermountain Research Station, April 1996).
[96] Alexander, *The Rise of Multiple Use Management,* 101
[97] Ibid., 115
[98] Schmidt and Friede, 15-21.

the Wasatch-Cache National Forest. Now known as the T.W. Daniel Experimental Forest, it is maintained by the university.[99]

Desert Experimental Station, west of Milford, Utah, c.1935.

SNOW SURVEYING

A drought in 1933-34 emphasized the need for a regional, coordinated program of water forecasting and, in 1935, the USDA's Bureau of Agricultural Engineer was assigned the task.[100] Four years later, the USDA's Soil Conservation Service (SCS) took over the Snow Survey Program, retaining it as a cooperative effort between Federal, State, and local agencies, as well as private entities and individuals.[101]

The USDA's involvement led to an expanded network of snow survey courses and sites on the national forests. A tragic event in 1941 led to reconsideration of some routes. That year, an avalanche on the Humboldt National Forest killed Ranger Karl Wilkinson while he conducted a snow survey. His death and the severity of his companion's injuries led to several changes in the cooperative snow survey program. Dr. James E. Church, the "Father of Snow Surveying," showed his concern and involvement in several letters that addressed the incident and issues of safety. Two months after the accident, Church wrote:

> A wide spread effort is being made by snow survey organizations and the National Ski Association of America to inaugurate instruction regarding avalanche perils and lay down rules for detecting and by-passing avalanche areas. Snow motor sleds are being investigated by the Forest Service to obtain some means of rapid transportation over soft snow. More shelter cabins will be built for protection of those who may suffer injuries in skiing.[102]

[99] Ibid., 31-36.
[100] David E. Johnson, "Keeping Track of the Snow," in *Our American Land. The 1987 Yearbook of Agriculture,* ed. William Whyte (Washington, DC: Government Printing Office, 1987), 226.
[101] Ibid.
[102] J.E. Church, Advisor of Nevada Cooperative Snow Surveys to Henry R. Lee, Auditor of Nevada Industrial Commission, 14 May 1941.

Chapter Four: 1942-1946, The World War II Era

HISTORICAL SETTING

This period, dominated by World War II, is characterized by national defense activities and parallel Forest Service trends. As the United States became more entrenched in the war effort, the agency inventoried its resources as they pertained to national defense. The Forest Service prepared for the war by appointing a full-time defense coordinator in each regional office, providing advice and assistance to the forest products industry, permitting emergency grazing, and developing fire protection schemes to protect against enemy incendiary devices. In an effort to conserve resources, Region 4 promoted such measures as reusing carbon paper more often and a "share-a-ride" program.[103]

Development on the national forests, particularly of range and administrative improvements, came to a halt with a couple of exceptions. Timber was logged extensively to support the war effort and an expanded system of roads was constructed to facilitate extraction of minerals such as chrome and tungsten for the war effort.

Over 2,000 Forest Service employees contributed directly by joining the armed forces.[104] Forest Service engineers, as well as many former CCC enrollees, "were a bulwark of the Seabees and other construction activities of the Defense Department."[105] With so many personnel joining the armed forces, the agency suffered from a lack of qualified employees and the remaining staff felt the pressure of fulfilling additional duties.

Conscientious Objectors (COs) serving in Civilian Public Service (CPS) camps alleviated the strain of staff shortages. At present, the only CPS camp presently known to exist in Region 4 was Camp Antelope or Camp 37, located at a former CCC camp in Coleville, California. The COs completed a significant amount of work on the Humboldt-Toiyabe National Forest and represent a little-known aspect of Forest Service history.

ADMINISTRATION AND CHANGES TO THE FORESTS

The decrease in funds and labor during the war, as well as restrictions on forest resources, caused the Forest Service to re-evaluate its administrative system. Three regional foresters, including Region 4's William "Ben" Rice, carried out a study to determine efficient uses of funds. They concluded that a ranger district should have a minimum workload of 2,000 hours per year and a forest should have 18,000-25,000 hours per year. Forest officials developed plans to reconfigure or consolidate forests and ranger districts to better utilize the reduced budget and staff. [106]

The plans, implemented beginning in 1944, resulted in the closure of many ranger stations and an increased workload for district rangers. As the area of a ranger's district increased – some were as large as a million acres – so too did his need for support staff, assistants and equipment.[107] Some districts were shuffled between forests and whole forests were consolidated to improve efficiency of administration. The

[103] Alexander, *The Rise of Multiple-Use Management*, 131.
[104] Ibid.
[105] J.J. Byrne, "Brief History of Engineering in the Forest Service," in *The History of Engineering in the Forest Service* (Washington, DC: Government Printing Office, 1990), 5.
[106] Alexander, *The Rise of Multiple-Use Management*, 132.
[107] Hartley and Schneck, 31.

Malad Division of the Cache went to the Caribou in 1942 so it could be administered from Pocatello, the main population center of that area.[108] The "Old Payette" was transferred to the Boise National Forest in 1944 and the "New Payette" was established with lands from the Weiser and Idaho. In 1945, the Dixie absorbed the Powell National Forest. Some of the reshuffling crossed regional boundaries. The Toiyabe received land from the Mono National Forest (which was subsequently abolished) and the Tahoe National Forest, both of which were in Region 5.

FIRE MANAGEMENT

World War II required an alternative use of the Forest Service's fire management infrastructure. As early as 1937, lookouts in California were trained to spot aircraft. California's detection program, which became known as the Aircraft Warning Service (AWS), spread along the West Coast and eventually across the nation.[109] To provide year-round observation, the Forest Service winterized lookouts and erected temporary cabins at strategic spots. Some forests proposed, but did not receive approval for, the construction of many more lookouts.

The lack of manpower led to difficulties in fire protection efforts. Women staffed many of the lookout towers, but the Forest Service experienced difficulty finding men to fight fires. The Conscientious Objector crews provided some labor, although not on the scale of the CCC era, and some forests had to rely on prison crews, young boys, old men and foreign nationals.[110] Fire prevention efforts were emphasized and promoted with the introduction of the Smokey Bear campaign in 1944, but labor shortages continued to be a problem. Mechanical equipment such as bulldozers were used to build fire lines, while more men, including COs, were trained as smokejumpers. Region 4 saw the establishment of its first smokejumper unit in 1943. That year a 5-man squad, trained at Missoula, reported for duty on the Payette National Forest at McCall. On August 14, 1943, John Ferguson and Lester Gohler were the first from that unit to jump. McCall later became an important smokejumper base, with buildings moved from a CCC camp.[111]

[108] Alexander, *The Rise of Multiple-Use Management*, 132.
[109] Mark V. Thornton, "A Survey and Historic Significance Evaluation of the CDF Building Inventory, California Department of Forestry Archaeological Reports Number 17," (Sacramento: California Department of Forestry and Fire Protection Archeology Office, December 1994), 19.
[110] Alexander, *The Rise of Multiple-Use Management*, 148.
[111] Ibid.

Chapter Five: 1947-1960, The Post-War Era

HISTORICAL SETTING

After the war, economic growth and prosperity led to a growing demand for materials and goods, thus requiring increased logging, mining and grazing. Stewardship of the land was replaced with commodity production, which meant increased extraction of forest resources. In some areas, funds and labor were channeled to restoring areas – particularly timbered lands – that were subject to destructive practices during the war. The backlog of other work, such as maintenance and construction of improvements, also began to receive attention.

The most striking trend during the decades immediately following the war was the increase in recreational tourism on the region's forests. Although tourist visits dropped during the war, afterwards they exceeded pre-war levels. The forests were becoming, according to historian Thomas Alexander, "less and less the preserve of the logger and stockman as many people sought recreation away from the town and cities where they lived."[112] The increased availability of gas and affordability of cars facilitated travel and the national forests and parks experienced more use. Wyoming ranger Ed Cazier remembered that recreational use in 1940 "was little more than a trickle but by 1953 it had become a strong moving current." He also noted that the rebuilding of wilderness trails, due to increased recreational use, was "a must," and had six-man crews constantly rebuilding trails on his Fremont District.[113]

The National Park Service responded to the recreation boom with its "Mission 66" program, which laid the foundation for infrastructure improvements. In a reportedly competitive move, the Forest Service implemented its own recreation program, "Operation Outdoors." Launched in 1957, this five-year initiative addressed improvement and expansion of recreation facilities constructed during the New Deal era.

ADMINISTRATION AND CHANGES TO THE FORESTS

As forest use gained momentum after the war, more employees were needed. Hiring practices changed to accommodate Forest Service employees returning from the war. Some veterans, exposed to the Forest Service during their CCC service, took advantage of the GI Bill. Many studied general forestry while others went into burgeoning fields of specialization. By the 1950s, forestry schools were graduating more foresters than the Forest Service could hire.[114] Overall, the percentage of college-educated employees increased significantly. In contrast to other parts of the country, the graduates employed in Region 4 also had hands-on experience with farming and livestock.

As the number of staff increased, management practices became more formal and bureaucratic with the adoption of stringent rules for salaries, promotions, management plans, budget and other operations. The *Use Book*, which started as a brief, pocket-sized publication, expanded to seven volumes by 1960.

The forest consolidation trend continued during this period, usually to increase cost efficiency. Utah's Manti and LaSal National Forests consolidated in 1949. The Santa Rosa division of the Toiyabe went to the Humboldt National Forest in 1951 to balance out workloads. When the Sawtooth absorbed the Minidoka in 1953, the Supervisor's Offices in Hailey and Burley, Idaho were closed and a new headquarters was established in Twin Falls. The Supervisors Office in Ely, Nevada was "demoted" to a

[112] Ibid., 149.
[113] Cazier, *The Last Saddle Horse Ranger*, 78.
[114] Alexander, *The Rise of Multiple Use Management,* 158.

district headquarters when the Nevada National Forest was eliminated in 1957 and its lands split between the Humboldt and Toiyabe. Boundaries between forests also changed, including those between the Teton and Targhee, and between the Ashley, Wasatch, and Uinta. One change at the regional level was the transfer in 1948 of the Region 4 central warehouse facilities from Ogden to Fort Douglas in Salt Lake City.[115]

To fully understand present-day configurations of forests, it is necessary to discuss policies and events in the years following 1960. Of great importance was the "Size of Ranger District Policy" issued in 1968, which required extensive studies of ranger districts: how each served the public, quality of resource management, organizational management, operating costs and workload. In Region 4, studies took place in the late 1960s and early 1970s, resulting in the consolidation of many districts and even whole forests, primarily between 1970 and 1973. With cost savings as the driving factor, the number of districts dropped from 120 in 1971 to 94 in 1973. By 1983, there were only 77 districts.[116] Forest consolidations continued through the 1990s, creating "hyphenated" forests such as the Humboldt-Toiyabe National Forest and the Caribou-Targhee National Forest.

FIRE MANAGEMENT

The use of smokejumpers increased in an effort to extinguish small fires before they grew. The McCall smokejumper unit numbered 50 men in 1947, by which time training facilities had been established. The following year, a 10-man smokejumper unit was established in Idaho City. Fire science continued to advance with the creation of a division of forest fire research in 1948. After 13 smokejumpers died in the infamous 1949 Mann Gulch fire in Montana, centers were established in Montana and California to develop and test firefighting equipment.

The Forest Service became the lead agency in firefighting by the mid-1950s, as the agency relied more on military surplus equipment such as B-17 air tankers to drop fire retardant (the first such drop occurred in 1956).[117] The availability of this and other equipment such as pumper trucks, helicopters, tank trucks, and radios led to the abandonment of many lookout towers and associated telephone lines.

Smokejumper Ray Johnson preparing for a jump, Payette National Forest, 1952.

NURSERIES

The Lucky Peak Nursery was established with 296 acres in 1959. Located 15 miles east of Boise, it used seeds from around the region to produce seedlings that were planted at their place of origin. Prior to that

[115] Ibid., 132.
[116] Ibid., 220.
[117] Williams, *The USDA Forest Service: The First Century*, 98.

time, Region 4 received all of its seedlings for southwestern Idaho and western Nevada from outside the region. Lucky Peak became the main supplier for Region 4's seedlings by 1965.[118]

EXPERIMENT STATIONS

As budgets and research programs declined, the research stations saw a series of reorganizations. In 1953, the Northern Research Station merged with the Intermountain Research Station, with headquarters in Ogden. At the same time, the Southwestern and Rocky Mountain stations merged under the name of the latter. Decades later, in 1997, the resulting two stations were joined as the Rocky Mountain Research Station (RMRS) with headquarters in Fort Collins, Colorado.

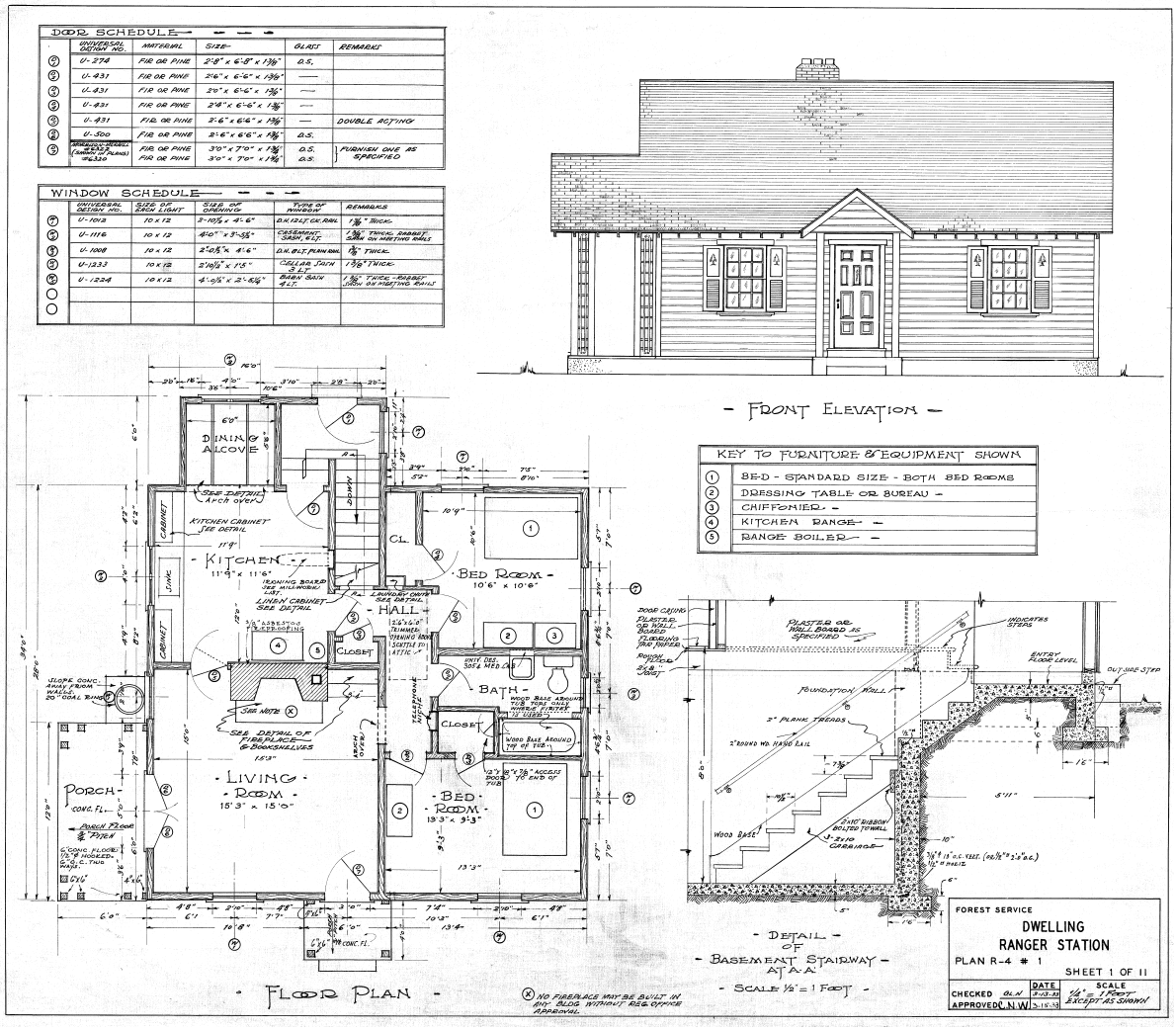
The Great Basin Branch Experimental Station saw yet another name change in 1947 when it became the Great Basin Research Station. The name was changed again in 1970 to the Great Basin Experimental Range. Eventually, the station was abandoned for modern facilities. Through the cooperation of the Forest Service, the city of Ephraim, and Snow College, the site was restored and rededicated in 1992 as the Great Basin Environmental Education Center. Snow College manages the site under a special use permit.

SNOW SURVEYING

In the early 1940s, the Forest Service sought to minimize danger to snow surveyors by improving survey courses and building more snow survey cabins. These measures quickly became unnecessary as traditional snow surveying changed with technological developments after the war. Snowmobiles and airplanes eventually replaced the need to travel by skis or snowshoes to dangerous areas. “Snow pillows,” flat containers filled with antifreeze, were developed to relay the weight, and therefore the water content, of snow through radio technology known as Snowpack Telemetry (SNOTEL).[119] With these advances, the need for people to travel the snow survey courses diminished. Although this trend reduced the threat to human life, it also led to the abandonment of snow survey cabins on the national forests.

[118] Alexander, *The Rise of Multiple Use Management,* 169.
[119] Johnson, 229.

PART TWO
Statement of Historic Context - Architectural History



Previous page: Architectural plans of the Region 4 standard Plan 1 for a dwelling, drawn by George L. Nichols.

Chapter Six: 1891-1904, Roughing It

THE FIRST RANGER STATIONS

When the forest reserves were created, they were not expected to be self-supporting for some time. This was partly due to the amount of construction needed to support the basic functions of the Forest Service.[1] The rangers needed trails and roads to inspect rangeland, timber and water resources.[2] Consequently, there were few funds to construct administrative buildings. The first ranger stations were rented, located in rangers' own homes, or even built with the ranger's own money.[3] More often than not, the ranger had no station and camped his way around the forest reserve. It was not until 1903 that the country's first officially funded ranger station was built. This was the Wapiti Ranger Station, consisting of a log dwelling and a log office, on the Shoshone National Forest in Wyoming.[4]

Many of the first administrative sites were designated as such by simply posting a sign. Others were formally withdrawn from public use under the Reclamation Act of 1902 in an effort to protect water power sites since there was no other authority to do so at the time.[5] President Theodore Roosevelt had no problem doing this but President Taft, elected in 1908, felt this method was illegal. Although he did not rescind those that had already been approved, Taft prevented further withdrawals until Congress authorized such actions.[6]

[1] Boerker, xliv.
[2] Ibid., xliv-xlv.
[3] Kathryn L. McKay, *Trails of the Past: Historical Overview of the Flathead National Forest, Montana 1800-1960* (Columbia Falls, MT: 1994), 75.
[4] Hartley and Schneck, 37.
[5] Pamela Ann Conners, "Patterns and Policy of Water and Hydroelectric Development on the Stanislaus National Forest, 1850 to 1920" (MA thesis, University of California, Santa Barbara, 1989), 91.
[6] Ibid., 92.

Chapter Seven: 1905-1932, The Pioneer Tradition

SITE WITHDRAWALS

The 1906 *Use Book* addressed the withdrawal of administrative sites to accommodate forest officials as they carried out office duties and fieldwork.[7] At first, the withdrawal process was informal. The ranger or other forest official submitted a "Report on a Proposed Administrative Site" that described the character of the terrain and any improvements. If the Forest Supervisor approved, he signed the report and forwarded it, with its attached map, to the District Forester for final approval. Forest Supervisors were directed "to select at least one administrative site in each township," although they later found many of these sites to be unnecessary.[8]

Ranger stations were sited to take advantage of water, existing or potential pastures, shelter from the weather, and accessibility. To a lesser extent, forest officials considered the availability of mail delivery and the potential of laying telephone lines when selecting a site. The 1906 *Use Book* provided some guidance in the task of site selection:

> Lands needed for supervisors' headquarters, rangers' cabins, gardens, or pastures, and Forest Service nursery sites should be selected, so far as possible, from nonmineral, unclaimed lands, and will be specially reserved from any form of location or entry. Supervisors should recommend sufficient reservations to meet the future as well as the present needs of the Service. If it becomes necessary to recommend the reservation of land probably valuable for mining purposes or embraced in an invalid claim, a special report should accompany the recommendation, showing the necessity for reservation and the character of the claim.[9]

The manual went on to guide the location and conditions of the Supervisor's Office:

> Reserve headquarters should be located in the nearest town to the reserve that offers proper railroad, telephone, telegraph, and mail facilities, and may be secured only through the permission of the Forester. In every case an office should be equipped with a proper sign. Request for authority to rent an office must describe the location and condition of the building and the rooms, and give in detail what is secured with the office, as light, heat, telephone, or janitor service. The danger from fire should be carefully considered and reported upon. In every case a lease will be prepared in the Washington office for execution by the lessor. Supervisors must never occupy an office that is furnished rent free by a company or individual.[10]

Early maps designated all administrative sites as "ranger stations" while later maps differentiated between ranger stations, guard stations, and administrative pastures. The latter were often overnight pastures and tent camps that were spaced a day's ride from each other. They typically had fenced areas for the saddle and pack stock but, unlike the ranger stations or guard stations, had no buildings. Forest Assistant R.B.

[7] McKay, 77.
[8] Acting Forest Supervisor, Sevier National Forest, to the District Forester, 8 September 1916.
[9] US Department of Agriculture, *The Use Book* (1906), 25.
[10] Ibid., 121.

Wilson recognized the importance of these sites in 1906 when he wrote, "The sites for pastures are very important and should be picked out with a view to having plenty of good, fairly open winter range as well as summer range." He also recommended that there be plenty of water to raise alfalfa for the winter.[11]

In 1909, the Forest Service discontinued its policy of withdrawing lands after it was determined that the law did not provide for this. It was not until February 1, 1912, that new procedures went into effect. The new policy stated that if land for rangers' headquarters, pastures, corrals, and other administrative uses could not be found on the forest, then vacant and unappropriated public land could be withdrawn under an act of June 24, 1910. Proposed withdrawals were to consider present and future uses as well as administrative needs. Rangers' headquarters, which would typically be no more than 160 acres, were to be sited where there was enough agricultural land for a pasture and garden, as well as enough water for irrigation.[12]

Once a site was selected, it was to be located by legal subdivisions if on surveyed land or by a metes and bounds survey if on unsurveyed land. The site was to be posted with notices, and a map and report discussing proposed improvements sent to the Forest Supervisor. If the Supervisor approved, he would send the report to the District Forester for final approval. Lands not within forest boundaries would be formally withdrawn by an Executive Order. The District Forester could cancel withdrawals if they had not been withdrawn by the Secretary of the Interior or by Executive Order, otherwise they had to be formally revoked by the Secretary or by another Executive Order.[13]

This formal procedure sought to protect against mining and homesteading claims. According to District Forester Sherman, Region 4 sites that were already posted and occupied by the Forest Service were "sufficiently 'withdrawn' for that use and purpose to constitute protection from June 11 [homestead] applications, or other appropriation including mineral."[14]

Availability of services and roads continued to determine the locations of administrative sites. The 1915 *Use Book* stated "The district rangers have their headquarters at the nearest business center; or if that is not practicable, permanent headquarters, with barn and pasture, are provided on the Forests."[15] As before, small areas of land sited conveniently around the ranger district were withdrawn from use to serve as overnight camps and pastures to accommodate fieldwork.

As dictated by the Washington Office, the names of administrative sites reflected local features. In Region 4, most were named after topographic features (Hole-in-the-Rock, Boiling Springs), nearby settlements (Paris, Enterprise), and people (Jim Bob, Cowpuncher, Dutch Joe). Others referred to flora and fauna (Cottonwood, Goosewing, Rattlesnake, Antelope) while some took peculiar local names (Podunk, Blue Nose, Jubilee, Teapot Rock, Frying Pan).

Of interest was the availability of these administrative sites to the public, who could use them under special-use permits as long as there was no conflict with forest work. Even those sites used as ranger stations could be occupied when the Forest Service was not using them or if joint use was deemed practical.[16] Land classification records show that this approach was used in Region 4, with grazing permittees typically using the cabins or pastures. On the Humboldt National Forest, the Lindsay, Minola, South Fork and Meadow Creek ranger stations were under special use as were the Blackburn and Green Creek stations on the Toiyabe National Forest.

These first years were characterized by administrative site withdrawals sometimes made without foresight. As former Supervisor Clarence Woods wrote:

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[11] R. B. Wilson, "A Favorable Report Upon Proposed Bruneau Addition to Independence National Forest, Nevada, June 1906" TMs [photocopy], p. 32, located with author.
[12] US Department of Agriculture, Forest Service, *The National Forest Manual* (Washington, DC: Government Printing Office, 1912), 52.
[13] Ibid., 53.
[14] District Forester Sherman to Supervisor Thompson, 11 October 1912.
[15] US Department of Agriculture, *The Use Book* (1915), 15.
[16] Ibid., 58.

> In a number of cases ranger stations were built at places where they were not long needed nor used extensively. Generally, we started out with more ranger districts and more rangers than we were willing to continue many years.[17]

Consolidation of districts, as well as better access due to improved roads and increased use of automobiles led to a shift. Eventually, the ranger was able to carry out his work while living in town, as noted in a 1921 bulletin:

> . . . employees have found it necessary to live where social conditions are unfavorable in poor and inadequate living quarters and often under adverse climatic conditions. We can not change the climate but we are gradually changing from the plan of putting a man and his family up in some isolated canyon, to one of locating him on the main thoroughfares and sometimes in centers of population where the conditions are less severe and the opportunities for communication and transportation are better.[18]

Ranger stations in rural and remote areas were re-designated guard stations for use during the field season or fell out of use completely. By 1923, only about half of the Region 4's administrative sites were used, as demonstrated in the following table of statistics.

Administrative Sites in Region 4 in 1923[19]

State	No. of Forests	No. Held	No. Used	% Used
AZ	1	13	5	38%
ID	12	370	179	48%
NV	3	56	24	43%
UT	9	175	106	61%
WY	3	68	32	47%
Total	**28**	**682**	**346**	**51%**

The trend to move to population centers was supported by a March 3, 1925 act that authorized the purchase of land for headquarters or ranger stations "where no suitable Government lands are available." The maximum cost was set at $2,500 and all purchases and donations required approval of the U.S. Solicitor.[20] Forest officials were instructed to select administrative sites, which were to be kept to a minimum, after careful consideration of future activities and needs. They could withdraw sample plots for regional experiment stations but were to avoid mineral lands and, unless absolutely needed, agricultural lands.[21] Officials were given instructions on withdrawing sites:

> While land classification has removed most of the danger that tracts valuable for public purposes will be listed, a continuation of the practice of reserving such tracts is desirable to emphasize their special values and to prevent impairment of those values by issuance of ill-considered permits. . . . Not all reserved areas are a matter of formal record or

[17] C.N. Woods, "Thirty-seven Years in the Forest Service, 1939" TMs [photocopy], p. 28, located with author.
[18] US Department of Agriculture, *Alumni Bulletin*, 44.
[19] US Department of Agriculture, *Intermountain District Forest Statistics* (n.p.: 1923), 10.
[20] US Department of Agriculture, *The National Forest Manual* (1928), 63-A.
[21] Ibid., 57-L and 58-L.

