

**HISTORY OF THE  
BOISE NATIONAL FOREST  
1905-1976**

**IDAHO STATE HISTORICAL SOCIETY  
BOISE — 1983**

Looking up the Snake River  
Bonneville River, near



HISTORY OF THE BOISE NATIONAL FOREST

1905-1976

by

ELIZABETH M. SMITH

IDAHO STATE HISTORICAL SOCIETY

BOISE

1983

History of the Boise National Forest,  
1905-1976, is published under a co-  
operative agreement between the Idaho  
State Historical Society and the  
Boise National Forest.

## DEDICATION

This history is dedicated to the memory of Guy B. Mains, who served as supervisor of the former Payette National Forest from 1908 to 1920 and 1924 to 1925 and was supervisor of the former Boise National Forest from 1925 to 1940. He spent a total of twenty-eight years in the development of the present Boise National Forest, serving as a supervisor for over one-third of the total history of the forest from its beginning in 1905 to the present.



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## ACKNOWLEDGMENTS

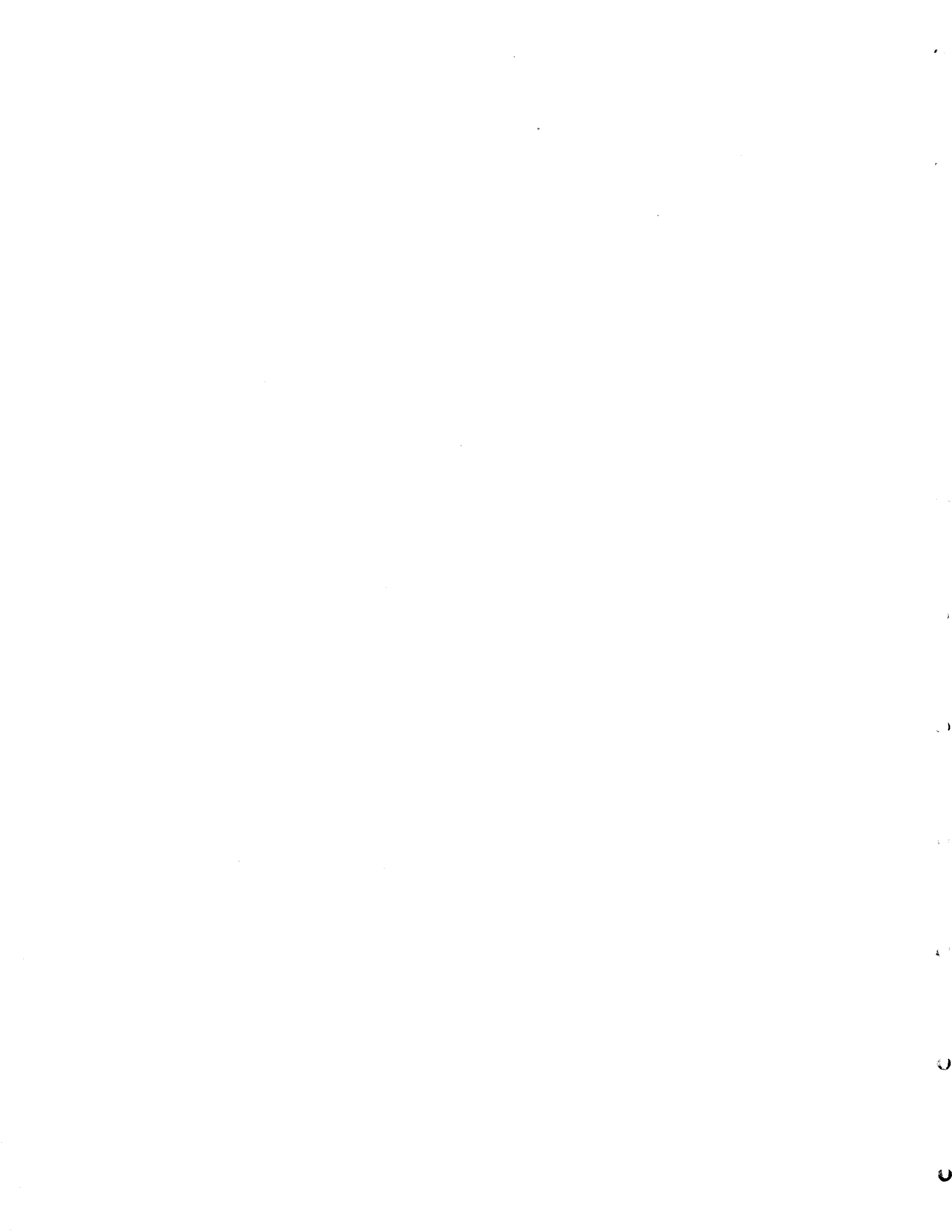
This book is a brief record of the monumental task that has been performed by a long line of dedicated foresters. In the larger sense, this history has been "written" by those whose lives have been spent caring for, managing, and improving the Boise National Forest.