> posting, since forest lands are already reserved. In a certain sense all national forest lands are reserved for public service purposes, and any area may be used for the purposes enumerated. Special reservation is necessary only where there may be some other demand for the land, and only areas which may possibly be later claimed or coveted for private purposes require the protection of a recorded dedication. Such special reservation is accomplished by use or dedication inside the forests, or use or Executive order outside the forests.[22]

ENGINEERING STAFF

Before forest engineers got involved with building design and construction, they were primarily concerned with surveying activities and civil engineering projects such as roads, bridges and water control features. W.E. Herring was the first chief of the Washington Office Engineering Section. Pinchot created this section in late 1906 with ten civil engineers, several telephone experts, and draftsmen. When the forests were reorganized into Districts in 1908, Herring became a district engineer and O.C. Merrill became Chief of Engineering at the WO.[23]

In 1920, Merrill was succeeded by T.W. Norcross who had joined government service shortly after receiving his civil engineering degree in 1904. He began his career with the United States Geologic Survey (USGS), but left from 1907 until 1909 for a stint with the City of Springfield, Massachusetts. In 1910, Norcross transferred from the USGS to the Forest Service where he was District Engineer for the Rocky Mountain and Southwestern districts. He was promoted to Assistant Chief Engineer at the WO in 1913; seven years later he became the Chief. By the time Norcross retired from the Forest Service on December 31, 1947, the Engineering Division was in charge of all construction and maintenance work, including the architectural and structural design of administrative improvements.[24]

While Herring was still Chief, A.T. Mitchelson served as his assistant in Ogden in 1908.[25] Mitchelson may have been the first engineer in Region 4 but this is not certain since his duties and position are unclear. At that time, Engineering was a branch within the Division of Operations.[26] Later the Engineering Branch was nearly abolished, with work being carried out with the assistance of an engineer headquartered in San Francisco.

Joseph P. Martin, appointed Region 4's Chief Engineer in 1910, graduated with a degree in civil engineering from Lehigh University in 1900 and worked for U.S. Steel and the Virginia railways before joining Region 4 eight years later. In 1911, shortly after Martin arrived, the Region 4 Engineering Office was re-established, focusing primarily on water power investigations.

In 1916, the Federal Aid Road Act was passed and roadwork was transferred from Region 4's Operation Division to Engineering.[27] This led to the establishment of a separate Section of Engineering the following year. The job of the new section was to carry out:

> . . . the work of Geography, including the Atlas work, and the Road work under the 10% and Section 8 funds, the greater portion of the Water Power work, and all survey work

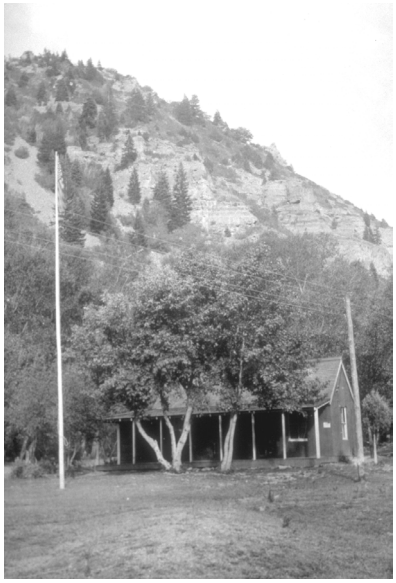
[22] Ibid., 57-L.
[23] Byrne, 3.
[24] "Theodore W. Norcross (1883-1965)," in *The History of Engineering in the Forest Service,* (Washington, DC: USDA Forest Service, 1990), 15.
[25] R.F. Grefe, "Engineering in Region 6: USDA Forest Service," in *The History of Engineering in the Forest Service,* (Washington, DC: USDA Forest Service, 1990), 274.
[26] US Department of Agriculture, *Alumni Bulletin*, 51-52.
[27] Ibid.

except Entry Surveys and such topographic survey work as may be done in Grazing or Silvicultural Reconnaissance.[28]

The section included several surveyors, clerks, printers and draftsmen. By 1921, chief draftsman Don Jackson was overseeing three draftsmen, a misnomer since they were all women: Inez Corn, Rosalie Holberg and Mary Malan.[29] Holberg was one of the few people who came west from the WO when the Forest Service was decentralized.[30] The section grew and in 1927, it was the largest in the Region 4 office, having fourteen of the Regional Office's 50 employees.[31]

IMPROVEMENTS

The transfer of forest management to the Department of Agriculture in 1905 brought increased construction funds and, consequently, the Forest Service began building much-needed infrastructure. Pinchot directed rangers to spend time on roads and trails, but also encouraged them to build cabins and fenced pastures where needed. In lieu of new facilities, indicated indicated that abandoned settlers' cabins could also be used for administrative purposes.[32]



South Fork Ranger Station, Uinta National Forest.

The escalation of building activity led the Forest Service to create a Reserve Engineering Section in 1906.[33] Staff of this section supervised work identified in the 1906 *Use Book,* including the immediate construction of telephone lines between supervisors' offices, ranger stations, and lookout stations, as well as construction of roads and trails in cooperation with local authorities [34]

After a 1906 court case, Light vs. USFS, confirmed the Forest Service's jurisdiction over forest resources, the agency's supervision of grazing and other uses increased. This created a need for more administrative structures.[35] According to the 1906 *Use Book,* all efforts were made to provide year-round rangers with permanent cabins:

> It is the intention of the Forest Service to build these as rapidly as funds will permit. Wherever possible cabins should be built of logs, with shingle or shake roofs.
>
> The hardware, glass, and door and window frames may be purchased on authorization from the Forester. Cabins should be of sufficient size to afford comfortable living accommodations to the family of the ranger stationed in them, and this ranger will be held responsible for the proper care of the cabin and the ground surrounding it. It is impossible to insist on proper care of camps if the forest officers themselves do not keep their cabins as models of neatness.

[28] "The Intermountain Review Ranger," 1, no 2 (10 January 1917), 4.
[29] Shank, 182.
[30] Ibid., 184.
[31] Alexander, "Reflections on the Heritage of Region 4."
[32] US Department of Agriculture, Forest Service, *The Use Book* (Washington, DC: Government Printing Office, 1905), 72.
[33] Hartley and Schneck, 37.
[34] US Department of Agriculture, *The Use Book* (1906), 106-7.
[35] Ibid.

> Rangers' cabins should be located where there is enough agricultural land for a small field and suitable pasture land for a few head of horses and a cow or two, in order to decrease the often excessive expense for vegetables and feed. In course of time several rangers' camps will be needed for each township, and selections of sites should be made with this view. The amount of agricultural land necessary to supply a ranger's family with vegetables and to raise hay and grain enough to winter his saddle and other stock will vary greatly in different localities, but as a general rule it will not be less than 10 nor more than 40 acres. The field must, of course, be inclosed [sic] by a stock-proof fence.
>
> The pasture should be of sufficient size to support the stock not in use by the ranger during the summer, and only in cases where it is obviously necessary should they include land that could be used for agriculture. They will vary in size, according to the quality of the feed, from 40 to 200 acres. A two or three wire fence strung on posts or trees 30 feet apart will, in most cases, be sufficient to protect these pastures from range stock.
>
> Other improvement work necessary for the proper administration of the reserve, such as corrals, drift fences, counting wings, or tool houses will be authorized when their need is shown in a report to the Forester.[36]

Efforts were made to give the Forest Service buildings a "professional yet amiable" appearance for the sake of the public.[37] Ranger stations were to set an example by being clean and orderly. An emphasis on the appearance continued in the following decades, as recalled by former Ranger Archie Murchie:

> And our dwellings, whether they were Forest Service cabins or privately rented, had to be kept up neat and clean. You got called on it if you had a dirty house, even if it was your own property . . . because, say some permittee comes in and sees your house in a mess – that's the impression that he's going to get of the Forest Service.[38]

The minimal funding from Congress and negligible income from forest receipts were used for infrastructure, leaving little to construct buildings. Even when money was available, the $500 building limit set by Congress did not pay for anything but the most basic, small structure. As a result, regional and forest headquarters continued to be located in rented commercial buildings or even houses, while rangers often lived in tents on the forest, sometimes year-round.[39]

The funding situation gradually improved as Congress allocated more money over the years, and as building limits raised. Congress raised the building limit from $500 to $650 in 1914. It reached $1000 by the early 1920s and in 1925 was set at $1500. When constructing stations, the ranger's labor was to be included in the building cost limit, "except at times when the men would be idle otherwise."[40] The building limits came with certain restrictions that recognized the Forest Service's pattern of moving and salvaging structures:

> Existing buildings may be purchased for not more than $1500. Buildings constructed under lower limits may be completed or added to up to a limit of $1500. When relocated, the cost of moving and reconstruction need not be counted against the building limitation, but the material and labor needed to reconstruct anything that was destroyed as part of the move does. When there is no wreckage in the movement, the move is not counted

[36] US Department of Agriculture, *The Use Book* (1906), 108-109.
[37] Hartley and Schneck, 13.
[38] King, 369-70.
[39] Boerker, xliv-xlv.
[40] US Department of Agriculture, *National Forest Manual* (1928), 65-A.

against the cost. The salvage value and transportation costs of recycled materials must be counted against the cost.[41]

Congress also authorized the "construction, improvement or purchase during each fiscal year of three buildings for national forest purposes at costs not exceeding $2,500 and three at costs not exceeding $2,000 each."[42]

By 1916, the nation's forests boasted 227 miles of roads, 1,975 of trails, 2,124 miles of telephone lines, 81 lookout structures, and 545 dwellings, barns and other structures. Two years later, there were over 3,000 miles of roads, 25,000 miles of trails, 23,000 miles of telephone lines, and 360 lookout cabins and towers, thus demonstrating the burgeoning infrastructure of the Forest Service.[43] By 1922, Region 4 had seen parallel increases as shown in the following table:[44]

REGION 4 IMPROVEMENTS, 1922

Forest	Telephone Lines (Miles)	Buildings (Number)	Fences (Miles)	Roads (Miles)	Trails (Miles)
Ashley	138	15	17	58	318
Boise	247	36	18	49	362
Cache	89	39	15	144	54
Caribou	137	22	19	121	28
Challis	199	32	13	50	173
Dixie	54	8	130	255	62
Fishlake-Fillmore	220	57	64	112	102
Humboldt	79	30	60	108	156
Idaho	414	48	17	35	701
Kaibab	89	25	100	34	66
La Sal	74	20	48	38	127
Lemhi	175	38	22	53	103
Manti	138	22	26	126	36
Minidoka	117	8	15	53	42
Nevada	29	9	5	88	93
Payette	417	78	50	154	621
Powell	200	12	27	113	172
Salmon	271	33	13	___	568
Sawtooth	181	25	21	40	704
Targhee	268	61	21	270	504
Teton	147	30	22	63	844
Toiyabe	11	8	10	50	61
Uinta	47	20	56	159	55
Wasatch	118	51	29	19	292
Weiser	213	59	15	37	484
Wyoming-Bridger	281	15	35	60	111

Although some buildings served only as temporary stations to be used by guards or rangers during the field season, others were meant to be permanent homes for the ranger and his family. Henry S. Graves, a professional forester who replaced Pinchot in 1910, justified permanent improvements in his 1911 report:

[41] Ibid., 66-A.
[42] Ibid., 64-A1.
[43] Boerker, xliv-xlv.
[44] US Department of Agriculture, *Intermountain District Forest Statistics,* 41.

> The purpose of the construction of permanent improvements on National Forest is to facilitate (1) protection from fire, (2) the administration of the business of the Forests, and (3) the development of their resources . . . The administration of the Forests requires the construction of quarters for field offices and facilities needed in the regulation of the use of forest resources.[45]

The cabins were often poorly constructed and provided minimal shelter against the snow and wind, but were an improvement over the tents in which some families lived, even during the winter. They were typically heated by stoves although some had fireplaces. Conditions were far from luxurious, however. A 1920 inspection of 310 ranger stations found that only 46 had running water and three had bathtubs.[46] This led to efforts to upgrade the ranger's living and work environment:

> More of our appropriations for improvements are being used to better living conditions at the stations. Offices or office rooms are being provided where business can be removed from the family living room. Cellars are becoming the rule instead of the exception, and water situations are being remedied. Use of linoleum and other improvements is being extended as funds will permit. . . . The building limitation has been raised gradually to $1000 . . .[47]

The Region 4 District Forester encouraged the improvement of the permanent ranger stations stating, "Ordinarily we should figure on putting yearlong dwellings in good shape before all other buildings, since quarters allowance deduction is made from the salaries of Forest officers occupying such yearlong dwellings."[48]

By 1928, Forest Service policy stated:

> Only where there is an undeniable need for them and when it is impracticable for the officer to rent his own living quarters will houses be constructed at Government expense on either Government or leased land.[49]

District rangers would be provided with offices when necessary but they had to be apart from the house. Office space in dwellings owned or rented by the ranger was to be rented at government expense. Barns or garages were provided when autos or horses were needed to carry out work.[50]

SITE DESIGN

This period is characterized by minimal guidance on site planning of administrative sites. Partially due to a lack of design professionals, this is reflected in the layouts and minimal landscaping of early ranger stations. The relationship of buildings to each other was typically dictated by water sources, roads and pasturage.

Gifford Pinchot provided some direction on site layout and features. He noted that the "Rangers' privies had to be more than fifty yards from the house with at least a six-foot vault."[51] He also required the American flag to fly over the head man's tent in the field. These instructions were the seeds of a standardized approach to building construction, design and layout that became widespread by the 1930s.

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[45] Hartley and Schneck, 13.
[46] Steen, *The U.S. Forest Service*, 170.
[47] US Department of Agriculture, *Alumni Bulletin,* 44.
[48] Partial document from District Forester R.H. Rutledge, located with author.
[49] US Department of Agriculture, *National Forest Manual* (1928), 63-A.
[50] Ibid.
[51] Steen, *The U.S. Forest Service*, 83.

The Forest Service hired a landscape architect, Professor Frank Waugh, as a consultant in 1917. In one of his two reports, Waugh emphasized the need for landscape engineers in the Forest Service and, in early 1919, Arthur Carhart was hired as the agency's first permanent landscape architect.[52] A graduate of Iowa State College, Carhart first worked in the Rocky Mountain Region. During his short tenure with the Forest Service, he focused on the protection of wilderness areas and the development of recreation sites. Unfortunately, the agency was not yet ready for someone like Carhart – the field of recreation was just developing – and he resigned at the end of 1922. The Forest Service did not hire another landscape architect until the New Deal era.[53]

BUILDING DESIGN

Pioneer Cabins

Forest Service structures of this period are vernacular and are best described by typology rather than by stylistic definitions. The most common types found in Region 4 are one- or two-cell buildings with gable or hip roofs made of locally available materials and with little or no ornament. A log-constructed form commonly found on the Wyoming and Idaho forests is sometimes referred to as the "Rocky Mountain Cabin." It is distinguished by a square or rectangular single-cell floor plan with a front-gabled roof projecting an average of 50 percent beyond the cabin's front gable elevation.[54] It is misleading to refer to this as the Rocky Mountain Cabin, since the form is believed to be Finnish in origin and its distribution extends beyond the Rocky Mountains.

Barber Flat Ranger Station, Boise National Forest.

Some of the early administrative buildings had minor details, such as exposed rafter tails, that make subtle references to the Bungalow and Arts and Crafts movements. The latter, with its emphasis on natural forms and materials, replaced the ornate Victorian and Classical Revival styles at the turn of the century. The Bungalow movement, which adopted numerous styles, is best known for its relationship to the Arts and Crafts movement. Its affordability, efficient use of space, and aesthetics appealed greatly to the American public. Bungalow plans were available in pattern books while kits, complete with materials and instructions, could be purchased from mail-order companies such as Aladdin or Sears. At least one "kit house" is known to exist in Region 4. Manufactured by the Pacific Portable Construction Company in 1918, it was erected at the Reese River Ranger Station on the Toiyabe National Forest.

A few of the earliest ranger stations were cabins abandoned by miners or homesteaders, but others were built by the first rangers, who were required to be handy with an axe and have some knowledge of construction. Materials, equipment and finishes were somewhat dictated by the Washington Office. In 1908, the direction for Supervisors' Offices stated:

> A well-laid floor of wood kept in good condition by painting or oiling needs no covering. Linoleum is best adapted to worn and uneven floors or those made of inferior lumber. . .

[52] Wayne D. Iverson, "Landscape Architects and the US Forest Service," paper presented to the USDA Forest Service Inter-Regional Landscape Architects Workshop at the Doubletree Hotel in Tucson, Arizona on May 21, 1990, transcript, located with author.
[53] Ibid.
[54] Mary Wilson, *Log Cabin Studies,* Cultural Resource Report No. 9 (Ogden: USDA Forest Service, 1984).

> . Carpets and rugs should be used only when linoleum can not be purchased, or when the floor is too rough for its use.[55]

Following in the pioneer traditions, the rangers built one- or two-room cabins of logs, stone or milled wood resting on primitive foundations of stone or wood. The roof was sometimes sod or bare earth, later to be replaced with metal or wood shingles. Earth floors were sometimes upgraded to concrete, although with his limited experience, Ranger Joseph Asdale discovered the difficulty of working with such a material and requested lumber to build a new floor over his poorly constructed concrete floor:

> I wish to know whether or not you can grant me enuff [*sic*] money to put a floor in the Pole Cr. Ranger Station cabin. It is 16 ft. x 25 ft. and is at present floored with an attempt at concrete, but is very dusty and dirty as none of us understood concrete making when we put the floor in and the result is far from satisfactory.[56]

Asdale's description of the log cabin he built at the Pole Creek Ranger Station (Humboldt National Forest) provided additional information about building materials and techniques. He wrote, "I see the practical necessity of putting something over the dirt roof we expect to put on. We intend to put gunny sacks over poles and cover these with fir boughs and then the dirt on these." When Asdale discovered that the soil was loam and didn't "turn" water well, he requested approval to put sheet iron over the dirt stating, "The ranchers in this part of the country are all beginning to use sheet iron and say it is the only roof."[57]

By 1928, the WO issued more instructions regarding furnishings, interior finishes, and other equipment:

> No rule can be laid down for what should be furnished at summer stations. For dwellings at yearlong stations, Government-owned or rented by the Forest Service, the following equipment only may be furnished.
>
> Screens.
> Window shades.
> Cook and heating stoves.
> Stove boards.
> Kitchen tables.
> Cupboards.
> Linoleum for floors.
> Garbage cans.
> Such equipment as it may be good judgment to install for the use of visiting officers.
> Water-using equipment and where needed storm doors and sashes are installed as a part of the permanent structure in Government-owned buildings.[58]

1908 Standard Plans

An important shift in administrative facility guidance occurred in 1908, as mentioned in the August *Field Program* for that year:

> The Standard Plans for Rangers' Cabins and Bills of Material have been sent out to all supervisors. The set bound in heavy board covers is to be retained in the supervisor's office, and the sets bound in manila are for use in the field, if desired. Supervisors who

[55] US Department of Agriculture, *Field Program for February 1908* (n.p.: 1908), 27.
[56] Joseph W. Asdale to Forest Supervisor, 5 August 1915.
[57] Ranger Joseph Asdale to Forest Supervisor, September 1911.
[58] US Department of Agriculture, *National Forest Manual* (1928), 38-A.

have not received these plans or who require additional sets should make requisition for them to the Property Clerk, Ogden, Utah.[59]

Koosharem Ranger Station, Fishlake National Forest, was constructed of the 1908 standard plan #12.

Documentation of these early plans is rare, but a presumably complete set includes standard plans for 19 cabins or houses, two bunkhouses, two storehouses, and four barns.[60] At first glance, the vernacular structures could also be considered "pioneer cabins" and appear to be relatively similar to each other. Closer examination reveals diversity and a surprising number of options. Some were square or rectangular with one to three rooms, while others had complex plans with T-, L-, or even U-shaped footprints. Plan 6 could be loosely described as a shotgun house, while Plan 10 clearly has a saltbox form. They could be of log or frame with board-and-batten or drop siding. Roofs were typically front-, side- or cross-gabled, although hip roofs were also used. Porches were full- or partial-width and were sometimes inset. Windows were more uniform, consisting of 4/4 or 6/6 configurations, as were exterior doors (four-panel) and roofing (wood shingles). Dwellings typically had 1x4 floors as well as beadboard ceilings and walls.

Research has revealed that the standard plans were occasionally used in Region 4, although few survive today. Ranger William Swan, of the Salmon National Forest, in August of 1909 sought to use a standard plan for the Jessie Creek ranger dwelling noting, "a station at this place, being just out side of the city limits, should be a model of neatness and the house should be of modern pattern such as standard plan No 28."[61] In 1911, the Forest Supervisor described the Plan No. 3 house in Leeds as:

> ". . . a 16 x 28' frame building, built upon a rock masoned foundation with an 8 x 13' cellar underneath; a porch 7 x 24', and a brick chimney. The house is divided into two rooms, 12 x 15' and 14'6" x 10'6", respectively; a clothes press 3 x 4', a pantry 4 x 5' and a cellar-way 4 x 6'6". The cabin is fitted with three outside doors and four windows, all provided with screens, and four inside doors."[62]

He also noted that it had white trim, board-and-batten siding painted with "metallic brown paint," and cedar roof shingles painted or stained moss green. Clues about the Plan No. 27 frame barn at Leeds are found in plans and general specifications dated July 1, 1910.[63] It measured 18' x 28' x 16' high and had three stalls, mangers, a saddle room, a grain room, a wagon room, and a hayloft.

There is evidence that the Forest Service had also established standard color schemes at an early date. In 1916, Humboldt ranger Charles Butler requested paint (white lead, red mineral paint, a small can of coloring blue, and yellow ochre for priming) for the Jack Creek dwelling addition. The Supervisor replied that they would not purchase paint at that time because the District Forester was contemplating a standard color scheme for the ranger stations.[64] Regarding the Reese River Ranger Station (Humboldt National

[59] US Department of Agriculture, Forest Service, *Field Program for August 1908*, 44.
[60] US Department of Agriculture, *Bills for Material Accompanying Standard Plans for Buildings on Ranger Stations* (Washington DC: Government Printing Office, 1908).
[61] William Swan, Deputy Forest Ranger, to Acting Forest Supervisor, Salmon National Forest, 10 August 1909.
[62] Forest Supervisor to District Forester, 14 July 1911.
[63] Historical files, Pine Valley Ranger District, Dixie National Forest.
[64] Forest Supervisor to Forest Ranger, 25 April 1916.

Forest), a 1917 letter from the Pacific Portable Construction Company stated, "It often happens that buildings for the forest service have to conform to certain standards as regards color, type of architecture, etc."[65]

In several regions, standardization of construction was apparently taken lightly or ignored, with some forests creating their own plans.[66] Standard plans were often modified depending on the available labor, materials, and site. Further modifications resulted from the use of materials that were recycled from earlier buildings. These older, lower-quality buildings became available as ranger and guard stations were abandoned and new stations were developed in response to changing policies and forest boundaries.

FIRE STRUCTURES

Fire Detection

In the early years of the Forest Service, there was little, if any, formal system of fire detection. It was not until after the severe fire season of 1910 that serious attention and funds, through the 1911 Weeks Act, were directed toward fire control improvements. Since remote and inaccessible sites relied on quick communication, telephone lines were some of the first improvements constructed. The Forest Service also built roads, firebreaks and trails, as well as support structures such as lookout towers and fire caches.

Fire detection and control was not limited to forest officers. The Forest Service developed agreements and systems with ranchers and other settlers to report fires. This was particularly important in much of Nevada and Utah, where the terrain and vegetation did not require the presence of lookouts on high mountain peaks. A 1915 report explains this:

> The [Ruby National] Forest being almost surrounded by telephone lines, and visible in its entirety from numerous ranches in the adjacent valleys, no extra expenditure is at present justified for the purely protective purposes, with the exception of two miles of Telephone line to connect the Ruby R.S., $70. Future improvement such as short telephone lines across the mountain, and pasture sites, constructed for better administrative purposes will aid materially in protection.
>
> For the next five of six years a system of lookouts embracing all Post Masters and Star Route Mail Carriers on both sides of the mountain and a few Forest users whose ranches are located at good observation points, will be sufficient. These are shown on the map with range of vision. No compensation will be necessary for this, the observers merely notifying the nearest Forest officer or the Supervisor, by Telephone when a fire is sighted. Two guards should be employed for a period of two months to assist the two regular rangers. A purely protective patrol is unnecessary but constant vigilance will be maintained by the local force during the fire season, in connection with their administrative duties. No instruments will be necessary to locate fires. The Supervisor will send written instructions to each Post Master Rural Mail Carrier, and other selected observers on June 1 of each year relative to the manner of reporting fires. The Rangers in each District will see that each observer understands where to report. A placard of instructions how to report on fires will be posted at all post-offices adjacent to the Forest. Ranchers cooperate.[67]

[65] Berne Baker of Pacific Portable Construction Co. to Forest Supervisor W.W. Blakeslee, 19 February 1917.
[66] Hartley and Schneck, 42 and 47.
[67] "General Administration Policy, Ruby National Forest, 1915," TMs [photocopy], located with author.

Lookouts

Fire lookouts hold a great deal of fascination for many people and much has been written about them. The National Register of Historic Lookouts recognizes significant examples of this building type and interest groups have been formed to preserve and use them. The main requirement of a lookout – unimpeded views of a large forest area – has resulted in relatively minor changes in its design over the years.

At first, the network of lookouts on high peaks was staffed by forest guards who typically lived in tents. The first structures to accommodate the guards were small cabins. Lookout use and design advanced in the early 1910s after Region 5's District Forester, Coert DuBois, wrote the first fire plan in the country. [68] Region 5, which encompasses the vast forests of California, had always been concerned with fire protection and DuBois' efforts paved the way for advancement in other parts of the country. He took his plan a step further in 1914 when he wrote a report titled *Systematic Fire Protection in the California Forests*. He discussed lookouts, proposing that a one-room structure, measuring not more than 12 feet square, serve as the lookout man's home, office and workroom.[69]

In his 1914 report, DuBois also endorsed the Chicago-based Aermotor Company's design for lookout towers, which were designed to place the observer above a high tree line. Constructed of 7' x 7' cabs on steel or wood towers (see cover), these were used for observation only, with the lookout man occupying a separate cabin at night.[70] The Aermotor Company, manufacturer of windmills and military observation towers, supplied the cabs and towers to the Forest Service until at least the 1930s.[71] These towers were an advance over earlier, simpler construction described as, "sometimes being no more than a platform on poles, or a 'Crow's Nest' in the top of a high tree, reached by spikes set in the trunk."[72]

Lookout design enjoyed several refinements and in 1917, DuBois designed a 14' x 14' live-in cab with a ribbon of single-pane windows on all sides and a fire alidade in the center.[73] Known as Plan 4-A, the design provided quarters that were more comfortable and replaced the 12' x 12' cab in Region 5. By 1921, it was adopted as a standard in Region 4 with a prescribed bill of materials that included paint for brown exterior walls, a moss green roof, ivory white trim, and an interior of ivory white, light tan or gray. A 1922 article in the *American Forestry* journal provided a summary of the standard lookout as:

> . . . a square one-room structure with hip-roof, varying in size from 10x10 to 14x14 feet, set on a stone or concrete foundation or bolted to the rocks, and held in position by stout guys-wires [*sic*]. The four sides of the house, including the door, are made up of large glass windows set with the lower sash three feet above the floor, which allows an unobstructed view in all directions. Lightning protection is afforded by an "electric screen" overhead, or by heavy wires running from the peak of the roof down all four corners into the ground. A telephone line connects the lookout with the supervisor's headquarters and the various ranger stations of the forest and also with the nearest commercial exchange. Heavy wooden shutters protect the glass windows during storms; and the building is attractively painted inside and out.
>
> The furnishings of such an observatory, or "crow's-nest" as it is usually called, consist of a heavy wooden table oriented by transit survey and securely bolted to the floor, on which rests the fire finder; a high revolving office chair which permits the observer to view the entire circle of the horizon without getting up; a desk telephone with a head-

[68] Thornton, 9.
[69] John R. Grosvenor, *A History of the Architecture of the USDA Forest Service,* USDA Forest Service Engineering Staff Publication EM-7310-8 (Washington, DC: Government Printing Office, 1999), 96.
[70] Thornton, 23.
[71] Grosvenor, 96.
[72] James B. Adams, "Use of Telephone on the National Forests," speech delivered before the Telephone Society of New York on 16 February 1915, transcript, p. 31-33 and 35, Forest Service Heritage Center, Weber State University, Ogden, Utah.
[73] Grosvenor, 97.

piece receiver; low cupboards under the windows for maps and forms; a bench for visitors, and a wood or oil stove with which to heat the room during cold weather. A drawer in the table holds paper, ink, pen, and pencils and the official diary, while a pair of high-powered field glasses are kept on top of the table ready for instant use. The most important piece of equipment is the Osborne fire finder, the invention of a Forester Service officer by that name, with which the location of smokes is determined.[74]

Fire Tool Caches

While much is known about fire lookouts, little has been written about the smaller, but still significant, fire tool cache. A diminutive structure, the caches held firefighting tools and were placed at various locations on the forests. The Operations Handbook specified items to be kept in these and, in 1928, C.N. Woods noted, "with reference to Dutch ovens, stoves and crosscut saws for fire tool caches, the cache should keep pretty well down to the minimum allowed in the Operation Handbook."[75] Over time, the number of caches was reduced as tools were increasingly kept at administrative sites. Woods noted, "It is believed that this is entirely proper, that there are too many caches, and at places where there is no considerable chance of their ever being used to advantage."[76] It is not known if any of the early fire tool caches exist in Region 4 today.

Early Forest Service fire cache.

SNOW SURVEY CABINS

As the science of snow surveying developed, a new building type emerged during this period. Although it was usually a simple, one-room cabin, the snow survey cabin was built specifically to accommodate snow surveyors. Dr. James E. Church and his students built the first building of this type in 1907 on Mt. Rose near Reno. They prefabricated the pieces of an 8' x 8', four-bunk building in Reno, hauling them to the mountain for assembly. The seven-foot high cabin had a plate glass window that afforded views toward Lake Tahoe and was heated by coal and wood carried in by the surveyors.[77] Later, an overnight cabin was built directly below at an elevation of 9,300 feet, becoming "the world's first overnight resting places for snow surveyors."[78]

In 1926, Dr. Church received a special use permit to build a 14' x 16' cabin on the Bridgeport Ranger District of the Humboldt-Toiyabe National Forest. The cabin was used to store supplies and to shelter snow surveyors. Known as the Buckeye Snow Survey Cabin, it is located in the Hoover Wilderness Area and is the earliest known snow survey cabin in Region 4.[79] Its dominant feature was a wood chimney-like extension from the roof. Known as a manway or a "Santa Claus chimney," it allowed surveyors to enter the building from the top when snow was deep enough to cover the cabin. More cabins would be constructed in the 1930s as snow surveying became widespread, although they were mostly restricted to what is now the Humboldt-Toiyabe National Forest.

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[74] Wallace Hutchinson, "The Eyes of the Forest," *American Forestry* 28, no. 344 (August 1922), 463-4.
[75] C.N. Woods, "Cache Inspection Report, May 22 to 31, 1928" TMs [photocopy], p. 8, located with author.
[76] Ibid.
[77] J.E. Church, "Mt. Rose Weather Observatory, 1905-1907," *Sierra Club Bulletin* 4, no. 3 (June 1907), 183-84.
[78] W.B. Berry, "Snow Survey - Top Mountain Winter Even - Is Under Way," *Sacramento Bee*, 24 March 1948.
[79] Despite its significance, the Buckeye Snow Survey Cabin is not eligible for listing in the National Register due to a significant loss of integrity.

Chapter Eight: 1933-1942, A New Identity

FUNDS AND LABOR

This era saw a dramatic change in the number and quality of improvements constructed on the national forests. Although the nation experienced seriously grim conditions during the Depression, the Forest Service and other federal agencies benefited from increased relief funding and labor pools. In 1932-33, the Forest Service hired hundreds of engineers, architects, landscape architects, and recreation planners to design and supervise construction of roads, trails, buildings, utility systems, communication systems, campgrounds and watershed improvements.[80] These, along with administrative buildings, were usually constructed with relief funds and labor.

The number of buildings at ranger stations increased for a variety of reasons: a national mandate to provide separate quarters for the resident ranger and visiting officials, an increase in government-furnished vehicles requiring garages, and a desire to provide more comfortable working conditions.[81] For the first time, there was also money to build special structures for housing items such as flammable liquids, water pumps and equipment. Sizes of buildings, particularly houses, increased as funds came from a variety of sources and building cost limits grew from $1500 to $2500 in 1930.

The flurry of building activity that started in 1933 received a good deal of planning. The newly hired architects and landscape architects developed standard building plans and guidelines for site layouts. Forest officials were encouraged to consider carefully their needs with particular attention toward the future. Chief Forester Stuart emphasized this when he wrote, "I hope no single structure will be erected nor excavation made which will later be found unused."[82] He also recognized that the agency would not always enjoy the benefits provided by the relief programs:

> When the unemployment relief emergency is over we will have small excuse for asking appropriations for improvement construction except to meet needs unforeseeable at this time. When the unemployment relief program is over we should be able to carry administrative and protection forward with little or no improvement funds except for maintenance.[83]

Forest officials capitalized on the situation and oversaw construction of many new administrative sites as well as improvements of older ones. The CCC carried out much of the work, but the WPA and crews drawn from local relief rolls can also be credited with some of the projects. Many of the enrollees had little or no construction experience but were guided and trained by forest personnel and foremen from the local community. After inspecting one ranger station, Region 4 architectural engineer George Nichols wrote:

> . . . all labor on this job has been CC [*sic*] except for one carpenter foreman, and considering this, I feel that we have a remarkable job. The job lacks professional finish but much of this can be improved and covered up when the final painting work is completed. If we had someone on this job who could pick out the places that need attention to make the job one of first quality, I am sure it would be worthwhile . . .[84]

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[80] Byrne, 5.
[81] US Department of Agriculture, *National Forest Manual* (1928), 63-A and Hartley and Schneck, 55.
[82] Dana E. Supernowicz, "Contextual History and Classification or Fire Lookouts in California, Summary of "Fixed Point Fire Detection: The Lookouts," by Mark V. Thornton, n.d." TMs [photocopy], p. 11, located with author.
[83] Ibid., 11-12
[84] George L. Nichols to Operations, 17 July 1936 regarding the Lamoille Ranger Station, Humboldt National Forest.

ENGINEERING STAFF

Although its engineering units carried out much of the facility design and planning, the Forest Service began to recognize the need for building design specialists. A consultant, architect W. Ellis Groben, played a strong role in developing the agency's architecture by promoting standard plans and raising the quality of design. A graduate of the University of Pennsylvania and L'Ecole des Beaux-Arts in Paris, Groben served as chief architect for the City of Philadelphia before he was hired as a consulting architect for the Forest Service. He advocated the idea of an agency identity while allowing for flexibility in design and materials to conform to regional styles and environment. Groben issued several publications (discussed below) that directed the development of Forest Service architecture and site planning.

At the start of this period, T.W. Norcross continued to serve as Chief Engineer in the Washington Office. In Region 4, Joseph P. Martin remained as Chief of Engineering until 1938 when he left and was replaced by Arval L. Anderson. A native of Idaho, Anderson received his civil engineering degree from Idaho State University and worked for the Forest Service from 1925-64, taking military leave during World War II. By 1928, he was the Senior Surveyor and Draftsman. His role as Chief or Regional Engineer was a lengthy one, lasting from 1938 until 1959 when he transferred to Region 1. Arval Anderson is known to have designed some of Region 4's buildings. A warehouse design of his, dated 1932, is particularly noteworthy for its complex roof truss system. Several still exist in Region 4, although some have been significantly altered.

One of Region 4's most significant individuals was Architectural Engineer George Lee Nichols, who worked under Anderson in the engineering section. Nichols was born on July 5, 1896 in Salt Lake City to George Edward Nichols and Irene Lee. In 1922, he married Ardella Wheeler, with whom he had two sons: George W. (b. about 1925) and Paul E. (b. about 1929). According to his appointment record, Nichols was hired in the Forest Service's R4 headquarters (Ogden) as a draftsman "reinst. From Vet. Bureau." No date is given for his appointment but he was promoted to Chief Draftsman on July 1, 1924 and later to Architectural Engineer.

George L. Nichols served as Region 4's first architect, making a significant contribution to the development of many ranger station, guard stations, and other administrative sites. He developed an architectural identity for the region by designing many, if not all, of its standard plans in the 1930s and 1940s. Nichols retired on July 31, 1956 but continued to live in Ogden and consult for the Forest Service as late as 1958. He remained in Ogden until his death on May 10, 1972.

The trend toward hiring trained design professionals became apparent with the addition of landscape architects. In 1935, the Forest Service hired a consulting landscape architect, A.D. Taylor, to prepare a report on recreation facilities. His photographs and report titled *Problems of Landscape Architecture in the National Forests* reflect the design philosophy of the time and made recommendations for landscaping and signage of primitive areas, roads, and recreation sites. Taylor urged the Forest Service to hire landscape architects and by 1937, there were 75 in the agency, most of whom were involved with recreational and/or ranger station development.[85]

Taylor wrote that Region 4 had two landscape architects in 1935. He may have been referring to Landscape Architect H.L. Curtiss and Recreational Planner George E. Martin whose signatures appear on planting plans as early as 1935. Under Curtiss' direction, the first landscape plans for administrative and recreational sites were designed and implemented throughout Region 4. He wrote at least two articles for a publication titled *Parks and Recreation*. One article indicates he worked for the University of Wyoming as an "extension landscape architect" in the early 1930s.

[85] Iverson, 5.

Others who prepared planting plans during this time included Howard W. Young (junior landscape architect hired by 1937), J. Carroll Reiners (recreational planner hired by 1936) and Don Partridge (retired on February 24, 1964). Further research is needed to determine the influence of these individuals in Region 4.

WO DIRECTION

During the New Deal period, the Washington Office encouraged the regions to develop standard building plans that reflected their identities. In 1935, Groben compiled technical information and design guidelines to assist the regional designers. This document was supplemented in 1936 and 1937 before it was published in 1938 under the title of *Principles of Architectural Planning for Forest Service Administrative Improvements.* A few examples of Groben's guidelines reveal his architectural training as well as his personal preferences:

- Buildings in a group should be of similar character and appearance. Older buildings that would be retained may dictate the appearance of new construction.
- Combinations of materials should be avoided (e.g. a stone building with brick and wood porch posts). Local materials should be used whenever possible.
- Textured and tinted plaster or paint is desirable for interior spaces when no wallpaper or other applied covering is used.
- Wood siding should not be more than 8" in width. Drop siding and imitation log siding should be avoided because the former gives a "miniature, toy-like appearance" and the latter looks "too uniform."
- Avoid "X" and "Z" bracing on the exterior side of garage and barn doors since it is "disturbing and unsightly."
- Color schemes made of several shades of the same color are best. Add ochre to white paint to give it a warmer appearance. Avoid "delicate colors" when painting the interiors of buildings used primarily by men.

It is interesting to note that several of these principles were ignored in Region 4. Drop or novelty siding, imitation log siding (also known as Shevlin siding), and "X" and "Z" bracing were commonly found on standard Region 4 building designs.

Groben's guidelines were supplemented with a publication titled *Acceptable Plans, Forest Service Administrative Buildings.* Issued in 1938, this document is a compilation of sample standard plans from each region. It portrays different architectural characters through the application of various materials and styles. Many designs tend to be of a vernacular nature but the Pueblo Revival, Park Rustic, Colonial Revival and Art Deco styles are also represented. The Region 4 plans for a guard station (Plan 53), office (Plan 54), central repair shop, and mess hall are included.

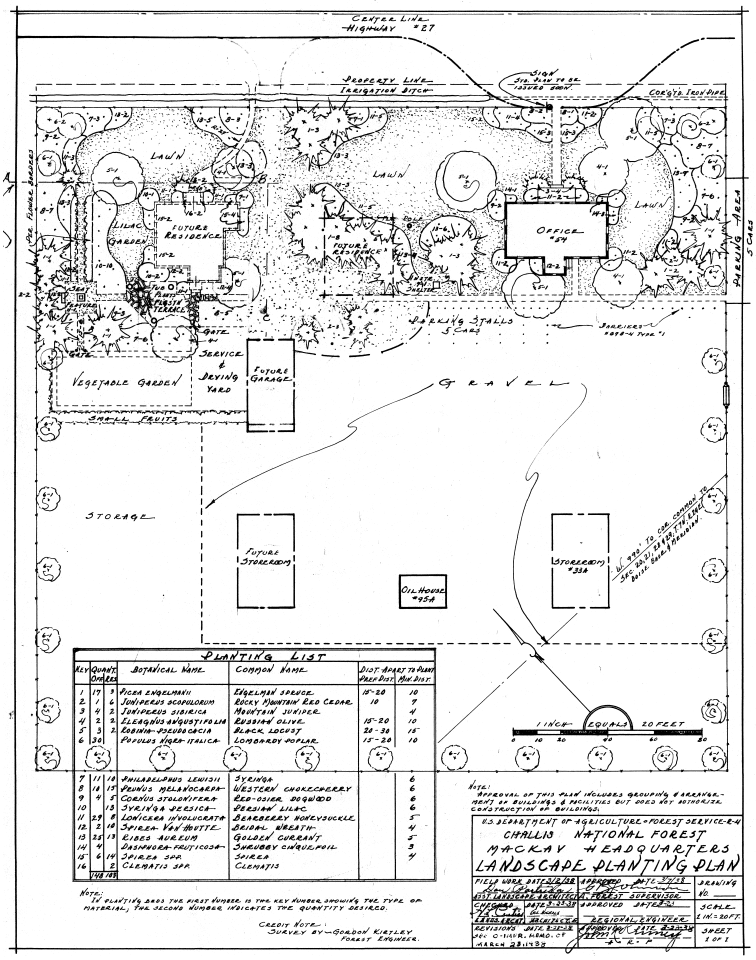
Some Region 4 forests have administrative buildings that are of standard designs from other regions. The Bridgeport Ranger District of the Humboldt-Toiyabe National Forest was once part of Region 5, a fact reflected in some of its buildings. At least one building on the Boise National Forest may be of a standard Region 1 plan.

In 1940, Groben wrote *Architectural Trends of Future Forest Service Buildings,* in which he criticized standard buildings that did not work in plan, but were praised because they blended externally with the environment. He called for more creativity and a unique identity for the Forest Service.[86]

Site planning and landscape design were addressed in 1936 by consultant A.D. Taylor, author of *Problems of Landscape Architecture in the National Forests.* Taylor addressed building placement and advised locating the dwelling across a driveway from the office and service buildings. In urban areas, he advised that offices and houses should be oriented toward the street, while rural offices and houses should face a road, driveway or scenic view. Support structures such as the barn and garage should sit at the rear of the site.[87]

REGION 4 STANDARD PLANS

In 1933, the Region 4 Office produced a building handbook that set forth guidelines and standards for site development and building design. All indications are that George L. Nichols had a hand in preparing most, if not all, of this *Building Construction Manual.* Expanded in 1935, it provided guidance on everything from site design, building orientation, appropriate styles and paint schemes.



1938 landscape plan for Mackay Headquarters on the Challis National Forest.

SITE DESIGN

The 1935 manual included advice on locating new sites and the placement of buildings on existing sites. Forest officials were to consider factors such as appearance, natural setting, exposure (southern was recommended), drainage, accessibility, fuel, shade, shelter, water and pasture. The selection of guard stations should also consider views, as a forest guard would often serve as a fire lookout or smokechaser.

Provided were sample site plans that carefully considered access, image and the relationship of buildings to each other. To create a pleasing arrangement, a building was to be placed at right angles to, but not lined up with, other buildings on the site. Those that were used most frequently, such as the house, garage, woodshed and cellar, were grouped closely together while others were set towards the back

[86] Hartley and Schneck, 91.
[87] Ibid., 76

with the barn being furthest away. For reasons of privacy, housing for temporary men was to be placed away from the ranger's house. To reduce fire hazards, buildings were to be at least 50 feet from each other. Although the rangers and supervisors on each forest were responsible for developing the initial site plans, designers in the Regional Office produced the final plans. They also drew planting plans, often considering future needs by showing future buildings.

The 1935 manual indicated that a lawn of Kentucky bluegrass, white clover or native grass be planted around the house and enclosed by a yard fence (Plan 65 or 65A). The entire site was to be enhanced with vegetation that was appropriate to the climate and water conditions. The manual advised the preservation of existing trees or, if there were none, planting of new ones. Clarence N. Woods, Associate Regional Forester, reiterated the aesthetic importance of landscaping when he wrote, "There are apparently a lot of administrative sites, and perhaps some camp grounds, which should be beautified by the growing of trees." He encouraged forests to transplant the largest trees possible, as "ten years is a long time to have to wait to get the tree to a given size."[88]

Other cultural landscape features addressed in the 1935 manual included driveways (width of 12'-14' and lined with rocks) and walks (24"-30" preferably of flat rocks although concrete was acceptable). Although not specifically addressed in the manual, a flagpole (often of Plan R4-118, developed in 1936) was always installed at administrative sites. Standard plans were also provided for signs, gates, cattle guards and tire barriers.

BUILDING DESIGN

The 1935 manual included standard plans, materials lists and specifications for houses, barns, sheds, cellars, toilets, garages and storage buildings. Nichols designed many of these buildings, of which there were four types:

1. Facilities for the permanent officers and equipment, consisting of housing, an office, and support structures such as warehouses, equipment buildings, shops, barns and garages. These were considered the most "pretentious" and were sited in groups of three or more as headquarters for supervisors and district rangers.

2. Facilities for temporary officers and equipment, consisting of housing, an office, and support structures. These were less "pretentious," with only one to three structures assembled together.

3. Fire protection including housing, lookouts, storehouses and caches. The locations and number of these facilities were determined by fire control needs.

4. Recreational structures such as kitchens, shelters, and toilets.

Many of Nichols' designs are utilitarian with few architectural details and may be classified as vernacular. Some of them, primarily dwellings and offices, reflect the influences of prevalent styles of the time. The Colonial Revival style is apparent in Plans 1 and 8, while the Classical Revival style can be found in Plans 4, 5, 7,and 51. The Plan 53 dwelling is more difficult to define but appears to be a Minimal Traditional home with vague Tudor Revival references.[89]

The Region 4 building manual encouraged a thorough analysis of building needs before choosing a particular plan, stating:

[88] Clarence N. Woods to Forest Supervisor, Dixie National Forest, 6 November 1935.
[89] Following the guidance of several State Historic Preservation Offices, terminology and styles are as defined by *A Field Guide to American Houses* by Virginia and Lee McAlester (New York: Alfred A. Knopf, 1988).

> Care and consideration should be given, in planning your needs, that you look reasonably into the future, but caution should be used to make certain that we are not building too far ahead. It is certain that we do not wish to have on our hands in a few years a number of empty or unused buildings. The first cost of the building is not alone the important consideration, and we must not lose sight of the fact, in this building program, that we will have a perpetual job of maintenance for every improvement we construct. Certainly we should not build anything that we do not intend to maintain, and every additional building is going to take a material amount of maintenance.[90]

Building plans were assigned a number and there were often several versions of each plan. For example, Plan 1 is a dwelling with a basement; Plan 1A has no basement. Modifications to the standard plans were allowed, but this required official approval that was not always sought. Forest officials often added or eliminated windows or doors in response to local weather conditions, adjusted room sizes to accommodate specific functions, and omitted some elements due to budgetary constraints. Guidelines for choosing from the standard plans were set forth as follows:

Dwellings

The house was considered the most important of all structures on a site and was to be placed in a prominent position such as the highest point on the site. All other buildings were to "serve as a frame or background." Dwellings for forest supervisors could be either Plan 3B or 3C while year-round ranger stations were to be of Plan 1 (several versions) or 2. Ranger and guard stations that were used for more than five months but not year-round would be Plans 7, 8 or 53. For those sites used for 3-5 months, the houses would be Plans 7 or 51. Plans 4, 5 and 6 were for houses occupied 1½ to 3 months. Plumbing fixtures were typically not provided unless running water was readily available or could be obtained at a reasonable cost.

Plan 1 dwelling at Elkhorn Ranger Station, Ashley National Forest.

Offices

Offices, which were to be built at year-round headquarters only, would be Plan 5 or 51 for rangers and Plan 54 (of which there were several versions) for forest supervisors. Office buildings usually had more than one room to accommodate secondary uses such as storage or quarters for seasonal employees. As the second most important building, the office was to be highly visible and accessible to the public.

Barns and Fly Sheds

Barn Plans 11 (4-horses) and 12 (6-horses) could be built at year-round stations. At temporary stations, a 2-horse barn (Plan 13) was permitted although fly sheds were preferred. The standard fly shed was a one-room structure with an opening, but no door, in one end. It had no stalls or mangers.

Support Structures

Construction of support structures such as warehouses, equipment buildings, powder houses, cellars, and woodsheds was to be based on need and was not dictated by the Regional Office. Guard stations and

[90] US Department of Agriculture, Forest Service, Intermountain Region, *Building Construction Manual,* (n.p.: 1935), BP-11.

lookout sites, which would typically consist of just a dwelling and latrine, might include a one-car garage, with or without a storeroom. Combination buildings were encouraged to decrease the number of buildings on site and for reasons of economy. Buildings such as gas houses and blacksmith shops that posed a fire hazard were to be separate and placed away from the other buildings on site. When there was no basement for cold storage, cellars could be constructed. These were to be of double-wall construction with 18 to 24 inches of sawdust in the walls and ceiling.

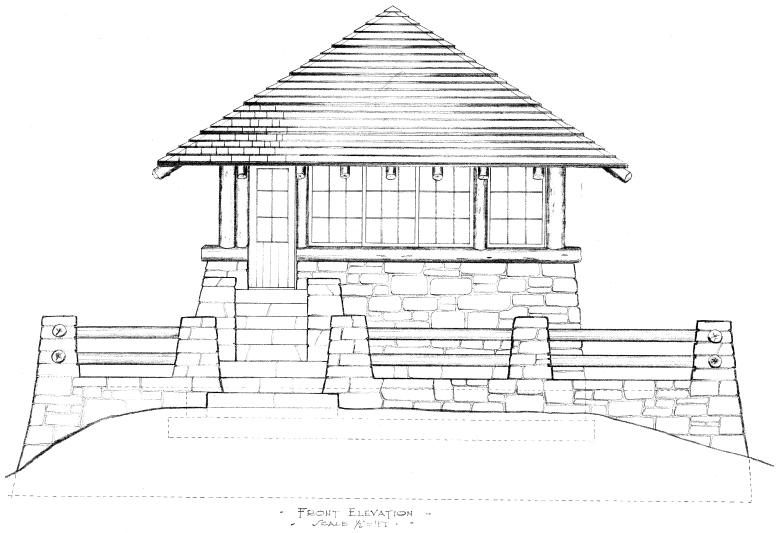
Fire Lookouts

It appears that George L. Nichols did not waste time designing fire lookout structures, choosing instead to adopt some from Region 1. The "standard" was the Region 4 Plan 80 lookout cab, which was traced from Region 1's Plan L-4. The latter was a modification, attributed to Clyde Fickes, of Region 5's 14' x 14' cab (Plan A-4). Nichols had produced plans for the following fire structures by 1933:

Plan 80	14' x 14' cab traced from Region 1 Plan L-4
Plan 81	no description
Plan 82	10' to 50' high tower for use with the Plan 80 cab; traced from Region 1 Plan T-20
Plan 83	Tower up to 60' with the Plan 81 cab
Plan 84	Towers of light construction with a platform only
Plan 92	Fire tool cache

In the following years, more designs were added to the repertoire*:*

Plan 80-C	Conversion of Plan 80 for winter occupancy (1942)
Plan 81-A	10' x 10' rustic-style log lookout with storeroom below (1941)
Plan 81-B	16' x 16' rustic-style log lookout with catwalk around (1938)
Plan 81-C	10' x 10' frame lookout (1941)
Plan 85	Tower (1936)
Plan 86	Lookout house (Danksin Type), rustic style (1940)
Plan 86-A	Lookout house (Bald Mountain Type), rustic style, T-plan (1940)



R4 Plan 81-B Lookout

MATERIALS

In addition to standardized building plans, this era is represented by a consistent use of building materials throughout Region 4. Construction was to be of logs when the natural landscape consisted primarily of conifers. Smaller buildings could be frame construction covered with siding that was milled to look like logs. Called "Shevlin" siding after the company in Bend, Oregon that produced it, this product could also be used in the gable ends of log buildings for the sake of economy.

Frame structures were to be built in areas of broadleaf vegetation, or when neither conifer nor broadleaf were predominant. The latter was usually the case throughout much of Nevada and Utah where the multitudes of frame buildings are clad in novelty siding, with the most common profile being cove and double-drop (also known as "waterfall").