Many past and present Forest Service personnel and numerous other people have contributed facts, ideas, and reminiscences. Some have read, corrected and added to portions of this work. I am indebted to the personnel of the Boise National Forest at the time the study was written for their gracious cooperation and helpfulness, and particularly to the district rangers who dug deep into their files; Wally Shiverdecker and Don Hansen, then the public relations officers, who kept pushing the work; and Edward C. Maw, then the forest supervisor.

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Elizabeth M. Smith



## BOISE NATIONAL FOREST

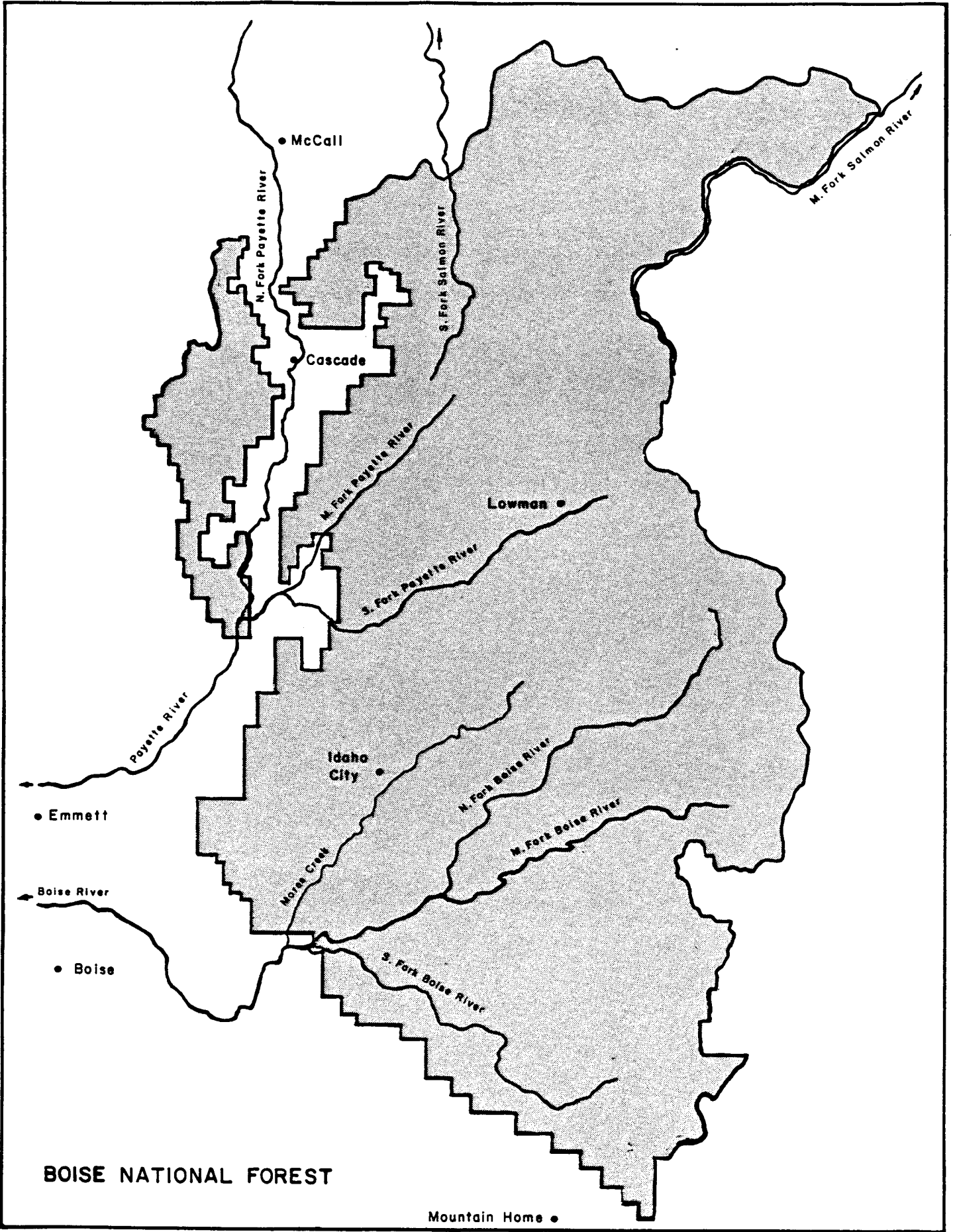
**Location:** Southwestern part of the state of Idaho.

**Derivation of name:** The forest was named for the Boise River, which flows through much of it. The word Boise is from the French, meaning "wooded." The river was called Boise as early as 1812.

**Principal drainage:** Boise River, Payette River, Middle and South forks of the Salmon River. All of the river drainages are part of the Snake River system.

**Predominating timber species:** Ponderosa pine, Douglas fir.

The Boise National Forest is one of the largest of the nation's national forests. The gross area within its boundaries is 2,958,356 acres, including 2,642,453 acres of national-forest lands and 315,903 acres in other ownership.



**BOISE NATIONAL FOREST**

Mountain Home •

PART I

BEFORE THE NATIONAL FOREST



## INDIANS

There is evidence that intelligent, highly skilled people have lived in Idaho for at least the past twelve to fifteen thousand years. Near the end of the Ice Age or Pleistocene geological epoch, some 13,000 years ago, people living a semi-nomadic life apparently entered Idaho.<sup>1</sup> Anthropologists have found two Indian cultural groups in Idaho, known as Plateau and Great Basin. Though Plateau cultures are found north of the Salmon River, evidence suggests that Plateau people occupied areas of southwestern and west-central Idaho some time between the fourteenth and eighteenth centuries. The Great Basin cultures found south and east of the Salmon River include such groups as the Northern and Western Shoshoni, the Bannock,<sup>2</sup> and the Northern Paiute. These groups were known generally in the nineteenth century as Snake Indians.

The Northern Shoshoni left evidence in central Idaho of having held to a way of life for 8,000 years or more. Eight to ten thousand years ago, their patterns of existence in southern Idaho were similar to those found over a large part of the Great Basin in Utah and Nevada. However, a change of climate about 7,000 years ago dried up much of the Great Basin and changed the way of life of people in that low-lying geographic area. The ancestors of the Northern Shoshoni slowly moved to high mountain country in central Idaho, where they could continue their big-game-hunting way of life. As a result, they survived into the nineteenth and twentieth centuries and provide likely evidence of a much older way of life. Their relatives the Western Shoshoni and Northern Paiute changed their way of life to fit their changing environment and became dependent upon seed gathering and hunting of small mammals.<sup>3</sup>

Unchallenged by other Indians, the Mountain Shoshoni--a branch of the Northern Shoshoni often called Sheepeaters or Tukudeka--used most of the area that is now the Payette, Salmon, Boise, Challis, Sawtooth, and Beaverhead national forests.<sup>4</sup> The Sheepeaters never used horses in great numbers, though other Shoshoni acquired them as early as 1700. The area inhabited by the Sheepeaters was too rough to support horses and allow them to be used to advantage in hunting and travel. Sheepeaters who did acquire horses tended to leave the extremely rough areas of central Idaho and join their relatives the Lemhi Indians, who were largely Mountain Shoshoni living in more open country where they could support horses and use them to advantage in hunting buffalo.