Windows were often six-pane sliders although 6/6 double-hung or six-pane casement windows were common, particularly on residential buildings. Shutters, louvered on the lower half, had a Forest Service pine tree logo cut into the upper panel. While the most common door had five panels, front doors typically had one or more panes of glass and sometimes a fanlight. Large doors on barns, garages and warehouses had "X" or "Z" bracing that presented a visually distinctive appearance.

Snake River Ranger Station, Caribou-Targhee National Forest, 1941. During the New Deal era, many older stations such as this were improved.

Foundations were usually built of solid concrete but if local materials and skilled labor were available, stone was substituted. Concrete was also used extensively for floors of utilitarian buildings such as garages and cellars, while roofs were covered with wood shingles and stained. The interiors were finished with plaster (in year-round dwellings) or composite board such as Nu-Wood, Firtex, Masonite or plywood (recommended for seasonal dwellings). Floors were usually wood, as were the built-in kitchen cabinets and trim.

PAINT

The paint scheme of a site was determined by predominant vegetation, exposed rock or earth, or adjacent buildings. Each of the five standard schemes provided variations for log and frame buildings and was not to be mixed with other schemes. In other words, only one body color, one trim color (including sashes, frames, doors, and shutters) and one roof color were to be used for all buildings on the site. The dark brown stain formerly used on Forest Service buildings was no longer allowed.

To insure consistency in color, the RO purchased and mixed all paint and stains; local purchases were not permitted. Despite these restrictions, exceptions were made for sites that had older buildings with the former color schemes or that had a mixture of log and frame buildings. The manual discouraged painting of large, older buildings such as barns, but did not prohibit it. If these types of facilities were to be painted, the manual recommended that they be covered with new siding.

Summary Of 1935 Paint Guidelines

Scheme & Setting	Log, Log Siding, or Shake-Covered Buildings	Frame or Painted Buildings
1 (conifers)		
Body	light or med. brown stain	light terra cotta or red stone paint
Trim	med. brown stain or red stone paint	red stone, light terra cotta or oak brown paint
Roof	roof green or med. brown stain	roof green or med. brown stain
	(only with light brown body)	(only with light brown body)
2 (aspen, maple, cottonwood)		
Body	silver gray stain	light gray paint
Trim	white paint	white paint
Roof	driftwood or roof green stain	roof green stain
	(only when roofs were originally green)	(only when roofs were originally green)
3 (sage, prairie, willow, oak, brush, birch)		
Body	silver gray stain	sage paint
Trim	white paint	white paint
Roof	driftwood stain	roof green stain
4 (In Towns)		
Body	white	---
Trim	Nile green paint	---
Roof	roof green stain	---
5 (rock outcrops or cliffs, earth banks)	Confer with regional office to develop color scheme.	

Interiors also had standard color schemes that varied with the function of the building. The interior paint of lookout buildings maximized absorption of light to prevent harmful reflections. Although it was recognized as a depressing color, the standard lookout interior was an olive green oil stain or flat olive green paint. Dwellings and offices were to be painted in the following colors:

Interior walls: Light green, light tan or buff, cream, colonial ivory

Woodwork: If of good quality it could be covered with clear varnish or stained and varnished. Otherwise, it should be painted with pearl grey, light tan, nile green, sea foam green, old ivory, colonial ivory, orchid or gloss white enamel paint.

Floors: Varnished, waxed, or when permitted, covered with linoleum

Porch ceiling: To match adjacent paint, or if new, covered with clear varnish

Porch floor: Dust color or light pearl floor paint

SPECIAL BUILDING TYPES

SNOW SURVEY CABINS

Although Forest Service personnel could sometimes rely on guard or ranger stations when conducting snow surveys, there was a need for shelter in remote areas. One ranger wrote about the snow surveys he carried out in the 1930s, noting that the work required a great deal of stamina and that it was dangerous because of avalanches.[91] He also said the provision of cabins provided sleeping quarters as well as shelter when the weather turned bad. Jim Clark, a Conscientious Objector who carried out snow surveys during World War II remembered some of these cabins on the Sierra's east front. He and the accompanying ranger stayed in "huts, which were spaced one day apart, the higher huts buried in up to 22 feet of snow, and we climbed down a wooden chimney, via attached ladder, to the cabin below. It was stocked with canned and dried foods, a wood stove and bunks, and wood for cooking."[92]

CCC CAMP BUILDINGS

Another set of standard buildings was found in the CCC camps. Initially controlled by the Army, these camps were laid out in precise manners depending on their designations as permanent, semi-permanent, or portable camps. The camp enrollees stayed in canvas tents until the cost feasibility of lumber buildings was established.[93] Many of these lumber buildings were designed to be portable, since camp locations often changed. In 1934, a CCC camp near Tupelo, Mississippi was the first to receive portable camp buildings and by 1935, the buildings were a standard feature in all camps.[94] They were typically clad with board-and-batten or clapboard siding and had six-pane windows. The roofs were covered with roll roofing or shingles and the interiors were lined with 1x6 paneling.[95]

The Pole Creek Ranger Station Bunkhouse (pictured here in 1959) on the Humboldt-Toiyabe National Forest originally served as a CCC barracks at Camp Antelope in Coleville, California.

A typical camp had four or five barracks measuring 20' x 100', a mess hall, a recreation hall, administration buildings, officers' quarters, a hospital, a garage and maybe a schoolhouse. The enrollees further improved the camps with gravel walks, trees, gates, railings, flower gardens, swimming pools and outdoor amphitheaters. The buildings were sometimes painted brown or green but were often just covered with creosote or tarpaper. They were typically made of cedar and could be easily dismantled.[96]

By 1935, Region 4 had developed standard plans for "camp buildings." These included an equipment and truck shelter, tool shed, blacksmith and machine shop, office, garage, gas and oil house, and barracks. All of these buildings were clad with board-and-batten siding and were placed on skids or post foundations so

[91] [Lewis E. McKenzie?], "Snow Surveying, 1938(?)" TMs [photocopy], p. 4, located with author.
[92] Jim Clark to Kathy Pitts, 28 December 1993.
[93] Otis, et.al., 8-9.
[94] Ibid.
[95] Ibid., 79.
[96] Salmond, 136.

that they could be moved easily. When abandoned, the camp buildings were boarded up or turned over to communities, the military or government agencies.

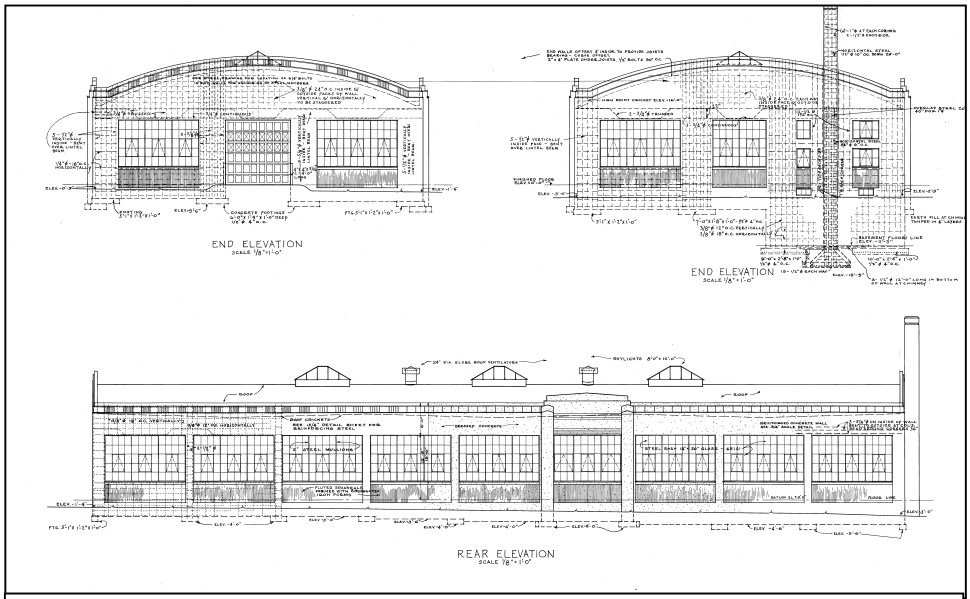
CENTRAL REPAIR SHOPS

In an effort to centralize certain functions, Region 4 established four centrally located repair centers to carry out major overhauls of equipment. Beginning in 1939, Forest Service construction and maintenance employees, known as "force account" crews, built these centers under the supervision of George Kreizenbeck. Located in Salt Lake City, Cedar City, Boise, and Reno, the centers were used by the military to overhaul heavy-duty equipment during World War II.

The structures on these sites are unique when compared with other Forest Service buildings. The main building is characterized by a long shop area, concrete walls, and industrial sash windows. The most prominent feature is the roof, constructed of bowstring trusses spanning 50 feet. Patented by Squire Whipple in 1841, the bowstring truss was an engineering advancement used in bridge design for the next 50 years. In the early 20th century, airplane hangars utilized the structural form to span large spaces.

W. Ellis Groben and George L. Nichols signed the original 1939 drawings for the Region 4 central repair shops, but the designer of the structure is unclear. Whoever was responsible may very well have been inspired by the airplane hangars and one wonders if the proximity of the Hill Air Force Base, located a few miles south of Ogden, was a factor.

Only two of the four central repair sites remain. The Reno and Boise sites were sold and the buildings demolished. The Salt Lake City site is now the Redwood Work Center (aka Salt Lake Interagency Fire Center). The large shop building remains and, although a portion of it was removed around 1986, it is eligible for listing in the National Register of Historic Places. The most intact site is in Cedar City, Utah and it is eligible for listing as a district. There, the shop and the similarly designed sign shop retain a high level of integrity.



1939 elevations for the Central Repair Shop in Cedar City, Utah.

THE PINE TREE LOGO

The origin of the familiar pine tree logo is presently undetermined but its use throughout the Forest Service suggests it came from the Washington Office. It is often associated with the New Deal era but was actually used earlier. A 1921 *Alumni Bulletin* reported:

> The Forest Service is going to make a far wider use of its "trademark" - the shield - than ever before. At the suggestion of D-6 the Forester has issued instructions to print the shield on letterheads, envelopes, publications, forms for external use, etc. This is good business. The lone pine tree should be known to everyone for it is the symbol of a fine ideal, and the very word "forest" carries an instinctive appeal to every normal human being.[97]

The pine tree was a prevalent motif in Region 4's 1935 building plans, usually in decorative panels of window shutters. The 1935 *Recreation Handbook* included drawings of a fence with a ¾" panel from which the logo is cut. A label refers to this as "Pine tree of universal design #1451."

In her study of Region 6, historian Gail Throop noted that the number, placement and design of the logo were not always consistent with regional specifications. CCC crews seemed to use the logo as a means of expression and sometimes went overboard in the number they cut, applied, forged and carved on shutters, gable ends, porch pediments, mailboxes, and latch plates.[98] Consulting architect Groben apparently felt the pine tree was overused. In 1938, he wrote:

> The pine tree, as a painted insignia, gig-sawed out of wood or in other decorative forms, has become a recognized Forest Service emblem. Refrain from employing pine trees of different sizes in the same composition to eliminate the "old and young" or "father and son" conflict that always results in design when using the same motif at difference scales.

The pine tree emblem should be used sparingly. The effect created by their repeated use in the same building is very unfortunate, resulting in their loss of all Forest Service significance.[99]

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[97] US Department of Agriculture, *Alumni Bulletin,* 31.

[98] Elizabeth Gail Throop, "Utterly Visionary and Chimerical: A Federal Response to the Depression," (M.A. thesis, Portland State University, 1979), 43-44.

[99] W. Ellis Groben, *Principles of Architectural Planning for Forest Service Administrative Improvements,* (USDA Forest Service, Division of Engineering).

Chapter Nine: 1942-1946, Maintain and Recycle

SITE WITHDRAWALS

Executive Order 9337, dated April 24, 1943, sought to protect administrative sites against mining claims by establishing a clearer withdrawal process. In Region 4, the Regional Forester directed the forest Supervisors to evaluate existing administrative sites and ensure they were formally withdrawn.[100] This eventually led to the release or revocation of many sites that were no longer needed and the formal withdrawal of other sites.

ENGINEERING STAFF

Regional Engineer Arval Anderson left the Forest Service for military leave in 1942 and Henry M. Shank served in his place.[101] When Anderson returned in 1946, he found the engineering staff had outgrown the Regional Office. He moved his 90-person staff to the Eccles Building, located on the corner of Washington Boulevard and 24th Street. Engineering operations by then included photogrammetry.[102]

George Nichols continued to serve as Region 4's architect. He developed additional standard plans, publishing them in 1946 as the *Engineering Handbook, Building Construction Section*. This publication, which replaced the 1935 *Building Construction Manual*, is discussed in the next chapter.

IMPROVEMENTS

WAR RESTRICTIONS

The declaration of war on Japan in December 1941 marked the end of the work relief era with its extensive building activity. Some buildings started before the war were left incomplete and any proposed construction required approval from the War Production Board. Construction was also hampered by the loss of the Forest Service's design professionals. Many joined the military or got jobs in the private sector. Those who remained were assigned to critical work such as the Emergency Rubber Project and some even served as district rangers.[103]

As relief funds and labor were eliminated, the Federal government implemented measures to support the war effort. Restrictions were placed on certain materials, the mineral and timber resources were reserved for military use, and manpower and funds were channeled to the armed forces. As a result, there was a sharp decline in building activity on the national forests, as well as throughout the country. The emphasis shifted from construction of new facilities to maintenance, reuse and rehabilitation of existing ones.

[100] U-Circular No. 97 from Acting Regional Forester W.B. Rice to Forest Supervisor, 30 January 1943.
[101] Alexander, *The Rise of Multiple-Use Management*, 150.
[102] Ibid.

Chapter Ten: 1947-1960, Pre-Fabs and Portables

SITE WITHDRAWALS

In 1949, Chief Forester Lyle Watts issued a circular explaining that further site withdrawals on forest land under EO 9337 would be done by the Bureau of Land Management (BLM). Watts instructed the regions to prepare withdrawal requests, giving priority to those in "mineralized lands," as soon as possible and submit them to the Washington Office, which would forward them to the BLM.[104] Additional direction in 1950 stated that administrative sites subject to entry should be withdrawn under EO 9337. However, this did not apply to those that were not subject to entry or to lands purchased under the Weeks Law and the Receipts Act.[105] The Granger-Thye Act of 1950 provided additional flexibility by allowing the Forest Service to construct permanent structures on land not owned by the US Government, on the condition that a long-term lease was secured.

The abuse of mining claims led to new withdrawals in the mid-1950s. After it was discovered that mining claims were being used as cabin sites, hunting camps, and commercial businesses, Congress passed the Multiple-Use Mining Act of 1955. This allowed the Forest Service to reclaim mineral claims that were not used for their intended purposes. To protect Forest Service administrative sites from new claims, numerous withdrawals of administrative sites were made to replace or supplement earlier withdrawals.

As the forests became more accessible by vehicle, the occupancy of many ranger stations changed from permanent to seasonal. These part-time administrative sites were increasingly referred to as "work centers" rather than "guard stations," a term that picked up negative connotations during World War II and later the Cold War.

ENGINEERING STAFF

Chief Engineer T.W. Norcross retired from the Washington Office in 1947 and Anthony P. Dean took his place.[106] In Region 4, Arval Anderson continued to serve as Regional Engineer until 1959 when he transferred to Region 1, remaining there until 1963.[107] After a long and productive career, architectural engineer George L. Nichols left in 1956 although he occasionally worked for the Forest Service as a consultant afterwards.

Nichols' successor, William R. Turner, was born in Provo, Utah in 1918. He studied engineering at Brigham Young University and Utah State University, graduating from the latter with a degree in civil engineering in 1941. He then worked for Columbia Steel in Torrance, California, transferring later to Provo. Turner's next job was with the newly opened Geneva Steel Works in Utah, where he remained until the plant closed in 1945. He then began his civil service career with the Bureau of Reclamation in Grand Junction, Colorado. He left the Bureau and has a succession of jobs in Utah with the City of Provo, in

[103] Iverson, 6.
[104] WO Circular No. U-220 from Chief Lyle F. Watts to Regional Foresters, 16 December 1949.
[105] Circular No. U-197 from Acting Regional Forester A.G. Nord to Forest Supervisor, 25 January 1950.
[106] Byrne, 7.
[107] *The History of Engineering in the Forest Service*, 786.

Pleasant Grove, the Army Desert Chemical Depot in Tooele, and Hill Air Force Base. Turner started working for Region 4 in 1956, remaining there until he retired in 1981.[108]

Turner's architectural staff initially consisted of one draftsman, Cal Spaun and they concentrated primarily on dwellings. Spaun had once worked for Myrl A. McClenahan, a local architect who designed the Regional Office, the Ogden Municipal Building, and the Ogden High School. As of 1934, he was part of the Region 4 engineering staff as a temporary employee under a New Deal program. Spaun retired on December 30, 1965.

IMPROVEMENTS

As mentioned in the previous chapter, George L. Nichols revised the Region 4 building construction handbook in 1946 in anticipation of increased building activity. However, the focus on rebuilding the forests' infrastructure after the war caused attention to be shifted away from the improvement of administrative sites. The 1950s saw renewed vigor in this area, although it would never reach the zenith of the New Deal era.

SITE DESIGN

In the areas of site layout and landscaping, the 1946 building construction handbook was nearly identical to the 1936 manual. By this time, however, few new administrative sites were developed. It was not until the late 1950s, when the Forest Service initiated "Operation Outdoors" to compete with a similar NPS movement, that more funding and talent were acquired and allocated to outdoor design and planning. The number of landscape architects increased, although most were involved with civil engineering projects.[109] Even then, nearly all of the efforts were directed toward recreation improvements, with only a few going toward administrative sites. The development of planting plans for ranger stations seemed to have less priority than before the war.

BUILDING DESIGN

Although building restrictions were lifted at the end of World War II, construction did not pick up immediately. To meet its administrative needs, the Forest Service acquired Army surplus equipment and buildings, some of which had been used previously by the CCC. Garages and barns were converted to bunkhouses to accommodate work crews, while dwellings began to serve as offices.[110] Many times, this called for relocations of buildings, as noted by the Cache Forest Supervisor:

> We have put quite a lot of effort in trying to improve our year long ranger station setup, and have done quite a lot of moving of buildings to places where we could make more use of them. We have about run out of buildings to move. I have in mind a combined office-garage at Mink Creek on the Preston district that is of no use to us there that might well be moved. One thought I had was to move it to Cub River and make a guard dwelling of it. At Cub River we now use an old CCC camp tool room which is a poor dwelling.[111]

Although George Nichols inserted many of his 1930s building plans in the 1946 revision, he also presented new plans for portable buildings and designs that reflected a shift in Region 4's architectural identity. In

[108] Grosvenor, 207-08.
[109] Iverson, 6.
[110] Hartley and Schneck, 32 and 91.
[111] Forest Supervisor James Stewart to Joel Frykman, 21 June 1951.

keeping with national trends, Nichols used an architectural vocabulary of multi-pane industrial windows, banked windows, shallow eaves, and minimal detailing. He also provided new direction on the construction of buildings at administrative sites:

- **Dwellings:** Three-bedroom houses would be built at year-round stations or in town where year-round occupancy is intended. Smaller buildings would be built as summer stations.

- **Offices:** These would be built only at year-round headquarters and were to be of R4 Plan 54K or 51. Other plans could be used for the supervisor's headquarters.

- **Barns:** Nichols noted that many of the existing Forest Service barns were not used as much as anticipated. He attributed this to the construction of barns that were larger than necessary or in areas where they were not needed. In addition, the widespread use of automobiles reduced the need for barns. Nichols encouraged each forest to look for surplus barns before building new ones.

- **Lookouts:** Forests could choose from several lookout plans, although Nichols recognized the need to develop other facilities such as housing. Forests were directed to contact the Regional Office before constructing any lookout facility.

- **Work Camps**: This new type of administrative site, which likely had roots in the CCC camps, accommodated work camps of 10 to 100 men. Nichols provided site layouts and standard plans for camp buildings constructed of pre-fabricated panels.

- **Portable and Unit Buildings:** Nichols recognized the need for portable buildings as temporary housing noting, "Certainly this type of structure can be used far better than unsatisfactory or too costly housing now available at many headquarters. In timber operations lasting a year or so, they can be used and then moved to a new operation."[112]

Although Nichols admitted that some old buildings should be removed, he also supported the rehabilitation of others, noting that they should be brought to current standards. He developed standard plans for additions to the New Deal-era buildings, offering to make special plans when necessary. He also permitted the relocation of buildings, or even an entire station:

> On those sites where a mistake has been made in the placement of a structure, consideration should be given to the possibility of moving the structure to the proper location so that the group may be properly developed. There may be cases where it will be desirable to abandon the present site and scrap or move present buildings onto new sites.[113]

As the Forest Service entered the second half of the twentieth century, it prepared for an ambitious building program that was symbolic of the nation's relative prosperity in the 1950s. Many ranger district offices were moved to town and located in Ranch-style buildings, which were seen as more modern and progressive than those of the previous era. These district offices, still referred to as ranger stations, often became large compounds with the addition of more service structures, such as warehouses and radio buildings.[114]

[112] George L. Nichols, "Inspection of Buildings for Maintenance on Nevada National Forest, 1948" TMs [photocopy], located with author.
[113] Ibid.
[114] Carhart, 98.

Regional Architect William Turner, with the assistance of Cal Spaun, designed new standard plans for houses, offices, and support buildings. These new, minimalist designs were characterized by lap siding with a wide exposure, flush doors, 1/1 double-hung windows, and picture windows. Dwellings were typically rectangular in plan, with small gable-roofed entry porches and attached single-car garages. By 1958, Turner had adopted the Region 6 "flat top" lookout, so named for its flat roof, adding to it the following year a concrete-block storage room below and a catwalk.

Turner's designs are nods to George Nichols' designs of the 1930s. Some of his garages have the standard 6-pane barn sash windows, while his paint and oil shed (Plan 173) utilized the 5-panel door. His design for an overnight station, Plan 179-A, appears to be a reinterpretation of Nichols' Plan 7. The dimensions and configuration are the same, but the Turner's windows are 1/1 double-hung, rather than 6-pane sliders, and the front door flush with vertical v-grooves.

Prefabricated buildings provided another option for administrative site development. Before the war, prefabricated dwellings were sold by several private companies and the Farm Security Administration used them to house low-income farm families. Most were made of wood and plywood and were supposedly "insulated, weather-resistant, flame-resistant" as well as "strong, light, and easily handled."[115] The introduction of new materials and techniques led to advances and by the 1950s and 1960s, the Forest Service increasingly relied on them as a quick and cost-effective means of providing administrative facilities.

The Carson Ranger Station on the Humboldt-Toiyabe National Forest reflects the shift in design principles from the New Deal era to the post-war period.

[115] Office of War Information, *American Handbook* (Washington, DC: Public Affairs Press, 1945), 394-96.

PART THREE: Evaluation Guide

Previous page: Paris Ranger Station, Caribou-Targhee National Forest, 1939.

Chapter Eleven: Eligibility

This chapter provides guidelines for evaluating Region 4's administrative sites and buildings for listing in the National Register of Historic Places. In brief, answers to the following questions are needed to make a determination of eligibility. These are discussed in detail on the following pages.

1. **Is the property old enough?**

   It must be at least 50 years old. If younger, it may be listed if it is of "exceptional importance" and meets Criterion Consideration G. Refer to *National Register Bulletin 22: Guidelines for Evaluating and Nominating Properties That Have Achieved Significance Within the Last Fifty Years*. It would be surprising to find an administrative site in Region 4 that meets these requirements.

2. **What is its Area of Significance/Criterion?**

   Every Forest Service administrative site is potentially eligible under Criterion A, with **Conservation** as the Area of Significance. Determine if there are other areas of significance (e.g., **Government/Politics, Architecture,** or **Landscape Architecture**) that apply and to which criterion or criteria they relate.

3. **What type of property is it?**

   Is it a district, building or structure? This will affect the assessment of criteria, periods of significance, and integrity.

4. **What is the Period of Significance?**

   This will often be the period or date of construction or significant development. Buildings constructed after the Period of Significance are generally considered non-contributing resources. There may be more than one period of significance.

5. **Does it have integrity?**

   If a property does not have integrity, it is not eligible for listing in the NRHP. The thresholds of integrity depend on the eligibility criteria and the property type. For example, the architectural features of a building should be relatively unchanged to qualify for Criterion C. However, some alterations to a building may not matter so much if it is eligible under Criterion A, *especially* if it is part of a district.

   A building has not necessarily lost its integrity just because it was moved. Not only is relocating buildings a historical Forest Service trend, but the building may also meet Criterion Consideration B. A building may not have lost integrity just because it is in poor condition. Condition and integrity are two different things.

6. **If it is a district, which buildings are contributing?**

   Identify the period(s) and area(s) of significance to understand which buildings are contributing. Buildings with inadequate integrity are non-contributing, as are those built after the period of significance

AREAS OF SIGNIFICANCE & RESOURCE TYPES

PRIMARY AREA OF SIGNIFICANCE

Properties developed or used by the Forest Service for administering and managing National Forest lands represents the primary theme, or Area of Significance, of **Conservation.** This theme is defined as "the preservation, maintenance, and management of natural or manmade resources" in *National Register Bulletin 16A*. Some State Historic Preservation Offices (SHPOs) may have statewide themes or context statements that supplement or further develop this area of significance. One example is Nevada's theme of **Land Usage: The Public Domain**.

Resources that strongly represent this Area of Significance may be eligible for listing in the National Register of Historic Places under Criterion A. The following resource types are associated with Forest Service administration and, consequently, the theme of Conservation.

- *Administrative Pasture:* A pasture used by Forest officials when traveling through the Forest on stock. These are not included in the Region-wide evaluations unless buildings were constructed.

- *Dwelling Site:* A site developed for the sole purpose of providing housing to Forest Service employees.

- *Experiment Station:* A site, usually with numerous buildings, that is developed for use by Forest Service research stations.

- *Fire Lookout:* A site developed to spot wildfires, it may merely be a high peak with a view or it may have several buildings such as a lookout tower, cabin, fly shed and latrine.

- *Guard Station:* Seasonal employees known as forest guards historically occupied guard station sites during the summer. The sites were comprised of dwellings that often had secondary uses such as offices or storehouses. Other outbuildings such as latrines, barns, garages, and cellars were often constructed. The term is sometimes used interchangeably with "ranger station."

- *Nursery:* A site, often associated with a ranger station, established to grow trees and other plant stock.

- *Patrol Cabin:* A building designed to house wilderness rangers and other Forest Service personnel when working and traveling through wilderness lands. Most are small log cabins reinforced to withstand heavy snow loads and wildlife, with features such as window shutters or bars and bear-resistant doors.