The Sheepeaters' diet included a variety of roots, seeds, and berries. They constructed weirs and dams to catch salmon. They were the most skilled hunters on foot of all Idaho Indians, using excellent bows of laminated horn of the bighorn mountain sheep, light snowshoes in winter, and dogs trained for the chase. They were excellent furriers, and their skin products were highly prized by other Indians and by white fur traders.<sup>5</sup>

Most of the Boise National Forest has been sparsely inhabited by Indians. Archaeological sites, including several rock shelters, camp-

sites, and burial grounds, have been located on various rivers in the area. Pictographs have been discovered near rock shelters and artifacts have been found along the rivers.<sup>6</sup>

Within historic times the area of the Boise National Forest was primarily Northern Shoshoni country, including both Mountain (Sheep-eater) Shoshoni and, in the southern part, Boise Shoshoni. Other Indian groups ventured into the area for hunting and for trade. The old fur-trade Fort Boise trading post, built in 1834, was located near the mouth of the Boise River because this was an area where Indians gathered for fishing and trade. The area was common ground for Shoshoni and Bannock; the Nez Perce came regularly for annual trading fairs. Other groups that occasionally ventured into this area included Northern Paiute, Cayuse, and Plains Indians.

During the years of the fur trade, the Indians of Idaho had no major wars with the white newcomers, although there were some minor skirmishes. The fur trade did not seriously disrupt the Indian way of life. But when gold seekers in the 1860's moved into the mountains where the Sheepeaters fished and hunted, many of the Sheepeaters moved out and joined their relatives among the Lemhi Indians.<sup>7</sup>

Permanent white settlement and ranching, which followed the rush for gold, made life difficult for the Indians. As more country was settled, serious trouble arose. In 1878, a year after the Nez Perce War began in north Idaho, the Bannock War broke out in south Idaho. A series of irritations and grievances had built up, including poor management of the Fort Hall Reservation, friction between Bannock and Shoshoni groups, and trouble over the white man's pasturing pigs and other livestock on Camas Prairie. The summer of 1878 was a restless time for residents of the Boise Valley as Buffalo Horn led his Bannock warriors westward, sinking Glenn's ferryboat on the Snake and battling the whites at South Mountain in the Owyhees. After the death of Buffalo Horn, the Bannocks joined Chief Egan's Oregon band of Northern Paiutes. As the war dissipated in eastern Oregon, Bannock warriors filtered back into Idaho, Montana, and Wyoming, raising trouble along the way. Some of these Indians, who were pursued by the military, sought refuge among the Sheepeaters; this may have given the Sheepeaters their undeserved reputation as a band of outcasts.

During the Bannock War, an ambush of four whites in Long Valley near Cascade was attributed by some to the Sheepeaters, as was the killing of five Chinese miners on Loon Creek (Challis National Forest) on February 12, 1879. Settlers near Warrens<sup>8</sup> (Payette National Forest) were attacked in the spring of 1879. What followed has been called the Sheepeater War, but in reality it could be more aptly described as the search for the last of the Sheepeater Indians. General Oliver O. Howard sent three separate commands of cavalry and Umatilla scouts to capture the Sheepeaters. Captain Reuben Bernard started from Boise Barracks on May 31, 1879, with more than sixty men; Lieutenant Henry Catley left Camp Howard near Grangeville with more than fifty on June 4; and on July



7, Lieutenant E. S. Farrow was sent from Umatilla Agency in Oregon with more than thirty men, most of them scouts. All three groups were hunting the Indians, and no command was in communication with either of the others. They worked their way through the wild country slowly and cautiously, like hunters in search of game. Both Catley and Bernard encountered extremely deep snow, which caused much hardship and delay.