- *Ranger Station:* The ranger station was historically the headquarters and home of the district ranger. Typical buildings included the ranger's dwelling and garage, sometimes a second dwelling for other staff such as a forest guard, an office, and a barn. Utilitarian structures such as pump houses, gas and oil houses, sheds, and warehouses are often part of the ranger station compound. The term "ranger station" is sometimes used interchangeably with "guard station."

- *Snow Surveying Sites.* The Forest Service often used these in conjunction with other agencies and organizations to manage water resources. They are comprised of snow surveying courses (linear resources not included in this evaluation) and cabin sites.

- *Supervisor's Office:* As headquarters of an entire Forest, the Supervisor's Office historically had the most distinctive and often the greatest number of buildings. It usually had the same types of buildings found at ranger stations, although they were often larger.

- *Work Center:* Archival information indicates that this term appeared during or after the New Deal era, when CCC camps were developed. It often refers to a site that is occupied by seasonal or temporary staff in barracks or bunkhouses, and that includes support structures such as warehouses, garages, gas and oil houses, and fire caches. Some historic guard stations and ranger stations are now referred to as work centers.

Resources found on the sites defined above include:

Agricultural
Barn
Hay Barn
Hay Shed
Tack Shed

Fire-Related
Fire Cache
Fire Lookout
Fire Prevention Office

Residential/Domestic
Barracks
Bathhouse
Bunkhouse
Cabin (Patrol, Snow Surveying, etc.)
Cellar
Dwelling
Latrine

Office
Office
(VIS) Office

Utilitarian
Blacksmith Shop
Carpentry Shop
Garage
Gas and Oil House
Generator Shed
Paint Shed
Pesticide Shed
Pump House
Power House
Shop
Sign Shop
Storage Shed
Tool Shed
Warehouse
Woodshed

Cultural Landscape Features
Boneyard
Corral
Driveway
Fence
Flagpole
Footbridge
Loading Ramp
Parking Area
Pasture
Retaining Wall
Walkway
Well

SECONDARY AREAS OF SIGNIFICANCE

In addition to the primary area of Conservation, there are other areas of significance related to Forest Service administrative sites. These are:

Politics/Government OR Social History. The availability of relief funds and labor led to the construction of new administrative sites and the improvement of existing sites in 1933-42. Although the Civilian Conservation Corps gets most of the attention, the Works Progress Administration and local employment programs also made important contributions to administrative site development. Consequently, many will also have Politics/Government OR Social History as an area of significance, depending on the SHPO's preference, which varies from state to state.

Resources considered significant under this sub-theme will be so under Criterion A. In addition to those described above, resource types related to this area of significance include:

- *Camp*: A camp for relief workers such as those in the CCC could be quite extensive with barracks, tent platforms, mess halls, offices, etc. It could also be a temporary tent site, or "spike camp," used by workers in more remote locations. Some of these camps, or facilities within the camps, were later used by the Forest Service for administrative purposes.

- *Landscape Features*: Relief workers constructed a wide range of landscape features such as roads, trails, telephone lines, and range improvements. These features are outside the scope of this evaluation, which focuses specifically on administrative sites and facilities.

Architecture. There were distinct periods of architectural development in Forest Service history. Administrative sites that clearly illustrate the features common to these periods or the evolution, transition, and variation between periods may be eligible under Criterion C.

Landscape Architecture. Some administrative sites, particularly those from the 1933-42 period when many planting plans were designed and implemented, can be classified as Historic Designed Landscapes. Those that clearly illustrate characteristic landscape design principles may be eligible under Criterion C.

NATIONAL REGISTER CRITERIA

To be eligible for listing in the National Register of Historic Places, an administrative site must retain integrity and be historically significant under one of four criteria:

Criterion A: *It is associated with events that have made a significant contribution to the broad patterns of our history.*

All administrative sites are associated with the significant theme of *Conservation* and may be eligible under this criterion. However, a site may not be eligible if it is not "important in illustrating the historic context," or does not "represent the context through specific historic associations." For example, a Basque sheepherder's cabin *recently* acquired and used by the Forest Service for administrative purposes would not be eligible under this theme, although it may be eligible with an area of significance of *Agriculture* or *Ethnic Heritage*.

Criterion B: *It is associated with the lives of persons significant in our past.*

Forest-level historic context statements are important in identifying locally significant individuals. For example, "Rosie's Cabin" on the Bridger-Teton National Forest is listed in the National Register for its association with Rudolph "Rosie" Rosencrans, an individual important in marking and mapping the forest's boundaries.

Criterion C: *It embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction.*

Those resources that embody the distinctive characteristics of Forest Service architecture, site planning, and landscape architecture may be eligible under Criterion C. They may also be eligible if they represent important technical or aesthetic achievements of Forest Service architects and landscape architects such as Region 4 architectural engineer George L. Nichols.

Criterion D: *It has yielded, or may likely yield, information important to prehistory or history.*

This criterion may apply, particularly when there are archeological resources present. This Region-wide initiative to evaluate historic facilities under Section 110 of the NHPA does not include archeological surveys. Should an undertaking be proposed, evaluation of archeological resources would be carried out as part of the Section 106 process.

TEMPORAL DISTRIBUTION

As previously explained, the temporal boundaries span from 1891 to 1960, a period that is divided into five subsets. These represent relevant shifts in the culture, patterns, and events of Forest Service administration at the national, regional and local levels.

1891-1904 A building constructed during this period may be significant for its rarity, especially if it was built specifically for National Forest administration.

1905-1932 There are few intact Forest Service buildings from this period. Those that do exist were often remodeled during the 1933-42 era and may be significant for association with New Deal programs. Intact facilities constructed from the 1908 standard plans are relatively rare.

1933-1942 This is the richest period, thanks to relief funding and labor. Site and building plans were standardized while specialized building types such as gas houses were designed and built. Buildings constructed during this time are typically associated with New Deal programs such as the Civilian Conservation Corps. They often embody the most distinctive characteristics of Forest Service design and planning.

1942-1946 The Forest Service built few administrative facilities during this time. Resources from this period are often associated with the military. Some are surplus buildings that the Forest Service acquired in later years while Conscientious Objectors or even prisoners of war may have built others.

1947-1960 This period marks a renewal of Forest Service design and planning, with an emphasis on portable and prefabricated buildings. The standard Region 4 buildings were transformed from the period revival styles to ranch and minimal traditional forms over these years.

PROPERTY TYPE

It is important to identify the property type (site, district, building, structure or object) because this will affect the assessment of integrity. Typically, a small site with few buildings will be classified as a *building*, while a larger compound of buildings and structures is considered a *district*.

An example of the former is a guard station cabin with an associated garage, latrine, and a few, small-scale site features. In this case, the integrity of the individual buildings is quite important. On the other hand, a *district* may be a large work center with numerous buildings, a flagpole, fences, a boneyard, historic plantings and other features. According to *National Register Bulletin 15*, it "derives its importance from being a unified entity, even though it is often composed of a wide variety of resources." Buildings or structures in a district may lack individual distinction or have lower integrity, but a district may still be eligible if the grouping achieves distinction and significance as a whole.

Of the five SHPOs in Region 4, one (Idaho) has requested that administrative sites be evaluated as cultural landscapes. Some administrative sites don't have the features to be considered cultural

landscapes. Those that do would be considered districts[116] and can usually be classified as one of two types of cultural landscapes:

Rural Historic Landscape, which is defined as "a geographical area that historically has been used by people, or shaped or modified by human activity, occupancy, or intervention, and that possesses a significant concentration, linkage, or continuity of areas of land use, vegetation, buildings and structures, roads and waterways, and natural features."[117]

Designed Historic Landscape, which is defined as "a landscape that has significance as a design or work of art; was consciously designed and laid out by a master gardener, landscape architect, architect, or horticulturalist to a design principal, or an owner or other amateur using a recognized style or tradition in response or reaction to a recognized style or tradition; has a historical association with a significant person, trend, event, etc. in landscape gardening or landscape architecture; or a significant relationship to the theory or practice of landscape architecture."[118]

Forest Service administrative sites developed before the New Deal period were often done so without the conscious planning of a trained designer and would be considered rural historic landscapes. Sites developed during the New Deal period (1933-42) may be historic designed landscapes because the regional architect and landscape architects used identifiable design principles that addressed spatial relationships, orientation, building materials, plantings, circulation, and other characteristics.

COMPARATIVE ANALYSIS

It is important to compare properties within a historic context. Comparison identifies uniqueness, rarity, and the "best" properties with the "strongest" associations with areas of significance. This is particularly important if the site does not clearly have the features that characterize the theme, or area of significance. Example:

> The San Juan Guard Station on the Humboldt-Toiyabe National Forest consists of a c.1930 cabin and a c.1935, New Deal-era latrine. It was determined to be ineligible because it does not demonstrate an important association with the historic themes of Forest Service administrative sites. Evidence about the site indicate it was not extensively developed or used and, consequently, did not play a significant role in Forest Service administration. It lacks many site and building features typically found at other Forest Service sites. The Meadow Canyon Guard Station and Mahoney Guard Station better portray guard station development prior to the New Deal era.

As the inventory of administrative facilities in Region 4 progresses, a better understanding of rare or unique building types will be achieved. Intact buildings constructed from 1908 standard plans are rare, as are administrative facilities built before 1905. Even those with construction dates between 1905 and 1932 are few and far between. Buildings constructed during the New Deal era abound, but some standard plans are more common than others. Houses of Plans 1, 7, and 7A are widespread, while those of Plans 4, 5, 6, and 8 are found less often. The Plan 2 dwelling is rare and only one Plan 9 is known to exist. The most prevalent office building appears to be the Plan 51. The Plan 54 offices are few in number, as they were

[116] Cultural landscapes can also be classified as a "site." This study focuses on administrative buildings and compounds, which would be districts, while those outside of the scope of this study (e.g., administrative pastures) may be sites. This context lays the groundwork for evaluation of those sites in the future.

[117] Linda Flint McClelland, et. al., *Guidelines for Evaluating and Documenting Rural Historic Landscapes,* National Register Bulletin 30, USDI National Park Service, Interagency Resources Division, n.d., 1-2.

[118] J. Timothy Keller and Genevieve P. Keller, *How to Evaluate and Nominate Designed Historic Landscapes,* National Register Bulletin 18, USDI National Park Service, Interagency Resources Division, n.d., 2.

originally constructed as headquarters for an entire forest. The Plan 80 lookouts dominate the northern forests; lookouts of other plans are less common.

PERIOD OF SIGNIFICANCE

The Period of Significance for a Forest Service administrative site typically corresponds with the construction date or period. It is possible to have more than one period and for a period to be a single date. The Period of Significance will usually fall sometime between 1905 when the Forest Service was created and the 50-year cutoff date (1954 at the time of this writing). There are some exceptions. A house constructed in 1880 and eligible under Criterion C would have a period of significance of 1880. It may have other periods of significance such as 1910 when the Forest Service acquired it for use as an administrative site.

INTEGRITY

Integrity is the ability of a property to convey its significance. The level of integrity is based on the degree of preservation and the amount of disturbance caused by alterations or loss of materials. In determining if a property has adequate integrity, it must retain "essential physical features," which define both *why* a property is significant (criteria and themes) and *when* it was significant (period of significance). In other words, if a CCC-constructed ranger station is significant for its association with Conservation and New Deal Programs, does it still look like a CCC-constructed ranger station? Does it still look like a 1930s Forest Service compound?

There are seven aspects of integrity (location, design, setting, materials, workmanship, feeling, and association) and a property must retain several of these to convey its significance. Some aspects of integrity are more important than others, depending on the eligibility criteria:

Criterion A: The resource should retain some aspects of integrity, although design and workmanship may not be as important as the others.

Criterion B: The resource should retain some aspects of integrity, although design and workmanship may not be as important as the others.

Criterion C: Resources significant under this criterion are eligible if they retain most or all physical features that constitute the construction technique or architectural style. It is not eligible if it conveys massing but has lost the majority of the features that characterized it. The most important aspects of integrity are design, workmanship and materials. Location and setting will also be important for those resources whose design is a reflection of their immediate environment (e.g., a lookout tower on a mountain peak).

Criterion D: Resources significant under this criterion may not have the type of integrity described under the other criteria. Of the seven aspects, location, design, materials and possibly workmanship are the most important.

MOVED BUILDINGS

Certain types of properties are not considered eligible to the National Register. These include religious properties, moved properties, birthplaces and graves, cemeteries, reconstructed properties, and commemorative properties. Normally, a moved building is not considered eligible because the move destroys the relationship between it and its surroundings. The move may also destroy associations with historic events and person.

Recent research has proved that moving and reconfiguring buildings is a historical trend for Forest Service administrative sites. Nineteen percent of surveyed historic facilities on the Dixie National Forest have been relocated. Compare this to the Bridger-Teton (21%), the Boise (25%) and the Humboldt-Toiyabe (27%) forests. Pit latrines are a prime example of buildings that were often moved around on a site or relocated to a new site. A 1930s, standard-plan building moved to an administrative site of other standard buildings from the 1930s would likely retain six of the seven aspects of integrity, diminishing only the aspect of location.

Relocation of buildings, carried out since the first years of the Agency, was important in accommodating changing administrative needs and management of public lands, particularly as funds to construct new buildings were limited. For that reason, the relocations of Forest Service buildings are considered part of a historically important pattern or trend. Consequently, relocation should not be the sole reason for a determination of ineligibility. Aside from relocation being a historical Forest Service trend, some moved buildings meet Criterion Consideration B, which states:

> *A property removed from its original or historically significant location can be eligible if it is significant primarily for architectural value or it is the surviving property most importantly associated with a historic person or event.*

Properties that must meet this criterion consideration include:

- A resource moved from one location on its original site to another location on the property, during or after its Period of Significance.
- A district in which a significant number of resources have been moved from their original locations.
- A district that has one moved building that makes an especially significant contribution to the district.
- A portable resource, such as a ship or railroad car, that is relocation to a place incompatible with its original function.
- A portable resource whose importance is critically linked to its historic location or route and that is moved.

Properties that *do not* need to meet this criterion include:

- A property moved prior to its Period of Significance.
- A district in which only a small percentage of typical buildings in a district are moved.
- A portable resource that is eligible under Criterion C and is moved within its natural setting.
- A property that is raised or lowered on its foundation.

Those properties that are significant under Criterion C must retain enough historic features to convey its architectural values and must retain integrity of design, materials, workmanship, feeling and association.

CONTRIBUTING VS. NON-CONTRIBUTING

Each building, structure, or object on site should be evaluated for its contribution to the significance of the overall site. **Contributing** resources add to the historic associations and historic architectural qualities because:

- it was present during the period of significance, relates to the documented significance of the property, and possesses historic integrity or is capable of yielding important information about the period; or
- it independently meets National Register criteria.

A resource is considered **noncontributing** if it does not add to the historic associations and historic architectural qualities because:

- it was not present during the period of significance or does not relate to the documented significance of the property;
- due to alterations, disturbances, additions, or other changes it no longer possesses historic integrity or is capable of yielding important information about the period; or
- it does not independently meet the National Register criteria.

ELIGIBILITY OF INDIVIDUAL BUILDINGS

Reviewing administrative sites as a whole is the recommended approach when making determinations of eligibility. Rarely will an individual building be eligible when the administrative site is ineligible. This may be the case if a building is unique, has distinctive architectural or artistic qualities, or has specific associations with important individuals or events. Determinations of eligibility in these cases require the support of a comparative context at the appropriate local, state or national levels. These buildings also require high integrity of their physical features. In summary:

1. The administrative site, not individual facilities, is the unit of analysis and it obtains significance under Criterion A by virtue of being a Forest Service administrative site.
2. Individual facilities might be found eligible under Criteria A, B, and/or C, but not for reasons associated with their relationship to the administrative site.
3. Physical integrity of the properties should be high.

Chapter Twelve: Characteristic Features

Characteristic features are the physical attributes that relate a site or building to its historic context. For example, pointed arches characterize Gothic architecture, water wheels were important to gristmills, and public greens were typically found in early New England towns. Region 4's administrative sites and buildings also have characteristic features, which were identified in surveys of 604 administrative facilities on five forests in four states.

SITE CHARACTERISTICS

LAND USES AND ACTIVITIES

Land uses are fairly consistent and, at a broad scale, are logically described as administrative. In other words, the uses carried out at these sites supported administration and management of the nation's forests. This is most evident in the use of a site as an office or headquarters. Other uses were agricultural (pasturage of horses, cultivation of hay, planting of small gardens or orchards) and residential (accommodation of employees and families).

PATTERNS OF SPATIAL ORGANIZATION

On paper, administrative sites could be quite large, encompassing several hundred acres, but most of the development took place in a more compact area. Buildings are typically arranged in a small cluster. Part or all of the remaining acreage may have been fenced as a pasture but, in recent decades, many pastures have been reduced in size or eliminated altogether by removing the fences. Barns were sometimes placed at some distance from the main compound, presumably to reduce animal odors. Powder houses and cap houses were always situated a considerable distance from other buildings due to the potential for explosions.

The earliest administrative sites do not reflect formal site planning principles, instead representing vernacular homesteading traditions. Such examples are uncommon, however, as most were removed or redeveloped during the New Deal period, when site planning guidelines were introduced. For example, houses are separated from the office and service buildings by a driveway to provide the family privacy. Offices and houses usually face the street or road, although they sometimes face scenic views in rural areas, or are oriented according to weather patterns. Utilitarian and agricultural structures are located at the rear of the site. Larger sites often have a paved or gravel parking area and/or “boneyard” for the storage of materials needed in maintenance of trails, campgrounds and other forest facilities.

RESPONSE TO THE NATURAL ENVIRONMENT

Rural administrative sites will typically be located near a water source, which could be a river, perennial stream or simply a spring. Positioning of buildings was also influenced by views, slope and vegetation. Sites in town are often in residential or light commercial areas. (Many historic sites in larger cities were sold or moved as land values increased.) Lookouts are characterized by locations on peaks with dramatic views and steep topography.

CIRCULATION NETWORKS

In rural areas, administrative sites are almost always located along a road (often a forest road) or a trail. A driveway from the road or street typically bisects the residential and office buildings. Concrete sidewalks tying the buildings together are very common, while stone walks are found less often.

BOUNDARY DEMARCATIONS

Fences are common features at administrative sites, although they do not always correspond to the official boundary of the administrative site, particularly when those sites are on National Forest lands. In addition to boundary fences, the yard around the dwelling was typically enclosed while yet another fence encircled the compound of buildings.

VEGETATION RELATED TO LAND USE

Native vegetation is a dominant feature for all rural sites, whether it is a sagebrush, pinyon-juniper, fir-spruce or other plant community. During the New Deal era, the Forest Service implemented planting plans utilizing native and exotic species for most sites. Some remnants, particularly Russian olives, lilacs, currants, and other species needing little care may still be found, particularly around dwellings.

ARCHEOLOGICAL SITES

Given the desirability of locating near water sources and existing circulation routes, Forest Service sites are sometimes (if not often) associated with prehistoric resources. Some are also associated with past historic uses such as mining or tie hacking. Archeological resources from the Forest Service period include latrine and trash pits, as well as foundations or remnants of former buildings, structures (e.g., corrals), and objects (e.g., flagpoles).

SMALL-SCALE ELEMENTS

The most prevalent small-scale elements at Forest Service administrative sites are the flagpole and sign. Retaining walls and steps (often of stone) are relatively common, as are clotheslines, loading ramps, corrals and cattle guards. Fences are a frequently found feature, encompassing pastures, corrals and yards. They are usually made of barbed or welded wire, wood posts, boards and logs in a variety of configurations: 3- or 4-rail, worm, log-and-block, and buck pole to name a few. Rarer features are footbridges, fountains or man-made ponds.

BUILDING CHARACTERISTICS

TYPOLOGY AND STYLES

Region 4 has some administrative buildings that can be classified by their architectural styles – typically period styles of the 1920s-1940s. The Colonial Revival style is apparent in Plans 1 and 8, while the Classical Revival style can be found in Plans 4, 5, 7,and 51. The Plan 53 dwelling is more difficult to define but appears to be a Minimal Traditional home with vague Tudor Revival references.

Most Region 4 buildings are not defined by a style, but are “folk” or “vernacular.” Vernacular buildings rely on locally available materials, simple forms, and little or no ornament. They are not described by **style** but by the **typology** that reflects their form and plan. Some types found in Region 4 include the “one-cell,” “two-cell” “hall-and-parlor,” and “pyramidal.”

PLAN

Most are rectangular with one or two rooms (also known as one- or two-cell buildings). The permanent dwellings had more rooms. The Plan 1 dwelling is one of few standard designs with an irregular plan shape.

STORIES

Most buildings are one story, although some houses and warehouses are one-and-one-half stories. Barns are typically one-and-one-half stories, allowing for a hayloft. Administrative facilities with two stories or more are rare.

CONSTRUCTION SYSTEMS AND SIDING

The majority of foundations are of poured concrete, although some pre-1933 buildings rest on grade or stone piers. Full or partial basements are usually found on houses constructed in 1933 or later. Platform framing (e.g., 2x4 or 2x6 framing) is the dominant construction system. This should not be confused with balloon framing which fell into disuse by the turn of the century. Surveys indicate 84% to 90% of a forest's facilities utilize platform framing, with log buildings comprising only 4% (in Utah) to 15% (on the Boise National Forest). The few made of stone, brick or concrete are often cellars or powder houses. Lookouts may be on wood or steel towers to permit views above vegetation.

The most common siding for the light-frame structures is shiplap siding with a novelty or rustic profile and corner boards. Log siding, known by the brand name of "Shevlin," is also typical, particularly in areas with conifer vegetation. Board-and-batten siding is often an indicator of the earliest administrative facilities or of CCC camp buildings.

Prefabrication made its appearance during the CCC era. By 1935, Region 4 had developed standard plans for "camp buildings," which were clad with board-and-batten siding and placed on skids or post foundations so they could be moved easily. Many lookouts were also prefabricated structures, necessitated by difficult transport of materials to mountain peaks.

ROOFS

Gable roofs (particularly front-gabled roofs) prevail with 85% of the surveyed buildings having them. Although pyramidal hip roofs are found on nearly all fire lookouts, other hip roofs are indicative of pre-1933 buildings (most prevalent during the 1910s and 1920s). Some shed roofs can be found but these are usually confined to small support structures. There are always exceptions to roof types. Recent surveys on the Boise National Forest have revealed a few gambrel roofs while some early dwellings on the Dixie National Forest sport gable-on-hip roofs. These may reflect the skills of a local builder or merely the historic preferences of the local population.

Wood shingles are the dominant roofing material, with corrugated metal a secondary choice for some structures. All but a few buildings have exposed rafter tails. The Plan 8 dwelling is one of few standard plans with boxed eaves.

FENESTRATION

The earliest buildings may have 1/1 or 2/2 double-hung wood windows. Later, the 4-pane and 6-pane sashes became popular and were standards in Region 4 by 1933 (possibly earlier). These were installed to operate in a variety of ways: casement, sliding, hopper, awning and fixed. Some dwellings had shutters with pine tree cutouts in the upper panels. This too was a standard design. Certain buildings often do not have windows. This is particularly true for powder houses, woodsheds, fly sheds, and cellars. Lookouts are characterized by a band of windows on all elevations, thus providing personnel an unobstructed view.

The most common standard door is a wood door with five horizontal panels. On dwellings, these are used on secondary entrances while the primary entrance was a 4-pane, 3-panel door. The 4-panel door with fanlight was specified for the Plan 1 dwelling in keeping with its Colonial Revival style. The Plan 53

dwelling door, with its vertical planks, large iron strap hinges and leaded glass window, is characteristic of Tudor Revival homes.

Agricultural and utilitarian buildings typically have large sliding or swinging doors, sometimes paired, and characterized by "X" and "Z" bracing painted in a contrasting color. Vertical plank doors also grace these types of buildings and may indicate a pre-1933 date.

CHIMNEYS

Chimneys are typically made of metal flue pipe or brick, which was used more often after 1933 resulting from increased facilities funding. Most are interior chimneys that protrude through the side slopes of roofs. There are few stone chimneys.

PORCHES

Porches are found on dwellings and may be full-width (typical on the Classical Revival plans), partial width, or entry porches. Floors may be concrete or tongue-and-groove boards. Posts may be peeled logs, but most from the 1933-42 era are box columns with base, corner and cap moulding. Porch ceilings are typically varnished beadboard or, in earlier buildings, have exposed framing.

COLOR SCHEMES

Region 4 administrative sites are often identified by their standard color schemes. Most common are the brown scheme (for siding and roof) and the white-and-green scheme (white body, green trim and roof).

INTERIOR FINISHES AND FEATURES

Common interior finishes for dwellings included tongue-and-groove floors (sometimes covered with linoleum in kitchens and bathrooms), plaster or Firtex walls and ceiling, and simple trim and moulding. Firtex, a composite material, is similar to Beaverboard and Celotex. Two types of standard moulding are often found. The fluted moulding is used to cover Firtex joints while the other was used as crown moulding.

Other important elements in historic Region 4 facilities include fold-down wall tables, kitchen cabinets, fireplaces, built-in bookshelves, medicine cabinets, arched openings, and telephone alcoves.

APPENDICES

PREVIOUS PAGE: Vermillion Castle Guard Station, Dixie National Forest, 1941.

Appendix A: Timeline

Some dates are approval dates; others are effective dates.

1862 May 15: U.S. Department of Agriculture (USDA) is established.

1875 September 10: American Forestry Association is formed.

1881 Division of Forestry is established in the USDA.

1891 March 3: Forest Reserve Act (also known as the Creative Act) is passed, giving the President power to establish forest reserves from public domain.

March 30: President Benjamin Harrison creates first forest reserve (Yellowstone Timberland Reserve), which is administered by the General Land Office (GLO) in the Department of the Interior (DOI).

1893 President Harrison leaves office after creating 15 reserves totaling 13 million acres. Grover Cleveland adds 5 million acres to forest reserve area.

1897 February 22: President Cleveland creates 13 "Washington's Birthday" forest reserves including the Teton (WY) and Uintah (UT) reserves.

June 4: Congress passes the Organic Act, which specifies the purposes for which forest reserves can be established, their administration and protection. The act allowed hiring of employees to administer the forests and opened the reserves for use.

Sheep are banned from forest reserves. Grazing permits are issued for horses and cattle.

1898 July 1: Gifford Pinchot succeeds Bernard Fernow as Chief of the USDA's Division of Forestry.

GLO employs the first forest rangers.

1899 February 10: Fish Lake Forest Reserve (UT) is established.

February 28: Act is passed allowing recreational use on the forest reserves.

Sheep are allowed back on forest reserves, but are regulated.

1901 USDA Division of Forestry is renamed the Bureau of Forestry. A new Division of Forestry (Division R) is created in the DOI.

August 3: Payson Forest Reserve (UT) is established.

1902 The Minnesota Forest Reserve is established. It is the first created by Congress and not by Presidential proclamation.

Alfred Potter surveys the Wasatch Mountain range in Utah for potential forest reserves (July-November)

1903 May 29: Logan and Manti forest reserves are established in Utah.

September 5: Pocatello Forest Reserve (ID) is established.

October 24: Aquarius Forest Reserve (UT) is established.

1904 May 7: Grantsville Forest Reserve (UT) is established.

May 26: Salt Lake Forest Reserve (UT) is established.

1905 Publication of the first USFS manual, *The Use Book,* which codifies laws, regulations and standards for administration.

February 1: Forest reserves are transferred from DOI to USDA.

March 3: Act is passed renaming the Bureau of Forestry as the Forest Service (USFS), effective July 1, with Gifford Pinchot as Chief.

May 12: Sevier Forest Reserve (UT) is established.

May 23: Henrys Lake Forest Reserve (ID) is established.

May 25: Weiser Forest Reserve (ID) is established.

May 29: Sawtooth Forest Reserve (ID) is established.

June 3: Payette Forest Reserve (ID) is established.

June 12: Cassia Forest Reserve (ID) is established.

September 25: Dixie Forest Reserve (UT) is established.

1906 January 24: Beaver Forest Reserve (UT) is established.

January 25: La Sal Forest Reserve (UT, CO) is established.

April 24: Vernon Forest Reserve (UT) is established.

May 3: Ruby Mountains Forest Reserve (NV) is established.

May 19: Fillmore Forest Reserve (UT) is established.

May 28: Logan Forest Reserve is combined with other land to establish the Bear River Forest Reserve.

June 11: Homestead Act is passed, allowing agricultural lands within forest reserves to be available for homesteading purposes.

August 16: Wasatch Forest Reserve (UT) is established.

November 5: Raft River (UT, ID), Lemhi (ID), Salmon River (ID), Independence (NV), and Charleston (NV) forest reserves are established.

Pinchot organizes the forest reserves into three inspection districts.

1907 The three inspection districts are reorganized into six districts, with District 4's headquarters in Salt Lake City.

January 15: Caribou Forest Reserve (ID, WY) is established.

February 6: Monticello (UT) and Glenwood (UT) forest reserves are established.

March 1: President Roosevelt created new forest reserves or added area to existing reserves before the Act of March 4 went into effect. These "midnight reserves" included the Port Neuf (ID) and Toiyabe (NV) reserves.

March 4: Act is passed requiring the forest reserves to be renamed National Forests and forbidding the establishment or enlargement of forests in six western states (Oregon, Washington, Idaho, Montana, Colorado and Wyoming) except by Act of Congress.

April 15: Toquima (NV) and Monitor (NV) national forests are established.

December 12: Vegas National Forest (NV) is established.

Small nursery is set up in Blacksmith Fork Canyon, Cache National Forest.

1908 First experiment station is established on the Coconino NF in Arizona.

Pocatello Nursery is set up near Mink Creek, Idaho.

Forest Service begins offering a 5-week training program in Washington, DC and a short course in forestry at the Utah State Agricultural College in Logan.

May 26: Pocatello NF absorbs the Port Neuf and part of the Bear River reserves in Idaho. The Cache NF (ID, UT) is established from the other part of the Bear River forest.

June 18: The Nebo NF (UT) is established from the Vernon, Payson and part of the Fillmore forests. The remaining part of the Fillmore NF absorbs the Beaver NF.

June 25: The Challis (ID) and Salmon (ID) national forests are established.

June 26: Parts of the Salmon River NF are absorbed by the new Challis and Salmon forests in Idaho. Part of the Lemhi is transferred to the Salmon.

June 26: Part of the Weiser NF is transferred to the Payette NF. (Another part is combined with the Bitter Root to establish the Nezperce NF in Region 1.)

June 26: The Idaho NF is established from part of the Payette NF. Land from the Sawtooth and Weiser forests are added to the Payette NF. The Boise NF is established with land from the Sawtooth NF. Other land from the Sawtooth is transferred to the Challis, Lemhi and Payette forests.

July 1: The Yellowstone National Forest is divided among four forests in Region 1 and three forests in Region 4 (Targhee, Wyoming, Teton). The Targhee NF is established with part of the Yellowstone and Henrys Lake forests. With parts of the Yellowstone forest, the Wyoming NF is established and the Teton NF is re-established. The Ashley NF (UT) is established from part of the Uinta NF.

July 2: The Minidoka NF (ID, UT) is established by combining the Cassia and Raft River forests. The Humboldt NF (NV) is established by combining the Ruby Mountains and Independence forests. The Moapa NF (NV) is established by combining the Charleston and Vegas forests. The Toiyabe NF absorbs the Monitor and Toquima forests. The Fish Lake NF absorbs the Glenwood NF and the name is changed to the Fishlake NF. The La Sal NF (UT, CO) absorbs the Monticello NF and the name is changed to the La Salle NF. (It is changed back to La Sal on March 16, 1909.) The Wasatch NF absorbs the Grantsville and Salt Lake forests. The Aquarius NF is renamed the Powell National Forest. The Kaibab NF (AZ) is established.

December 1: USFS's six inspection districts were reorganized as six administrative districts with headquarters in Missoula, Denver, Albuquerque, Ogden, San Francisco and Portland.

1909 Ogden is designated a Forest Service supply depot for the six administrative districts.

February 10: Nevada National Forest (NV) is established.

1910 Act is passed authorizing the President to reserve public lands for irrigation or water power sites.

Severe forest fires in Idaho and Montana burned more than 3 million acres and killed 85 people.

First snow survey courses are laid out in Nevada.

January 7: Gifford Pinchot is fired by President Taft and replaced by Henry S. Graves.

June 28: The Palisade NF (ID, WY) is established with land from the Targhee NF. The Targhee and Lemhi forests receive land from the Beaverhead NF.

July 1: Part of the Nebo NF is transferred to the Wasatch.

October 7: The Ashley and Uinta forests exchange lands.

November 25: The Toiyabe NF receives land from the Mono NF.

1911 March 1: Weeks Act is passed. Authorizes federal and state cooperation in forestry and fire protection, as well as government purchases of land in the headwaters of navigable streams and of forest land in the East. Leads to numerous additions to and eliminations of national forest lands. Forest boundaries are moved to ridgelines.

June 30: Part of the Weiser NF is transferred to the Payette NF. The Bridger NF (WY) is established from part of the Bonneville. Land is transferred from the Weiser NF to the Payette NF.

1912 California is added to the list of states that require an Act of Congress to create a national forest.

Utah Experiment Station is established on the Manti NF.

June 19: The Ruby NF (NV) is established from part of the Humboldt.

1913 May 19: Parts of the Salmon NF are transferred to the Challis and Lemhi forests, while parts are received from the Challis and Beaverhead forests. The Challis NF also receives land from the Sawtooth NF.

June 27: Part of the Manti NF is transferred to the Fishlake NF.

September 4: Part of the Nebo NF is transferred to the Fillmore NF.

1915 Strong support for recreational development.

USFS Branch of Research is established.

March 15: The term lease law is passed, allowing permits for stores, hotels, summer homes, and other structures on national forests.

March 24: Part of the Nebo NF is transferred to the Manti NF.

April 6: Toiyabe NF absorbs the Moapa NF.

April 21: The Cache NF absorbs the Pocatello NF.

June 23: The Uinta NF absorbs the Nebo NF. Part of the Uinta NF goes to the Wasatch NF.

1916 National Park Service is created, prompting the USFS to focus more on recreational development.

First USFS campground is constructed.

May 10: The Moapa Division is transferred from the Toiyabe NF to the Dixie NF.

June 30: The Bridger NF absorbs land from the Washakie NF.

June 6: The Humboldt NF absorbs the Ruby and the Santa Rosa forests. The Targhee NF absorbs the Palisade NF.

1917 October 23: Part of the Manti NF is transferred to the Fishlake NF.

1918 The name of the Utah Experiment Station is changed to the Great Basin Experiment Station.

Pocatello Nursery is closed.

1919 First snow survey courses are laid out in Wyoming.

February 26: Land is transferred from the Kaibab NF to create the Grand Canyon National Park.

1921 First snow survey courses are laid out in Idaho.

1922 February 14: The Dixie and Powell forests absorb the Sevier NF.

March 20: Act is passed allowing the exchange of land in national forests for private land within forest boundaries.

1923 May 14: The Wyoming NF absorbed the Bridger NF.

September 24: The Fishlake NF absorbs the Fillmore NF.

November 6: Land is transferred from the Manti NF to the Uinta NF.

1924 First snow survey courses are laid out in Utah.

March 18: The Mt. Trumbull Division (AZ) of the Dixie NF is transferred to the Kaibab NF.

June 3: First wilderness area is established on the Gila NF in New Mexico.

June 7: Clarke-McNary Act is passed, expanding the 1911 Weeks Act authority for Federal-State cooperation in fire protection and forestry efforts. Allows purchases of forest lands in watersheds, not just the headwaters, of navigable streams.

June 7: Land is transferred from the Powell NF to the Utah National Park.

1925 March 3: Act is passed authorizing the purchase of land for headquarters or ranger stations "where no suitable Government lands are available."

1926 Arizona and New Mexico are added to the list of states that require an Act of Congress to create a national forest.

March 24: Lands were traded between the Idaho, Payette and Salmon forests.

1927 February 25: Land is transferred from the Kaibab NF to the Grand Canyon National Park.

1928 Woodruff-McNary Act is passed, providing money for more land purchases.

McSweeney-McNary Act is passed, establishing a ten-year forestry research program and survey of forestry resources. Establishes regional experiment stations.

February 25: Land transferred from the Powell NF to the Bryce Canyon National Park.

1929 The Bureau of Animal Industry's Sheep Experiment Station in Dubois, Idaho is established.

February 26: Land transferred from the Teton NF to the Grand Teton National Park.

May 1: "districts" are renamed "regions" to avoid confusion with ranger districts.

July 30: Land transferred from the Uinta NF to the Wasatch NF.

1930 July 1: Intermountain Forest and Range Experiment Station is established.

September 25: Lands are traded between the Lemhi and Salmon forests.

1931 January 5: Land is transferred from Powell NF to Bryce Canyon National Park.

February 17: Land is transferred from Bryce Canyon NP to Powell NF.

May 4: Land is transferred from Powell NF to Bryce Canyon National Park.

1932 June 23: Nevada NF absorbs the Toiyabe NF.

September 21: The Boise and Sawtooth forests trade lands. Land is transferred from the Challis NF to the Sawtooth NF.

1933 Forest Service sends the Copeland Report to the Senate, calling for a comprehensive management plan for the national forests, including plans for trails, recreation facilities, administrative facilities and lookouts.

The Kaibab NF is transferred to Region 3.

The Boise Basin Experimental Station, the Desert Experimental Range, and the Davis County Experimental Range are created.

April 5: Office of Emergency Conservation Work is established.

April 17: First ECW (CCC) camp is established on the George Washington National Forest near Luray, Virginia.

May 12: Federal Emergency Relief Administration (FERA or ERA) is established. Included a Works Division that later became the WPA.

August 22: Cedar Breaks National Monument is created and is transferred from the Dixie NF to the National Park Service.

November 7: The Ashley and Wasatch forests trade lands

1934 President Roosevelt signs an Executive Order to purchase sub-marginal agricultural lands and improve them through public works programs.

June 28: Taylor Grazing Act is passed, ending unregulated grazing on national forests.

1935 April 8: Emergency Relief Appropriations (ERA) Act is passed, continues funding and operation of CCC camps.

Works Progress Administration is created from the Works Division of FERA.

January 9: Land transferred from Uinta NF to Wasatch NF.

1936 Tony Grove Nursery is set up on the Cache NF; small nursery is set up on Bannock Creek on the Boise NF.

1937 June 28: Emergency Conservation Work is renamed Civilian Conservation Corps

April 19: Moapa Division (NV) transferred from the Dixie NF to the Nevada NF.

July 22: The Bankhead-Jones Act is passed, building on a 1934 executive order to purchase and develop sub-marginal lands.

1938 May 9: The Toiyabe NF is re-established with the lands from the Nevada NF and the Santa Rosa Division of the Humboldt NF.

October 8: The Challis and Salmon forests absorb the Lemhi NF. Lands from the Targhee NF are transferred to the Salmon and Challis forests.

1939 The snow survey program is transferred from the USFS to the Soil Conservation Service.

May 11: The Cache and Caribou forests trade lands.

1940 February 25: Land is transferred from the Idaho NF to the Salmon NF.

July 1: First smokejumpers go into action on the Nez Perce NF.

1941 February 28: Ranger Karl Wilkinson is killed by an avalanche while carrying out snow surveys on the Humboldt NF.

March 10: The name of the Wyoming NF is changed back to Bridger NF.

1942 April 7: Malad Division is transferred from Cache NF to Caribou NF.

June 30: CCC is eliminated

1943 The first smokejumper unit is set up in Region 4 at McCall, Idaho on the Payette NF.

March 15: Land transferred to Jackson Hole National Monument

1944 March 18: The "Old Payette" NF is transferred to the Boise NF. The "New Payette" NF is established with lands from the Weiser and Idaho forests.

1945 January 19: The Dixie NF absorbs the Powell NF.

November 6: The Boise NF transfers land to the Payette NF.

December 18: Toiyabe NF receives lands from the Tahoe and the Mono forests in California. Mono NF is abolished.

1946 General Land Office and Division of Grazing, both in the DOI, are combined to form the Bureau of Land Management (BLM).

1948 A smokejumper unit is established at Idaho City on the Boise NF.

December 28: Land is transferred from the Salmon NF to the Targhee NF.

1949 November 28: Manti NF and La Sal National Forest are consolidated.

1950 April 24: Granger-Thye Act is passed, upholding USFS authority to regulate and collect grazing fees.

May 6: Toiyabe NF trades land with the Plumas and Tahoe forests in California.

August 28: Name of the Manti NF is changed to the Manti-La Sal NF.

September 14: Teton NF receives land from the Jackson Hole National Monument.

1951 Santa Rosa Division is transferred from the Toiyabe NF to the Humboldt NF.

1953 The Northern Research Station merges with the Intermountain Research Station and headquarters are established in Ogden.

October 23: Sawtooth NF absorbs the Mindoka NF.

1954 January 2: Administration of Bankhead-Jones (aka Title III) lands is transferred from the SCS to the USFS.

March 30: Lands are traded between the Ashley, Uinta and Wasatch forests (This action is amended on December 30, 1954.)

1957 "Operation Outdoors," a five-year expansion and renovation plan for recreation facilities, is implemented.

September 9: Humboldt and Toiyabe forests absorb the Nevada NF.

1959 The Lucky Peak Nursery is established on the Boise NF.

1961 June 26: Land from the Targhee NF is transferred to the Caribou and Bridger forests.

1963 Accelerated Public Works (APW) program is implemented, providing 9,000 jobs for unemployed men in campgrounds, tree planting, roads, trails, facilities, etc.

1964 Wilderness Act is passed, classifying 9.1 million acres of National Forest land as wilderness and 5.5 million acres as Primitive Areas.

Job Corps program is implemented to train disadvantaged youths for forest management jobs.

1965 Lucky Peak Nursery is established on the Boise NF.

1969 July 14: Land transferred from Ashley NF to Uinta NF.

1974 Youth Conservation Corps (YCC) program is implemented to employ youths in conservation work.

1977 Youth Adult Conservation Corps (YACC) program is implemented to hire young adults to work in resource management.

1986 October 27: Land transferred from Humboldt NF to Great Basin National Park.

1988 November 18: Land transferred from Sawtooth NF to the City of Rocks National Park.

Appendix B: Personnel

The following information is compiled from a wide variety of sources such as correspondence, reports, history files, personnel and alumni directories, appointment cards,[119] a retiree register,[120] books, and articles. Collection of biographical information is an ongoing research project, which will yield much more information as it progresses. Readers are encouraged to send any corrections or additions to the author.

CHIEFS

1905-1910	Gifford Pinchot
1910-1920	Henry S. Graves
1920-1928	William B. Greeley
1928-1933	Robert Y. Stuart
1933-1939	Ferdinand A. Silcox
1939-1943	Earle H. Clapp (Acting)
1943-1952	Lyle F. Watts
1952-1962	Richard E. McArdle
1962-1972	Edward P. Cliff
1972-1979	John R. McGuire
1979-1987	R. Max Peterson
1987-1993	F. Dale Robertson
1993-1996	Jack Ward Thomas
1997-2001	Michael P. Dombeck
2001-present	Dale Bosworth

REGIONAL FORESTERS

Now known as Regional Foresters, these men were originally called Superintendents, Chief Inspectors, and District Foresters.

1907	R.E. Benedict
1908-10	Clyde Leavitt
1910-15	Edward A. Sherman
1915-20	Leon F. Kneipp
1920-38	Richard H. Rutledge
1939-43	Clarence N. Woods
1944-50	William B. “Ben” Rice
1950-57	Chester J. "Chet" Olsen
1957-70	Floyd Iverson
1970-80	Vern Hamre
1980-82	Jeff M. Sirmon
1982-91	J.S. "Stan" Tixier
1991-94	Gray F. Reynolds
1994-97	Dale N. Bosworth
1997-2001	Jack A. Blackwell
2001-present	Jack Troyer

[119] Box #R4-1680-96-0003-001, Forest Service Heritage Center, Weber State University.
[120] Ibid.

REGION 4 BIOGRAPHIES

Allan/Allen, Frank L.
Frank L. Allan or Allen was a highway engineer for the Region 4 engineering section. Hired in 1922, his job title in 1924 was Chief Surveyor. He was still in the engineering section as of 1934. Allen retired on February 28, 1949.

Anderson, Mark
Anderson was appointed as a forest guard on the Targhee NF in 1912. He worked as a guard on the Caribou NF in 1913, and as a grazing assistant and grazing examiner for the Division of Grazing from 1914 until 1919 when he apparently resigned.

Anderson, Robert Clark
Anderson received his BS in Range from Utah State University in 1934. He served as ranger on the Las Vegas District from 1937 until 1939 when he became Ogden District Ranger, remaining there until at least 1956. In 1958, he was working at the Region 4 office in Ogden. According to Region 4 personnel records, an M. Clark Anderson retired in 1966, lived in Provo, and died in 1973. It is not known if this was the same person.

Anderson, Arval L. "Andy"
A native of Idaho, Anderson received his civil engineering degree from Idaho State University around 1925. He worked for the Forest Service from 1925 to 1964, with a few years of military leave during World War II. While at Region 4, he worked his way up from Senior Surveyor and Draftsman (his title in 1928) to Regional Engineer (1939-59). In 1960, he transferred to Region 1 where he worked as the Regional Engineer until 1963.

In "The History of Engineering in the Forest Service," Anthony Dean described Anderson as "a good engineer, good organizer, and able administrator. He was a straight thinker and good writer. He was well versed in timber and range management. . . . Andy was tall, good-looking, dark, athletic; a good horseman; a good marksman with rifle and pistol. He was a good fisherman and successful hunter of deer, elk, pheasant, and ducks. His outside interests were many; his staff was kept busy maintaining engineering progress. He was a tower of engineering strength when demonstration was required."

Arrivee, David A.
Appointed from Minnesota, David Arrivee was hired in Region 4 as a field assistant on the LaSal National Forest in 1911. He went on to work as a guard on the Kaibab (1911) and Payette (1912), and as a forest assistant at the Regional Office (3 months in 1912) and Fishlake (1912-13). He was promoted on the Fishlake to forest examiner (1914) then to deputy forest supervisor (1915-18). Arrivee transferred to the Wasatch NF in 1918, leaving for one month to work at the Madison (Wisconsin) Laboratory. In 1920, he was forest supervisor of the Wasatch, remaining in that position until 1921 when he transferred to the Targhee NF as deputy or assistant forest supervisor until 1935. He was the Lowder/Navajo Lake District Ranger (1938-39) on the Dixie National Forest. Arrivee retired on December 31, 1948.

Arthur, Scipha Bert
Arthur, known as "Doc," was practicing dentistry in Mackay, Idaho in the early 1900s when the forest supervisor of the Lemhi National Forest, James Ryan, convinced him to join the Forest Service. In the spring of 1913, Arthur transferred from the Region 4 office to replace Syd Tremewan as forest supervisor of the Humboldt National Forest. Arthur resigned from the Forest Service on July 15, 1916, even though he had been offered the post of forest supervisor on the Dixie National Forest. He went to work for John G. Taylor of Lovelock, the largest sheep operator in Nevada at the time. This was followed by employment at Harold B. Harris's electrical supply shop in Elko, Nevada beginning in 1920. Two years later, he moved to Huntington Beach, California where he practiced dentistry. He eventually relocated to Los Angeles before retiring in 1932. Arthur died in 1938 and was buried in the Carson City, Nevada cemetery.

Baker, Frederick S.
In 1912, Frederick Baker was appointed from Colorado as a forest assistant in the Regional Office. He then worked as a forest examiner from 1914 until 1924 for the Manti National Forest, the research station, and the Public Relations Division. In 1924 and 1925, his title was Senior Administrative Officer for Public Relations.

At present, it is not know if this was the F.S. Baker, who was a Cornell University graduate. This Mr. Baker reportedly had a distinguished career in Region 4, working from at least 1912 until 1928 or 1929 when he went to University of California's forestry school. There, he served "brilliantly" as department head and dean. (Peterson and Speth, 134)

Benedict, Raymond E.
Benedict, a forest inspector, was in Region 4 as early as 1904 when he inspected and reported on the proposed Payette Forest Reserve. In 1907, he worked from Salt Lake City as the Chief Inspector (now known as Regional Forester) of District Four (Region 4). His main responsibility was inspection, but he worked with supervisors and proposed new forests and reorganizations of new ones. He also worked with the supervisors to improve public relations. (Alexander, 34)

Bentz, C. E.
Assistant grazing inspector in the RO in 1911.

Bentz, George G.
Bentz worked in Region 4 as early as 1907 when he was Inspector or Supervisor of the Lemhi (North) and Salmon River forests, operating from Salmon. He held that position in 1908 and may have been there as late as 1909 when Homer Fenn became the regional chief of grazing and chose Bentz as one of his deputies. Bentz became forest supervisor of the Caribou NF in 1911 or 1913, serving in that position until he resigned on February 15, 1916. While there, he reportedly proved to be a fair and popular administrator in spite of his strictness. He worked well with people and communities in the establishment of projects for their betterment. Water projects on the Caribou, which would eventually serve many communities and farms, began with his administration.

Bieler, Paul S.
Little is known about Bieler, even though he is credited with documenting the early years of Region 4 with his camera. A multitude of his photos have proved valuable in understanding conditions and history of the forests in the Intermountain Region. He retired in late 1965 and lived in Ogden.

Bird, Merrill W.
In January of 1920, Bird was appointed as a draftsman in the Region 4 engineering section, remaining there until he resigned in 1923. He returned to the same section by 1934. According to retirees' records, he retired in April 1961 and lived in Ogden.

Blakeslee, Winfred W.
Blakeslee, an engineer, started his Forest Service career as a guard on the Weiser National Forest in 1908. The following year, he advanced to deputy forest ranger on the Idaho National Forest, working there for a few months before becoming the deputy forest supervisor on the Humboldt National Forest. In 1911, he became the first and only forest supervisor of the Santa Rosa National Forest (in Nevada), remaining there until 1916. Blakeslee is credited with accurately locating the forest boundaries while there. He also served as supervisor of the Toiyabe (1916-19) and Uinta (1919-23) forests. Blakeslee then transferred to the engineer division of the Regional Office where he first worked as an examiner (1923), then as an associate administrative officer (1924 through at least 1925). He was still in the engineering division in 1928. In June of 1922, Blakeslee married Ruth Morris, who had worked with him on the Toiyabe and Payette forests. He died October 15, 1942 after 34 years of service.

Bolles, Warren H.
A forest ranger in the District Office (RO?) in early 1921, Bolles then worked that summer as a ranger on the Toiyabe. The following year, he worked as a ranger on the Payette.

Burk, Arlene
She was a secretary in the RO Division of Operations from 1923 until at least 1925. She retired in late 1965 and lived in Ogden.

Connelly, Ray P.
Connelly started working for the Forest Service on May 10, 1944 as a seasonal employee of the Minidoka National Forest. He worked his first summers on a road crew. Connelly was transferred to the Salt Lake central repair shop on January 2, 1952 as a mechanic's helper. He also worked as an auto/heavy equipment mechanic and transport operator until 1956. That year, Connelly became the regional driver/operator examiner, a position established in response to the poor accident record of Federal employees. He and Kyle Thomas of Region 6 wrote the agency's driver/operator's book during his tenure in the RO. Connelly became assistant regional equipment engineer in March of 1961 and was assigned to the position permanently ten months later. In the 1960s, he was also placed in charge of the Region's sign program, which had facilities in Salt Lake City. In 1973, Connelly transferred to Portland, Oregon where he worked as the regional equipment engineer, remaining there for 7 1/2 years. He then went to the WO in early 1980 to serve as chief equipment engineer, a new position. Connelly retired on June 30, 1983 and presently (2004) serves as president of the Old Timers Association.

Corn, Inez
She was a draftswoman in the Region 4 office who retired on March 31, 1937.

Costley, R. J.
Costley came to the Cache National Forest from the W.L. Dept (wildlife?) in the RO. As of 1939, he was working on the Logan Ranger District.

Cousins, Albert H.
According to personnel records, Cousins was appointed from Massachusetts. He began in 1907 as a clerk in the Section of Accounts (location unknown) and in late 1908 transferred to Portland as a district fiscal agent. He came to Ogden as a property assistant effective July 1, 1917. In 1920 he transferred back to Region 6.

Cox, Hallie L.
Excerpt from *Intermountain Reporter*, January/February 1983: "Hallie L. Cox, Director of Range Management, retired December 31 with 33 years of Federal service. Before coming to Ogden, he had served as Assistant Director of Range Management in the Chief's Office from 1974 to 1975. He was Forest Supervisor of the Apache NF in Arizona for 7 years. From 1965 to 1967 he was in charge of the range improvement section of the Division of Range Management in the Ogden RO. Earlier assignments included Assistant Forest Supervisor in charge of range, wildlife, and watershed activities for the Cache NF, Range Conservationist on the Toiyabe NF, District Ranger on the Cache NF and Humboldt NF, and Forester with the Fishlake NF. He has been active in the Society for Range Management since 1950 and was president of the Utah Section in 1965. Hallie was raised on a farm in southeastern Utah. He holds a B.S. degree in forestry and a M.S. degree in range management from Utah State University."

Craddock, George W.
According to personnel records, Craddock was appointed from California. He began working in 1923 as a temporary forest ranger assigned to the RO. In 1924, he worked briefly as a draftsman and the following year as an assistant compiler for the "G.S." (Grazing Service?).