Bernard's command proceeded through Idaho City to the South Fork of the Payette River, and after scouting northeast past Loon Creek and up the Middle Fork of the Salmon River they crossed Bear Valley to Deadwood River (where a tributary near their July 20 campsite is now named Bernard Creek; Bernard Mountain and Bernard Lake are nearby). After a search past Warm Lake, down the South Fork of the Salmon, through Warrens, and south to Payette Lakes, Bernard joined forces with Farrow's party in Long Valley on August 6. They proceeded north together, meeting Catley's group, which had been trapped and defeated by the Indians on Big Creek.

The Indians defended themselves by minor skirmishes and by setting fire to grass and timber in the path of the soldiers. The frustrated army units saw little of the Indians through the summer of 1879. The soldiers' rations were running low and their stock were exhausted by the precipitous country. Bernard, Catley, and their men returned to their bases as winter threatened. Farrow and his scouts continued and finally captured approximately fifty Indians by October 1. Most records indicate that only twelve of these were warriors. Their arms consisted of eight guns: two Henry carbines, one Sharp's carbine, one .45-caliber Springfield carbine, one .50-caliber Springfield breech-loading rifle, two muzzle-loading rifles, and one double-barrelled shotgun. The prisoners were taken via Grangeville to Fort Vancouver and the following year were moved to the Fort Hall Reservation in Idaho.<sup>9</sup>

<sup>1</sup>Earl H. Swanson, Jr., "Idaho Yesteryears," Idaho Yesterdays 9 (Spring, 1965), 17-24.

<sup>2</sup>Bannock: "speakers of Northern Paiute and their descendants living together with Northern Shoshoni in social, economic, and political union under joint leadership and with common cultural traditions." Sven Liljeblad, "Indian Peoples in Idaho," mimeographed (Pocatello: Idaho State University Museum, 1957), p. 59.

<sup>3</sup>Swanson, "Idaho Yesteryears."

<sup>4</sup>Liljeblad, "Indian Peoples in Idaho," pp. 99-100.

<sup>5</sup>The Sheepeaters have frequently been thought to be renegade Indians from other tribes who fled to the hills during the Indian wars. Or they have been considered impoverished Indians, living on a low level of existence. On the contrary, the Sheepeaters had a higher standard of living than did other Shoshoni except for the buffalo hunters. They lived as peaceful villagers under the leadership of trusted headsmen. In many respects they were superior to any other Shoshoni groups on a pre-horse level of culture. Other Indians respectfully referred to them as "hunters of big game." Liljeblad, "Indian Peoples in Idaho," pp. 96-99.

<sup>6</sup>The Antiquities Act of 1906 and the Archaeological Resources Protection Act of 1979, to protect and preserve historic and archaeological resources on federally owned or controlled lands, make it unlawful to appropriate, excavate, injure, or destroy any historic or prehistoric ruin, monument, or artifact without a permit. The Forest Service is making every effort to protect these artifacts and Indian historic sites so that adequate scholarly study can be made that will give us more accurate information concerning our prehistory.

<sup>7</sup>Liljeblad, "Indian Peoples in Idaho," pp. 96-99.

<sup>8</sup>Forest Service usage is Warren; the community was also known as Warrensburg.

<sup>9</sup>Sheepeater Indian Campaign (Grangeville: Idaho County Free Press, 1968). At least one independent Sheepeater group, Eagle Eye's Weiser Indians, kept out of the war and lived in Dry Buck and Squaw Creek valleys (Payette drainage) until about 1900.