Craft, Quincy R.
Appointed from Kansas, Craft began work in late 1901 or early 1902 as a clerk for the Bureau of Forestry. He held jobs as stenographer and editorial clerk through 1905 when the Bureau became the Forest Service. In 1908, he was appointed fiscal agent for District (Region) 4. He transferred to Denver in 1917 to work for Region 2, returning to Region 4 in 1922. Craft resigned in 1923.

Croft, A. Russell
Known as "Bus," Croft transferred from the Davis County Experimental Watershed to the RO in administration in 1951. In 1957, he was asked to head the new soil and water management group in the RO. He retired in 1962.

Cronemiller, Fred P.
Cronemiller was appointed as a grazing assistant on the Modoc National Forest in California in 1917. He left the following year to enter military service, but returned to the Modoc in 1919. In 1920, he transferred to Region 4 as grazing examiner. He transferred back to California in 1923.

Curtiss, Harold L.
A landscape architect in the Region 4 office, Curtiss was hired in or prior to 1935. Under his direction, the first landscape plans for administrative and recreational sites were designed and implemented throughout Region 4. He wrote at least two articles for the publication titled *Parks and Recreation*. One indicates he worked for the University of Wyoming as an "extension landscape architect" in the early 1930s.

DeMoisy, Charles
DeMoisy was born in Ft. Scott, Kansas on January 10, 1884. When he was seven years old, his family moved to Provo where he later worked in a bank as a messenger and bookkeeper until 1905. After a year of constructing a railroad in northern California, he returned to Utah and worked in railroad offices. DeMoisy got a job in the summer of 1909 with an improvement crew on the Ashley National Forest and, in the fall, passed the ranger exam. On June 1, 1910, he was assigned to the Vernal District for a month, working afterwards on the Manila, Whiterocks, and Lake Fork districts. He then transferred to the Humboldt National Forest as deputy forest supervisor in August of 1917. When Supervisor Favre was called into military service in 1918, DeMoisy filled in. Favre returned in February of 1919 and DeMoisy was given a choice between his former job and a new position as supervisor of the LaSal National Forest. He chose the latter, remaining there until 1921. He held the same position on the Ashley National Forest (1921-1925) and the Uinta National Forest (1925-1938). In 1938, DeMoisy went to the Regional Office as assistant to the chief of Range and Wildlife Management. He retired from the Forest Service in May of 1947 and was still living in Ogden in 1958.

Derning, Milo H.
According to personnel records, Derning was "appointed from Iowa." He worked as a grazing assistant on the Fillmore National Forest in 1921. He then went to the Regional Office, working there as a grazing assistant (1923) and assistant range examiner (1924).

Elder, Frank
Elder worked on the High Valley, Bear Valley, Landmark and Lowman districts of the Boise National Forest, as well as the Council Ranger District on the Payette. During the summers of 1964 and 1965, he was the assistant ranger on the Landmark Ranger District and was stationed at Indian Creek on the Middle Fork. He then went to the Indianola Ranger District on the Salmon National Forest, followed by a stint in the RO, then back to the Salmon as a wilderness ranger. Elder returned to the RO and retired in January of 1993.

Emery, Clifford D.
Emery was a ranger on the Weiser National Forest in 1922 but resigned in 1923. He came back as a clerk on the Boise NF in late 1923, then transferred to the LaSal NF where he was a clerk until at least 1925. This may also be the C. D. Emery, who was the clerk on the Powell NF from 1926 to 1929. C.D. Emery

also clerked on the Cache (November 1936 until January 1937), then went to the Payette followed by a stint in the RO. He retired on May 31, 1956 in Ogden and died on January 25, 1960.

Evans, Charles F.
Appointed from Wisconsin, Evans worked as a forest assistant in the Regional Office in 1912. He became a forest examiner on the Palisade NF in 1914, was transferred to the Ashley NF in 1915, then to the Lemhi NF in 1917. He was forest supervisor there from at least 1918 until 1922 when he went to the Division of Operations (it is not clear if this was at the WO or the RO). While there, he worked as a national forest examiner and a district forest inspector until at least 1925.

Falck, Joseph G.
Falck transferred from the US Treasury Department to work as a property clerk in the WO beginning in 1907. The following year, he came to Region 4 as a property auditor. He held various positions at the RO, including auditor, clerk, and property assistant in various divisions. He was still there in 1924.

Favre, Clarence E.
Born c.1888, Favre studied at old Salubria, Cambridge and at a prep school in Moscow, Idaho before getting his degree in forestry from the University of Idaho. After working for a year, he returned to get his masters degree. Favre was appointed as a guard on the Weiser NF in 1910, then as a seasonal assistant ranger on the Payette NF from 1911 to 1913. He held the same position on the Caribou NF (1913-1916). Favre was promoted to grazing assistant in 1916, after which time he transferred to the Humboldt National Forest. There he became deputy forest supervisor (1917), then forest supervisor (1917-1922). This was interrupted by his army service in 1918-19 and his job as district (regional) forest inspector in 1920-21. In late 1922, Favre became forest supervisor of the Wyoming National Forest, serving until 1936. By the late 1930s, he was at the Regional Office as assistant regional forester in charge of the Division of Range Management. In 1946, he was appointed forest supervisor of the Toiyabe NF, where he remained until December 31, 1950 when he retired. Favre Lake, in the Ruby Mountains of Nevada, is named after him.

Fenn, Homer E.
According to personnel records, Fenn was hired as an assistant ranger on the Bitterroot Forest Reserve in 1905. A few months later he was a ranger on the Henry's Lake Reserve (Targhee NF) and by the following year, had been promoted to forest supervisor. He was reportedly a controversial figure who often tried out his ideas without the permission of his supervisors. However, he laid out a good foundation for the Targhee National Forest and was well respected. He remained there until 1908 when he became the first Chief of Grazing for Region 4. After a year, he was appointed assistant regional forester, remaining in that position until he resigned in 1919.

Fetheroff, Nathan J.
A native of Pennsylvania, Fetheroff was a forest planting assistant on the Wasatch National Forest from 1907 until 1916, although his tenure was sometimes interrupted by periods of leave without pay. In 1916, he transferred to the Cottonwood Nursery. Two years later, he worked for the Division of Silviculture (presumably in the RO), then went back to the nursery in 1919. Fetheroff became Deputy Forest Supervisor of the Idaho National Forest in 1921, but resigned after a few months. He died on January 11, 1956.

Fetheroff, James Milton
Appointed from Pennsylvania, Fetheroff became a student assistant for the Bureau of Forestry in 1901. Over the next several years, he held various jobs for the Bureau, which became the Forest Service in 1905. These included laborer, assistant forest expert, forest assistant, and inspector. He came to Region 4 in 1908 as a Forest Examiner, remaining in that position until he resigned in 1918.

Forsling, Clarence J.
Forsling was hired from Nebraska as a guard on the Manti National Forest in 1914. The following year, he transferred to the Cache, also as a guard. He was a grazing assistant in the RO from 1915 until 1922

when he transferred to the Great Basin Experiment Station. Forsling became the station's director in 1924, remaining there until 1935 when he transferred to the Appalachian Station. He later became head of the USFS Division of Forest Research, followed by a stint as Director of the Grazing Service (BLM) in the DOI.

Franz, Arthur R.
Franz worked in the Region 4 office as a junior landscape architect. He prepared a development plan for the Terrace Guard Station (Humboldt National Forest) in 1937. That year he also planned a trailer camp on Murray Summit (Ely) and another on the Lincoln Highway 5 miles east of Austin, both of which were on the Nevada National Forest.

Frykman, Joel L.
Frykman earned his bachelor degree from the University of Montana and an MS from Yale University. He worked in the Southern and Northern regions before he went to the Boise in a timber staff position. He left there to become Cache Forest Supervisor on July 1, 1951. In 1954, Frykman was appointed assistant regional forester in Timber Management, retiring from that position on December 30, 1966. After leaving the Forest Service, he worked as a consulting forester and helped organize the Wyoming-Utah-Nevada Chapter of Outdoors Unlimited, serving as its president for two terms. Frykman died August 4, 1983 at the age of 80.

Garver, Raymond D.
An appointee from Nebraska, Garver worked as a forest assistant in the RO from 1912 to 1914. He then was a forest examiner for the Wasatch (1914), the Lands Department (1915-18), the Cache (1918-19), and the Uinta (1919-20). He became the Minidoka NF's forest supervisor in 1920, then transferred to the RO's Grazing Office as a senior administrative officer in 1924. Garver transferred to the Forest Products Laboratory in Madison, Wisconsin in 1925.

Gery, Raymond E. "Bish"
"Bish" Gery, an appointee from Indiana, came to the Forest Service from the Government Land Office. He worked in the RO's lands department from 1911 until at least 1927 when he was its head. He advanced from the position of clerk to forest examiner to assistant regional forester. He retired or died on April 30, 1932.

Gilchrist, Edna O.
She worked for OM (Operations and Maintenance?) as a clerk from 1922 until at least 1925.

Gilman, Mae E.
Two entries for Mae E. Gilman were made in a retiree logbook. One indicates Gilman retired on April 30, 1957. The other provides a date of June 4, 1989. It is not known if this is a retirement date for another Mae Gilman or if it is a death date. A Mae Gilman (nee Williams) was a clerk for various divisions in the RO from 1910 until at least 1925. A Mae Gilman also worked in the Region 4 engineering section (she was there in 1934). In *The History of Engineering in the Forest Service*, Henry Shank wrote that Mae Gilman probably held the same position in engineering longer than any other person in the Forest Service.

Hamre, Vern
Regional Forester from 1970-80. He made important contributions included reviewing the high timber base and reducing the allowable cut. Under his care a land typing system was developed to help determine what areas could be logged without causing erosion. He was involved in mitigating adverse effects of dams and pipelines regarding the Central Utah Water Project. Hamre worked on the mountain pine beetle infestation on the Targhee National Forest, and the Rare I and II studies made in the 1970s as well.

Hann, Jay B.
Hann worked on the Evanston Ranger District (now part of the Wasatch NF) from 1928 to 1935 and was the Paris District Ranger (Cache NF) from 1938 to 1955. He transferred to the Montpelier Ranger District of the Caribou National Forest in 1955. In October of 1964, Hann signed the Brighton Guard Station

planting plan as Acting Regional Forester, indicating he was working in the RO in another position at that time. Hann retired on December 29, 1965 and lived in Ogden.

Hansen, Gene
Gene Hansen worked in the RO "for a long time, maybe 10-12 years." He was branch chief over soils and materials engineering and retired about 1982.

Haynie, Frank
Haynie served as supply officer in the RO in the early 1920s.

Hedges, Horace E.
Hedges began work as an assistant "Top. [topographer?] Aid" in the engineering division in 1924. He began work as a ranger on the LaSal National Forest in April of 1925, resigning several days later.

Helm, Harley J.
Personnel records indicate Helm was appointed from Iowa. He worked as a grazing assistant in the RO (1921-22) and the Fillmore National Forest (1922-24). He came back to the RO in 1924 as a range examiner and was still there the following year.

Hiatt/Hiett, Murt
Murt Hiett was a former Army colonel who helped build the AlCan Highway and who had connections with the Utah General Depot. As equipment engineer, he ran the Central Repair Shop in Salt Lake City in the 1950s. At that time, the shop had an army contract to rebuild equipment and send it back to the depot for troop stock.

Holberg, A. Rosalie
Personnel records show Holberg was appointed from the District of Columbia, coming to the Regional Office from the WO in 1908, after the Forest Service was decentralized. Her first job in the RO was as a "map colorist." She transferred to the engineering division as a draftswoman in 1911. She retired on November 30, 1943 and lived in Ogden until at least 195, later relocating to Bellaire, Texas.

Holberg, Hilda J.
According to personnel records, Holberg was from Alabama and began work for the Bureau of Forestry as a clerk in 1904. A year later, the agency became the Forest Service. She transferred to Ogden to work as a clerk in the RO. She retired on April 30, 1933 and lived in Ogden. Holberg died in October 1952.

Hoyt, Timothy C.
Hoyt was a ranger on the Sevier Forest Reserve when he was promoted to forest supervisor in 1906. He operated from Panguitch from 1906 until 1908 when he went to the Regional Office. He also served as forest supervisor of the Dixie for a short period in 1906.

Huckeby, Minor
In *The History of Engineering in the Forest Service*, Anthony Dean writes that Huckeby was the R4 Regional Engineer from 1959 to 1962. A native of Wyoming, Huckeby received his civil engineering degree from the Colorado School of Mines, where he remained as professor until 1934. He joined the Forest Service as staff engineer for communication systems in Region 2 (1934-39), where he was promoted to assistant regional engineer (1940-52). He also served as regional engineers in Region 7 (1952-57) and 8 (1957-59). He then came to Region 4 for 3 years, before becoming project leader for engineering research with the Intermountain Forest and Range Experiment Station at Bozeman, Montana (1962-66).

Hurst, William Daly
William Daly Hurst was a third-generation Forest Service employee who graduated from Utah State University's School of Forestry in 1938. He married Emma "Dolly" Johanson of Grantsville, Utah on March

19, 1941. Hurst worked on the Manila Ranger District of the Ashley National Forest as early as 1942, but left for a brief stint in the US Army from 1945 to 1946, at which time he became staff assistant on the Cache NF. He was appointed forest supervisor of the Ashley, serving there until 1955 when he transferred to the WO's range management office in the WO. He worked there until 1957, although he was back in Utah on detail during part of that period. William Hurst was Assistant Regional Forester in Range Management in the late 1950s and early 1960s.

Israelson, Marguerite A.
Israelson was a clerk who transferred from the War Department to the Regional Office in 1921. She was still there in 1924.

Iverson, Floyd
Iverson was born in 1910 in Bieber, California and grew up on a ranch. He went to the University of California at Berkeley, graduating with a degree in forestry and plant ecology. He worked as a ranger and forest supervisor (Modoc NF) in Region 5, then transferred to Region 6 as the assistant regional forester for range and wildlife. He went to Region 1 to serve in the same position in 1952. Three years later, Iverson transferred to Region 4 to serve as assistant regional forester for range and wildlife. He replaced Chet Olsen in 1957 as regional forester, remaining in that position until he retired in 1970.

Iverson's important contributions include starting the Society for Range Management, and the startup of the National Grasslands in North Dakota. He was successful in promoting sound grazing practices as well. Iverson was also elected Director of the Ogden Chamber of Commerce.

Jackson, Don
He was Chief Draftsman in the RO in the early 1920s.

Jensen, Adolph W.
As the first supervisor of the Manti National Forest, Jensen served from 1903-10 and 1911-14, operating from Ephraim, Utah. Between those periods, he worked in the Regional Office as a law clerk and assistant to the solicitor. Jensen transferred to the Uinta NF as forest supervisor, remaining there until 1919 when he resigned. He graduated from Snow Academy and attended Brigham Young Academy (later BYU). He then worked as a schoolteacher and principal. He got a law degree by completing correspondence courses and served as the Sanpete County Clerk. He later became general counsel for the RO. After he resigned from the USFS, he went into private law practice.

Johnston, Herbert W.
Johnston had a varied career, beginning as a guard on the Caribou in 1914. He transferred to the Regional Office as an assistant ranger (1916-17) before serving as a ranger on the Cache and Sevier (both in 1917) NFs. He was also a grazing assistant on the Caribou NF in 1917. The following year, Johnston transferred to Region 1, but returned in 1919 to work for the grazing division as an examiner for a short time before accepting a position in 1920 with the Biological Survey agency.

Kennedy, K. Webb
A Texas native who received his engineering degree from Georgia Tech in 1927, Kennedy worked as a staff engineer at the RO from 1935-41. Previously, he worked with Colorado Fuel and Iron (1927-33) and with the Bureau of Reclamation in Denver (1933-35). He left Region 4 for military service, returning in 1946 as a staff engineer in the WO (1948-48), Region 7 regional engineer (1948-51), more military service (1951-52), WO assistant chief of engineering (1952-550, and Region 5 regional engineer (1955-66).

Kneipp, Leon F.
Originally from the "Chicago waterfront," Leon Kneipp was a political appointee to the GLO Division R in Arizona. Although he had little formal education or training in forestry, he continued his career through the Pinchot era and later. Kneipp held positions of ranger, forest supervisor, and forest inspector on the Pecos River Forest Reserve in New Mexico. During that time, he served on the 1905 Use Book Revision

Committee. In 1907, he became Chief of Control for the WO branch of grazing, and was promoted to assistant chief of grazing the following year. Kneipp remained there until 1915 when he became District Forester in Ogden at the age of 26. After five years, he returned to the Washington Office as assistant forester and was still in 1930.

Koch, Lewis B.
Koch worked as a guard and field assistant on the Wyoming National Forest in 1914-15. He became assistant ranger for the silviculture division in 1915, but was sent the following year to the Wasatch as a ranger. In 1917, his job title was changed to scaler. He stayed on the Wasatch until 1919 when he went back to the Wyoming National Forest. Koch briefly served as Forest Supervisor of that forest in 1921 but was soon sent to work as deputy forest supervisor on the Humboldt. In early 1924, he again transferred, this time to the Challis as a ranger. He was still there in 1925. Koch retired on March 31, 1950 and lived in Challis, Idaho.

Korstian, Clarence F.
Korstian was hired as a field assistant in 1911 (perhaps in Nebraska). He worked for the Coconino NF as an assistant and examiner from 1912 until 1916 when he came to Region 4's research station. He transferred to Washington, DC in 1921.

Kreizenbeck, George E.
One of Kreizenbeck's more important contributions was his role of construction supervisor for Region 4's central repair shops in Salt Lake City, Cedar City, Reno and Boise. When the Payette and Boise were consolidated in 1944, he was transferred to the Boise as forest engineer, the first to hold such a position in the Forest Service. Kreizenbeck retired on April 9, 1965 and lived in Boise, Idaho.

Lang, Duncan M.
Hired as a forest agent in 1908 (possibly in South Carolina according to personnel records), Lang transferred to the Kaibab NF in 1910. There he worked as an assistant ranger and a scaler. In 1911, he became deputy forest supervisor of the Fishlake, but transferred to the Regional Office the following year where he was a scaler and lumberman. Lang transferred to Region 3 in 1916.

Leavitt, Clyde
Leavitt was a forest assistant who inspected various areas for forest reserve designation: the Table Cliffs Addition to the Aquarius National Forest (1905), the Monitor and Toiyabe ranges in Nevada in 1906. He served as District Forester of District 4 from 1908 until 1910. He was Chief of the Operations Branch in Washington in 1908. He later worked for the Canadian Forestry Department.

Lewis, Melvin H.
M. H. Lewis worked in the engineering division of the RO as of 1934. Melvin H. Lewis retired on December 31, 1957 and lived in Ogden, Utah. These are presumably the same person.

Lick/Lock, Barry
He went from the RO to the Powell NF to serve as acting forest supervisor after George Barney left in 1922 until Wallace Riddle arrived later that year.

Lindstrom, Orpha C.
Lindstrom was a clerk, apparently in the Regional Office from 1919 until at least 1925, who retired on October 26, 1963 and lived in Ogden.

Littlefield, Theron R.
A ranger in "Research" in 1920, Littlefield transferred to the engineering division as a surveyor the following year and was promoted to chief surveyor in 1924. He was still there in 1925. In *The History of Engineering in the Forest Service*, Henry Shank wrote that Littlefield "transferred to Region 5 and became a water and power expert. He still lives in Berkeley."

Lommasson, Tom
He was a grazing assistant in the RO in 1920-22. Lommasson became a grazing examiner for the Idaho National Forest in 1922, transferred back to the RO as an examiner in 1923, then served as the Humboldt Forest Supervisor for the first 3 months of 1924. On April 20, 1924, he transferred to Region 1.

Lubeck, Ernest
He was the "blueprinter" in the RO engineering section in the early 1920s.

Lundy, Dorothy
She was a clerk, apparently for the Regional Office from 1922 until at least 1925.

Malan, Mary
She was an RO draftswoman in the early 1920s.

Malinsten, Harry E.
Malinsten was a grazing assistant on the Sevier NF for a brief period in 1917, but soon left to join the US Army. He returned to the USFS as a grazing assistant in 1919, working for a few months on the Fillmore NF and about a month on the Humboldt NF. In October of 1919, he transferred to the RO's grazing division, remaining there until 1924 when he was transferred to the Great Basin Experiment Station as an associate range examiner. After three months, he resigned on October 5, 1924.

Martin, Joseph P.
A native of Pennsylvania, Martin graduated with a degree in civil engineering from Lehigh University in 1900 and worked for U.S. Steel (1900-03) and the Virginia railways (1904-07) before joining the Forest Service. He reportedly came to Region 4 in 1908 but his appointment record shows he was hired in Region 1 as a Construction Engineer on October 1, 1907. In early 1910, he was appointed assistant regional forester there. He transferred to Region 4 as a hydro-electric engineer in October of 1911. Martin remained in that position until 1917 when he was promoted to regional engineer, remaining in that position until 1938 when he transferred to the Federal Power Commission.

In *The History of Engineering in the Forest Service*, Henry Shank described Martin as "a redheaded, short-tempered Irishman from Lehigh University. He was sharp as a tack, analytical, and irascible as a rattlesnake when his ulcers were giving him trouble. He could deliver a scathing rebuke in as few words and as impassionately as anyone I have known. . . . He was utterly intolerant of sloppy work -- another good influence for subordinates."

Martin, George E.
As a recreational planner in the Region 4 office, Martin prepared many planting plans for ranger stations during the 1930s. He was there by 1934 and developed landscaping plans for the Terraces Guard Station, the Lamoille Ranger Station, and the Paradise Valley Ranger Station, all of which were on the Humboldt National Forest.

Martineau, Bryant S.
Martineau was hired as a forest guard on the Payette in the summer of 1912. He joined the Region 4 grazing division as an assistant ranger on October 14, 1914 and was promoted to forest ranger within the same division a year later. Martineau transferred to the Fishlake NF in 1916 as a grazing assistant but returned to the grazing division the following year where he was promoted to grazing examiner. On May 23, 1918, he resigned to join the US Navy, returning eight months later to the grazing division as an examiner in early 1919. From July to September of that year, Martineau was a grazing examiner on the Salmon National Forest. He resigned on April 15, 1920.

McCain, Arthur C.
Born in 1873 and raised in DuPage County and Naperville, Illinois, McCain started his Forest Service career on the Kalispell Division of Montana's Lewis and Clark Forest Reserve. According to his

appointment record, he was an assistant ranger (1905-07), a deputy ranger (1907), and deputy forest supervisor (1907-08). He was forest supervisor of the Otter National Forest for less than a year before transferring to the Region 4 office as assistant chief of grazing in 1908. About a year later, he was promoted to assistant regional forester. McCain left the RO in 1918 to work on the Teton National Forest as forest supervisor (1918-36). His tenure in this position was interrupted by an appointment as forest inspector, still assigned to the Teton, from January 1920 until July 1921. After he retired on September 30, 1936, he continued to reside in Jackson until his 1956 death.

McDonald, Charles H.
McDonald worked as a ranger on the Wasatch NF for a few months in 1922 and again in 1923-24. He became a junior range examiner for the G.S. (Grazing Section?) in 1924. A C. H. McDonald is listed as the Teton District Ranger from 1927 to 1931; this may be the same person.

McPheters, Herbert G.
McPheters held many positions with the Forest Service. He was a guard on the Weiser NF (1905), then worked on the Sawtooth NF as an assistant ranger (1906-07), deputy ranger (1907-08), ranger (1908), deputy forest supervisor (1908-17), and forest supervisor (1917-19). He then went to the engineering section of the Regional Office as a national forest examiner (1919-23). McPheters was the Kaibab forest supervisor from February 1923 until July 1924 when he became its assistant forest supervisor.

Melvin, Kathryn
She was a clerk for "P.A.O." (presumably a division in the Regional Office) from 1918 until 1920 when she transferred to Region 6. Her appointment card suggests she came back to Region 4 as a clerk in 1924. She retired on November 30, 1951 and lived in Ogden.

Metcalf, Vernon
Metcalf first worked as clerk in the Regional Office from 1907 until 1912, when he went to the Kaibab NF as a ranger. He returned to his previous position (1914-15), then became forest supervisor of the Toiyabe (1915-16), Humboldt (1916-17), and Lemhi (1917-18) forests. Metcalf returned to the Region 4 office in 1918 as assistant district forester (Chief of Operations). In 1915, he became the first officer on the Toiyabe to use an automobile, a Model T Ford. Metcalf left the Forest Service on April 30, 1920 and became secretary of the Nevada State Livestock Association, a position he retained until the 1930s. As secretary, Metcalf was an outspoken advocate for stockmen in the state.

Mitchelson, A. T.
In 1908, while W.E. Herring was Region 4's Chief of Engineering, Mitchelson served as his assistant in Ogden. He may have been the first engineer in Region 4 but this is not certain since his duties and position are unclear.

Morse, Chester B.
Chester "Chet" B. Morse began his career as a guard on the Henry's Lake Forest Reserve in June of 1907. The following year, he was hired on the same forest as a forest agent. He was on the Targhee NF as a guard (1909), deputy forest supervisor (1910-11), and forest supervisor (1911-17). His time there was interrupted by a short stint in the Washington Office as a forest assistant from July 1909 until March 1910. Morse moved to the Regional Office as an assistant district forester of the silviculture division in 1917. He was still in that position in 1925. Other records describe him as head of the RO's Forest Management Division in 1927 and the R4 Chief of Timber Management in 1928. CCC Director Robert Fechner appointed Morse as his representative in 1933 and sent him to the Ninth Corps Area headquarters at San Francisco's Presidio.

Nichols, George Lee
George Nichols was born on July 5, 1896 in Salt Lake City to George Edward Nichols (b. 6/27/1865) and Irene Lee (b. 7/16/1870), both of whom were born in Salt Lake City also. In 1922, he married Ardella Wheeler, with whom he had two sons, George W. (b. about 1925) and Paul E. (b. about 1929). According

to his appointment record, Nichols was hired in the Forest Service's R4 headquarters (Ogden) as a draftsman "reinst. From Vet. Bureau." Unfortunately, no date is given for his appointment. He was promoted to chief draftsman on July 1, 1924 and later to architectural engineer.

Nichols served as Region 4 first architect, making a significant contribution to the development of many ranger stations, guard stations, and other administrative sites. He developed an architectural identity for the region by designing many, if not all, of its standard plans in the 1930s and 1940s. Nichols retired on July 31, 1956 and remained in Ogden until his death on May 10, 1972.

Nichols, Theodore B.
Nichols was appointed from Iowa and worked as a guard on the Manti NF (1912-14). It appears he was sent to several units as a ranger within a short period of time. Personnel records show that, from June 1915 until August 1918, he went to the Cache, the Sevier, the Grazing Division, back to the Cache, the Caribou, and then again to the Grazing Division. Nichols was appointed grazing examiner in 1918 but resigned the following May of 1919.

Nord, Arthur G.
"Art" Nord was a ranger on the Targhee NF from 1917 to 1923. There, he served on District 2 (Victor—Grandview Point District) in 1917, on District 5 (Ashton, Idaho) in 1919, and on District 9 (Hawley Gulch) in 1920-23. He was also appointed as supervisor of the Ashley, Wasatch (1930-34), and Cache (1936-40) national forests and was instrumental in the significant reconfigurations and expansions of each. Having worked in the RO previously, he returned sometime after 1940, remaining there until he retired from his job as assistant regional forester of lands and recreation on December 31, 1956. Nord left his mark around the state. In 1935, he proposed the creation of a natural history field house, which in 1947 was realized in Vernal, Utah. His name is memorialized at the Art Nord Trail on the Wasatch-Cache National Forest.

Olsen, Ollie C.
Olsen came to the RO in 1956 as a soil scientist in the engineering division. The following year he transferred to the new soil and water management group.

Olsen, Orange A.
Olsen wrote an account of his work, which was published in a book titled *Elk Below!* (Stevens & Wallis, Inc., 1945) after his untimely death in 1945. According to this book, Orange was born October 10, 1890 with a twin named Henning -- both were named after their grandfathers, Orange Seely and Henning Olsen, who were Utah pioneers. His parents were Abenadi and Hannah Seely Olsen. He was raised on a farm and attended 3 years of high school in the Emery Stake Academy. Olsen served his LDS mission in Germany, Switzerland, and Austria from 1910 until 1912. He then worked as a clerk in the Castle Dale Cooperative store (2 years), then as a bookkeeper for the Consolidated Wagon and Machine Company. He married Aileen Brown of Salt Lake City in 1915 and took a correspondence course in law.

Olsen began work with the Forest Service in November 1917 as a clerk in the Manti SO in Ephraim. He was the Mammoth District Ranger (near Fairview) on the Manti from 1918 until 1922 when he became deputy forest supervisor. A year later he was promoted to forest supervisor of the Lemhi National Forest. He also served as supervisor of the LaSal (1923-26) and Dixie (1926-31) forests. Olsen transferred to the RO to head up the wildlife division in 1931. He died in an airplane crash while conducting an aerial count of elk on the Bridger National Forest. Olsen's significant contributions are well documented in the book.

Olsen, Chester J.
Chet Olsen was born in Mayfield, Utah and grew up on a ranch in Emery County. He received his technical training at Utah State Agricultural College before becoming a ranger on the Jarbidge District (1919-20) of the Humboldt National Forest. He worked on the Fillmore (19201-21), the Fishlake (1921-24), and Kaibab (1924) forests. Olsen resigned after three weeks on the Kaibab but was reinstated the following year (1925) on the Fishlake NF. Two years later, he became its assistant forest supervisor in 1927. He served as supervisor of the Toiyabe (1931-32), Nevada (1932-34) and Wasatch (1934-36)

national forests before becoming the assistant regional forester in charge of recreation and lands (1936-38). Olsen headed the Division of Information and Education beginning in 1938 and became Regional Forester in January of 1950 after Ben Rice died. Olsen was involved with the Boy Scouts, Community Chest, War Bond and Red Cross drives, the US Chamber of Commerce and the Ogden Kiwanis. On March 31, 1957, he retired as Regional Forester and moved to Jarbidge. He died in December of 1962.

Palmer, Lawrence J.
According to his personnel record, Palmer was appointed from Nebraska and worked as a guard on the Manti (1914) and Caribou (1915) forests. In 1915, he was on the Sevier NF as a field assistant for a few months, then transferred to the Cache NF where he worked as an assistant ranger (1915-16), ranger (1916-17), and grazing examiner (1917-18). Palmer left to join the Navy in 1918 but returned in early 1919 as a grazing examiner. He worked on the Cache and Humboldt forests that year, and in August was assigned to the regional grazing office. In 1920, he transferred to the Biological Survey (precursor of the US Fish and Wildlife Service).

Parkinson, Dana
Parkinson was appointed from Massachusetts and we worked on a variety of Region 4 forests in many positions. In 1910-12 he was a forest assistant on the Kaibab, Wasatch, Uinta, Nebo, and Boise forests. Some records indicate he acted in the capacity as a forest supervisor during this time. He remained on the Boise National Forest as a forest examiner (1913-14) and deputy forest supervisor (1914-17). Parkinson served as the Salmon NF's supervisor from early 1917 until September 1918 when he left to the Army. He returned in December as the LaSal NF's supervisor but transferred five months later to the Wasatch NF. There he held the position of forest supervisor (1919-25), before becoming the senior administrative officer of the regional grazing division. In his history of Region 4, Thomas Alexander states Parkinson served as head of public relations in the RO in 1927. (Alexander, 58)

Pearson, Flora B. Clark
Personnel records suggest her maiden name was Clark and that she married in 1923. She was a clerk in the Regional Office from 1922 until at least 1926.

Pearson, Thomas V.
Pearson may have been a clerk on the Payette in 1909-11. He worked on the Wyoming National Forest as a clerk (1911-16) and ranger (1916-17). He next went to the Weiser NF as a deputy forest supervisor (1917-21) and to the RO operations division as a national forest examiner (1923-24) and administrative officer (1924 until at least 1925). In 1934, he set up a parachute-jumping demonstration, suggesting the technique be used to transport firefighters by air. It was not until 1939 that the idea was taken seriously and tested in Region 6. In 1940, the first smokejumpers jumped on a fire.

Phinney, Arvilla H.
A person by the name of Hansen worked as a clerk for the Region 4 operations (1920-24) and grazing (1924-until at least 1925) divisions. Personnel records indicate a change in name on December 7, 1925 to Arvilla H. Phinney, suggesting this person was a female who married.

Phinney, T. Dean
Phinney was in the RO's grazing section in 1924 (assistant ranger) and 1925 (ranger, junior range examiner). He was the Johns Valley District Ranger (Dixie National Forest) in 1934. Phinney retired on May 31, 1952.

Pragnell, Reginald C.
Pragnell was a recreational planner in the Region 4 office. He was there as early as 1936 when he prepared a planting plan for the Kyle Canyon Ranger Station. In 1948 his title was landscape architect. At that time, correspondence was sent to him through the Wasatch Forest Supervisor, suggesting he was based in Salt Lake City.

Ralph, Horace F.
Ralph worked in the engineering division of the RO as of 1934. He retired on July 31, 1964 and lived in Ogden.

Raphael, John
Raphael worked on the Teton NF as a guard (1905), assistant ranger (1905-08) and ranger (1908) before transferring to the Wyoming NF. There he was deputy supervisor (1908-09) and supervisor (1909-10). He also served as supervisor of other forests: the Dixie (1910-16), Fillmore (1916-20), Idaho (1921-22), Uinta (1923-25) and the Weiser (1925 until at least 1929). These appointments were interrupted by short assignments as regional forest inspector (January 1920 to January 1921) and national forest examiner (1922). Raphael retired on August 31, 1941 and records suggest he went to work for the Grazing Service in Reno, Nevada.

Reed, Franklin W.
Reed was instrumental in the examination and establishment of the Ruby and Independence forest reserves. He was promoted from forest assistant to assistant forest inspector in 1905 or 1906. By spring of 1907, he was a forest inspector assigned to the Ruby and Independence forest reserves, serving temporarily as forest supervisor. Reed continued to advance in District 4, becoming assistant district forester in 1908. Three years later, he was an associate district forester. He was with the Washington Office in 1917 and, by 1924, was district forester of District 7, with headquarters in Washington, DC. He eventually resigned from the Forest Service and by 1926, was practicing forestry in Washington, DC. In the 1930s, Reed was editor of the *Journal of Forestry*.

Reynolds, Robert R. V.
A prominent forest inspector/examiner, Reynolds' work was significant in the formation and configuration of Region 4's forests. Formally trained in forestry, he was based in Salt Lake City. He prepared the examination for the east addition of the Sevier Forest Reserve (1903), the La Sal Forest Reserve (1904) and the Proposed Addition to the Cache National Forest (1908). Robert Reynolds took E.H. Clarke's place as Wasatch Forest Supervisor for one year in 1909 and 1910. He examined flood conditions on the Manti in 1910.

Rice, William Benjamin
A graduate of Yale's forestry program, in 1912 William "Ben" Rice began his USFS career in Region 2. According to his personnel record, he was appointed from Kansas and worked as a forest examiner for the regional office from 1912-14. He then worked as a forest examiner on the Humboldt NF (1914-15), in the Region 4 lands office (1915-21), and on the Cache NF (1921-22). He changed positions, becoming forest supervisor of the Weiser (1922-25) and Payette (1925 until at least 1926) forests. Rice was appointed associate regional forester (by 1940?). When Alexander McQueen, the Toiyabe Forest Supervisor, suffered a severe stroke in 1943, Rice was transferred from the Region 4 office to act in his place. Rice returned to the RO in 1944 as Regional Forester, serving in that position until 1950 when he died suddenly at the age of 61.

Richards, Alan
Richards was a clerk at the Great Basin Experiment Station (1923-25) and on the Wyoming National Forest (1925-?).

Robb, W. L.
Assistant regional forester for timber management in 1950.

Ross, Elmer C.
Ross was employed on the Sawtooth NF as a guard (1907) and deputy/assistant ranger (1908-12). He was promoted to ranger on the Payette (1912-14), then Boise (1914-18) forests, before transferring to the RO where he worked as a telephone examiner (1918-19) and national forest examiner (1919-20). Ross

was then sent to the Weiser NF as deputy supervisor (1920-24) and senior ranger (1924 until at least 1926). He retired on February 28, 1945 and lived in Twin Falls.

Rustay, Dale M.
Appointed from Pennsylvania, Rustay worked on the Minidoka as a forest assistant in 1920. He became a ranger in 1922 and was transferred to the Humboldt NF, where his title was changed back to forest assistant. Later that year, he worked for short periods on the Boise and Targhee forests. In 1923, he was assigned to what appears to be a section of the Regional Office. Rustay continued to hop around, working on the Wyoming, Challis and Cache forests in 1923-24, possibly as deputy forest supervisor. He became ranger on the Cache NF in July of 1924 but resigned from service the following April.

Rutledge, Richard H.
Rutledge may have been hired as early as 1903. His appointment record shows that in 1905-06 he was a guard and an assistant ranger on the Sawtooth, Payette and Weiser forests. In early 1907 he became assistant supervisor of the Coeur d'Alene and Palouse forests. He then went to Missoula (Region 1) as chief officer of operation (1908-10), assistant regional forester (1910-19) and regional forester (1919-20). He returned to Region 4 as Regional Forester, a position he held from 1920 until 1938. He left in 1938 to become Chief of the Grazing Division (now BLM) in the Department of the Interior.

Sampson, Arthur W.
Appointed from Nebraska, Sampson's title was recorded as "An Expert in Plant Ecology" when he was assigned to the Grazing Division in 1907. This was eventually changed to plant ecologist. He transferred to the Utah Experiment Station (Great Basin Experiment Station) in 1913), becoming its first director and remaining there until 1922. He was well known for his research on range and forests. He later joined the University of California faculty, where he wrote textbooks on range management, based on his time at the experiment station.

Sanford, Earl Clifford
Appointed from Michigan, Sanford worked as forest assistant in the RO (1912-14), and examiner on the Wasatch NF (1914-15). He became deputy supervisor of the Wyoming (1915), Caribou (1915-16), and Challis (1916-17) forests before being promoted to forest supervisor of the Idaho NF in 1917. He left soon thereafter in 1917 to join the US Army but returned in 1919. He served as supervisor of the Caribou NF from 1919 until May 1928. He retired on October 31, 1945, living in Ogden and, as of 1965, Oregon.

Scott, James E.
Appointed from Vermont, Scott was a clerk on the Salmon (1910-12), Ashley (1912-15), and Boise (1915) forests, as well as in the RO (1916-19). He was promoted to national forest inspector in 1919, a position he held at the time he transferred to the Washington Office in 1922.

Scribner, Sidney C.
Scribner's personnel record indicates he was appointed from (worked in?) California and Utah before he was hired as a clerk on the Idaho NF in 1910. He held this position until 1913 when he was employed in the RO silviculture office as a scaler (1913-17) and lumberman (1917). Scribner went to the Salmon NF as deputy supervisor (1917-18) and was soon promoted to supervisor (1918 until at least 1925). He was the Targhee Supervisor from 1936 until he retired on June 30, 1938. He later lived in Exeter, California.

Shank, Henry M.
Shank was hired as a surveyor draftsman in the RO engineering office in 1921and in 1924 he was promoted to associate civil engineer. He concentrated on fire-related projects. According to his article in *The History of Engineering in the Forest Service*, he developed in 1932 the "seen area coverage" to determine locations of fire lookouts and the "cumulative humidity deficiency" method of measuring fire danger. In 1933, he supervised the first nine CCC camps in Idaho. Shank was appointed the Payette Forest Supervisor, much to his surprise, in early 1936, remaining there for four years. He was the Region 4's chief of fire control from 1941-43, then became the regional engineer. (1943-47). Shank described

himself as a "traveling balloon for the Washington Office," from 1947-49. He later served as the regional engineer of Region 2 (1950-60).

In *The History of Engineering*, Anthony Dean wrote that Shank was born in Texas and was a World War I veteran. He described him as "tall, rangy, of medium complexion; a man of strong convictions; self-disciplined and a maintainer of discipline; excellent horseman, good fisherman, keen and successful hunter of big game, duck, pheasant, quail; a good man to be with on a pack trip. He was the practical engineer type, self-taught in design; an excellent field engineer. His endurance was phenomenal when he was in his prime."

Shannon, Patricia (?)
Claude Shannon, former ranger on the Boise and Targhee forests, died in 1934 while fighting a forest fire. His daughter Patricia(?) Shannon Grimm, was a clerk for the RO and the Boise National Forest (living in Sunset, Utah as of 1955).

Sherman, Edward A.
Sherman worked as a newspaper man and as a Forest inspector in Montana and Idaho. He was known as "Old Smoothie" for his diplomatic skills while working in the Bitterroot Mountains. He was Regional Forester from 1910 to 1915 when he became assistant chief of lands in the WO, where he remained until at least 1930.

Shoemaker, David A.
Shoemaker was appointed from Nebraska to Region 4 where he worked as a ranger on the Cache for a few months in 1917. He then became grazing assistant on the Sevier (1917-18) and was promoted to grazing examiner in 1918. With this title, he was attached to the RO grazing office, but transferred to the Manti for a few months in 1919. He became Inspector of Grazing in 1924 and transferred to the WO a year later.

Simpson, Charles D.
Simpson came to Region 4 from Minnesota, working on the Minidoka NF as a forest assistant (1913-15), examiner (1915-17), and deputy supervisor (1917). He was appointed supervisor of the Caribou NF (1917-19), then transferred to the RO operations division as forest examiner (1919-20) and assistant regional forester (1920-23). Simpson transferred to Region 1 on April 16, 1923. In 1965, he was retired and living in Baker, Oregon.

Sirmon, Jeff
Regional Forester in 1980-82.

Smith, Clinton G.
Smith was a native of Iowa and a graduate of Yale's school of forestry. According to his appointment record, he was appointed from Georgia and began his career with the Bureau of Forestry in 1900 as a student assistant. This was one of several titles he held from 1900-08; the others included laborer, assistant forest expert, and forest assistant. It appears he transferred from the Medicine Bow NF (Region 2) to the Weiser NF on July 26, 1907. He became deputy supervisor of the Pocatello NF in 1908 and a few months later was promoted to forest supervisor (1909-10). This was followed by appointments as supervisor of the Cache NF (1910-15) and as assistant regional forester for timber sales (1915 until at least 1917). He was detailed to the WO in 1917.

Sparhawk, William N.
Appointed from New Hampshire, Sparhawk was a forest assistant on the Salmon (1910-12) and Sevier (1912-13) forests. He then worked as a forest examiner on the Payette NF (1913-14) and in the Region 4 silviculture division (1914-16). He transferred to Washington on January 15, 1916.

Spaun, Calvin
Spaun had once worked for McClenahan, a local architect who designed the Regional Office, the Municipal Building, and the Ogden High School. This employment may have occurred before 1934, when he was a temporary employee in the Region 4 engineering section under the ECW, NIRA or CWA programs. He was the only architectural staff in 1956 when Bill Turner replaced retiring regional architect, George L. Nichols. Spaun, whose name appears on dozens of architectural plans from the 1950s and 1960s, retired on December 30, 1965.

Squires, John Fell
Squires was born in Putney, England on April 5, 1846. His family immigrated to Utah in 1853 after joining the LDS church. He was a barber for 35 years and a veteran of Utah's Blackhawk War before he became the first supervisor of the Logan/Bear River forest reserves (1903-1907). In 1907, the 62-year old Squires asked for a release from this position due to his age. In March 16 of that year, he was relieved by W.W. Clark and became deputy forest supervisor. The following year, Clark died and Squires was reportedly placed in the job again. When a new supervisor arrived, Clark became deputy forest supervisor, remaining in that position until 1909 when he asked for and received a demotion to forest ranger. Squires resigned in September of 1911 but was reinstated as a laborer the following February. He reportedly transferred in 1913 to the Regional Office, although this is not shown on his appointment record. After putting in some time there, Squires retired on May 15 ,1917 at the age of 72. He died in 1932 at the age of 86.

Stahmann, Ben R.
After graduating from the University of Washington in 1933, Stahmann worked with the Intermountain Forest and Range Experiment. He later became district ranger of the Spring Valley (1937-40) and Mountain City (1940-43) districts on the Humboldt NF. In 1958, he was living in San Diego.

Staley, Stella
She was a clerk in the Regional Office.

Stewart, Sidney S.
Appointed from Indiana, Stewart worked as forest assistant on the Kaibab (1909-11), and LaSal (1911-13) national forests. In 1913, he went to the Salmon NF as deputy supervisor. He remained in this position until 1917 when he transferred to the Regional Office's silviculture branch as forest examiner. Stewart became supervisor of the Minidoka NF on July 1, 1924. He retired on November 30, 1941 and lived in Salt Lake City.

Stewart, James O.
Stewart, appointed from Oregon, was a grazing assistant on the Fillmore (1920-21, 1922-23) and Dixie (1921-22) forests. In 1923, he was promoted to grazing examiner and transferred to the Cache NF where, after four months, he became its forest supervisor. Less than a year later, Stewart became an assistant ranger examiner in the Regional Office. As of 1928, he was a grazing inspector there but was working on the Payette NF by 1940 when he was again appointed forest supervisor of the Cache NF. He left in 1951 to hold the same position on the Manti NF, retiring from there in 1955. A year later, he was working with the Utah State Agricultural College in Iran. Stewart succeeded A.G. Nord on the Ashley NF.

Stokes, J. Warrington
Stokes came from Pennsylvania to work as a forest assistant on the Targhee NF (1911-13). He then became a forest examiner and was assigned to the Palisade NF (1913-14). His appointment record indicates he worked on many forests throughout the region from 1911 until 1917 when he became deputy supervisor of the Minidoka NF. He transferred to Region 8 in the summer of 1918 but returned as the Minidoka's deputy supervisor in late 1919. Stokes was promoted to supervisor in 1920, a position he held until 1923. (He had several extended periods of leave without pay through 1922.) In 1923, he transferred to the Boise where he was assistant forester until at least 1925. He retired on September 30, 1946 - possibly due to a disability - and lived in Ogden.

Stone, E. Maude
She was a clerk from 1912 until 1922. According to her appointment record, Stone worked in the Forest Products Lab in Madison Wisconsin, as well as Region 4's headquarters, research branch, and library. She transferred to Region 6 on December 12, 1922.

Stratton, Lee
Stratton, appointed from Ohio, worked in other regions as a clerk on the Beartooth (1910-14), Priest River (1914-17), and Missoula (1917-19) forests. In 1919, he became deputy forest supervisor on the Missoula but two years later went to the regional office as its fiscal agent. He came to Region 4 as fiscal agent in 1922 and was still there in 1927.

Sturgis, Mabel M.
She was a clerk on the Minidoka NF (1918-20), the Boise NF (1920-22), and the Regional Office (1922 until at least 1923).

Swartz, Ulysses S.
Appointed from Montana where his title was lumberman, Swartz came to Region 4 in 1923 and was promoted to logging engineer in 1924. He retired on April 30, 1936 and lived in Idaho Falls.

Thompson, Manly
He was a law officer in the RO in 1927 and the 1930s.

Torgeson, Oscar W.
Torgeson worked in Region 4's engineering section as a draftsman in 1919-21, returning for a few months in 1922. He resigned in September of 1922 but was rehired in 1923 as a highway engineer. He became chief surveyor in 1924.

Truscott, Charles J.
Truscott was in the Regional Office's lands division as a ranger (in 1920), and in the engineering office as a survey/draftsman (1920-24). He was promoted to chief surveyor in 1924 and was still part of the engineering staff in 1934. Truscott retired on June 30, 1947 and lived in Ogden.

Turner, William R.
Bill Turner was born in Provo, Utah in 1918. He studied engineering at Brigham Young University and Utah State University, graduating from the latter with a degree in civil engineering in 1941. He then worked for Columbia Steel in Torrance, California, transferring later to Provo. Turner's next job was with the newly opened Geneva Steel Works, where he remained until the plant closed in 1945. He then began his civil service career with the Bureau of Reclamation in Grand Junction, Colorado. He left the Bureau and has a succession of jobs in Utah with the City of Provo, a home depot company in Pleasant Grove, the Army Desert Chemical Depot in Tooele, and Hill Air Force Base. In July of 1956, Turner was hired by the Forest Service to replace the retiring regional architect, George L. Nichols. When he started, the architectural staff consisted of one draftsman, Cal Spaun, and they concentrated primarily on dwellings. Bill Turner retired in 1981.

Udell, Stewart Harvey
He was a draftsman and surveyor in the R4 engineering division in 1924 and 1925.

Usher, James
After receiving a degree in forestry from Oregon State University in 1940, Usher studied engineering at Montana State (1940-41). He worked in Regions 1, 5, 6 and the Washington Office before coming to Region 4 as assistant regional engineer (1960-62). He was promoted to regional engineer in 1962.

Van Meter, Thomas H.
Records on Van Meter's Forest Service career are spotty. In 1928, he was a junior forest ranger on District 2 (Island Park) of the Targhee nF. He advanced up the career ladder and was forest supervisor of the Payette NF who became supervisor of the Boise NF when it absorbed the Payette in 1944. By 1961, Van Meter was in the RO as chief of operations. He retired on December 30, 1966 and lived in Ogden.

White, L. L.
In 1908, White was working for Inspector Benedict in Salt Lake City. This was the precursor of the Regional Office, which moved to Ogden later that year. District Forester Sherman dismissed White from the FS for drunkenness in 1911.

Wilde, Kenneth E.
Wilde, appointed from Michigan, worked as a junior forester on the Boise, Targhee, and Idaho forests, as well as the Regional Office in 1924 and 1925.

Wilson, Robert Burns
Burns was a forest assistant who examined and prepared reports on the proposed Topaz Addition to the Bear River Forest Reserve (1906), the Monticello Reserve, and the proposed Bruneau Addition to the Independence National Forest (1906).

Winkler, Ernest
Ernest Winkler worked his first few years on the Manti NF where he was a guard (1905), assistant ranger (1905-07), deputy ranger (1907-08, ranger (1908-09), and deputy supervisor (1909-13). He became forest supervisor of the Fillmore NF in 1913 but three years later transferred to the Region 4 grazing division where his title was inspector of grazing. This was changed in 1923 to assistant district (regional) forester. He was head of the R4 range management division in 1929.

Winkler, Orval E.
Orval E. Winkler was ranger of the Paris Ranger District (Cache NF) from 1937 to 1938 when he was "transferred away." He served as assistant forest supervisor on the Cache NF from 1950 to 1957, after which he transferred to the Division of Range Management and accepted FAO assignments abroad. Orval E. Winkler retired on September 28, 1965 and lived in Ogden.

Woods, Francis W.
Woods was a draftsman in the Region 4 engineering branch in 1924, remaining as part of the staff as late as 1934. Woods retired on July 31, 1958 and continued to live in Ogden.

Woods, Clarence N.
C.N. Woods began working on the Shoshone Division of the Yellowstone Forest Reserve in July of 1902. He was a ranger on the Teton (1905-07) and Ruby (1907-08) forests. After ten months, Woods -- known by some as "Old Granite Face" -- was promoted to Forest Supervisor of the new Sawtooth NF, operating from Hailey, Idaho (1908-14) before transferring to the Regional Office. There he was inspector of grazing (1914-16) and assistant district forester. In the latter role, he was head of lands (1916-20), grazing (1920-23), and operations (1923 until at least 1924). Woods became Regional Forester in January of 1939 and retired from the Forest Service on December 31, 1943. He was community oriented, serving as director of the Ogden Chamber of Commerce, a Rotary club official, and a member of the Boy Scout council and the Ogden Safety Council. In 1958, he was still living in Ogden.

Woolley, Herbert E.
When he prepared a report on the proposed Santa Rosa NF in July of 1910, Woolley was a land examiner based in Ogden. He worked as a ranger on the Caribou NF when he left the Forest Service on September 5, 1914.

Work, Herman
Appointed from Pennsylvania, Work was a forest assistant and examiner on many Region 4 forests between 1910 and 1916. He came deputy forest supervisor of the Caribou NF in 1916, but left a year later to enter the Army. He resigned from the USFS in 1919.

Wright, Marshall
Wright was Chief of Maps and Surveys in the RO in the early 1920s. He later worked at the WO, then the Secretary of Agriculture's office. In *The History of Engineering in the Forest Service*, one of his former employees, Henry Shank, described him as "a mild-mannered, pint-sized, true scientist, and one of the finest leaders I've known. He went on to become one of the early leaders and authorities in the United States on mapping from aerial photography."

Wycoff, Alva C.
Appointed from Kansas, Wycoff was a clerk on the Uinta NF (1910-16) and in the Regional Office (1916-20). He received several promotions, becoming the district fiscal agent (1920-23), clerk auditor (1923-24), and deputy fiscal agent (1924 until at least 1925). Wycoff retired on March 31, 1943 and lived in Phoenix.

Young, Howard W.
Young was a junior landscape architect in the Regional Office. He was there by 1937 and prepared many landscaping plans for administrative sites on the Humboldt-Toiyabe NF, including the Nevada NF Supervisor's Office, the Lamoille Boy Scout camp, the Clover Experiment Station, and the Lee Canyon Guard Station.

Zuberbuhler, Ulrich H.
As district ranger, Zuberbuhler was assigned to the Jarbidge (1943-46) and Alpine (1948-51) districts (Humboldt-Toiyabe NF) before transferring to the Region 4 fire control office in 1951. He was still in the Regional Office as of 1971.

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