## FUR TRADE, EXPLORATION, AND EMIGRATION

The first white men to visit the area that is now the Boise National Forest were fur traders and trappers in the early 1800's, soon after Lewis and Clark crossed Idaho in 1805. The Wilson Price Hunt party traveled overland from St. Louis to the mouth of the Columbia between 1810 and 1812 to establish a fur-trading post for John Jacob Astor's Pacific Fur Company. In October 1811, the party of over forty men split up near modern Milner (near Twin Falls) after a boating mishap while descending the Snake River. Traveling afoot, one group followed the south bank of the Snake River; Hunt and a party followed the north bank; and a third group, including Donald Mackenzie and John Reid (or Reed), started north across the desert in the hope that they might strike the main stream of the Columbia. As far as is known, Mackenzie's men were the first white men to visit the Boise Valley; they skirted what is now the southern boundary of the Boise National Forest, possibly following the Boise River. All three groups finally reached the mouth of the Columbia, where Astoria had been established by men on the support ship Tonquin, which had come around the Horn. Hunt's route through Idaho later essentially became the Oregon Trail.

John Reid returned to the Boise River with a small party in the fall of 1813, and he built a cabin near the mouth of the Boise River. In January 1814, Reid and his men were killed by Indians while trapping along the Boise River. The river was called Reid's River for some years afterward.

Men of the British North West Company and Hudson's Bay Company (which merged in 1821) trapped or led trapping parties through the Boise National Forest area during the fur-trapping era. Donald Mackenzie was in charge of the North West Company's fur brigades to the Snake River from 1818 to 1821. On his first trip, he trapped in the area of the Boise National Forest. With him were Francois Payette and Jack Weiser (or Wazer), for whom the Payette and Weiser rivers were named. In the summer of 1819, Mackenzie held a trappers' rendezvous in the Boise Valley.

The fur brigades or Snake country expeditions were not just small trapping parties but represented a fairly major industry drawing upon the resources of the land. Fur trapping by these brigades might well be considered the first industry based on forest resources, to be followed later by industries such as grazing, mining, lumbering, and recreation. Hudson's Bay men usually left from Spokane House or Fort Nez Perce (near the junction of the Walla Walla and Columbia rivers) or Flathead House (Thompson Falls, Montana). One party led by Alexander Ross was typical. In February 1824, Ross's Hudson's Bay Company Snake country expedition left Flathead House with a party that included fifty-five men, twenty-five women, and sixty-four children. They took 75 guns, 212 beaver traps, and 392 horses. Entering the area of the Boise National Forest from the northeast, they crossed from the Big Wood River to the South Fork of the Boise River, trapped the Boise River to its mouth,

went down the Snake to the "River Payette," trapped up the Payette, crossed over to the Weiser River and went down it, south up the Snake, and thence by a circuitous route back toward Flathead House--which they reached in late November with 5,000 beaver besides other pelts.<sup>1</sup>

In 1825, Peter Skene Ogden, replacing Ross as head of the Snake expedition, traveled along the "Boisee" and "Payette's River." On his fourth Snake expedition, Ogden returned to the Boise River in 1827 and trapped to its source. Ogden noted then that "the American trappers are everywhere." John Work's Hudson's Bay Company party in 1831-1832 extensively explored the Boise, Deadwood, and Payette rivers, as well as several other rivers in Idaho, Montana, and Oregon. Francois Payette was one of Work's party in this expedition.<sup>2</sup>

Captain B. L. E. Bonneville's adventures brought him to the Boise River between 1833 and 1844. "The country about the Boise (or Woody) River, is extolled by Captain Bonneville as the most enchanting he had seen in the Far West: presenting the mingled grandeur and beauty of mountain and plain; of bright running streams and vast grassy meadows waving to the breeze."<sup>3</sup>

Thomas McKay built the Hudson's Bay Company's Fort Boise (near the mouth of Boise River, almost sixty miles from present-day Boise) in 1834 as a rival post to Fort Hall, built earlier that year by the American Nathaniel Wyeth. Francois Payette was left in charge of Fort Boise. There he received furs, traded with the Indians, and extended hospitality to travelers such as the Marcus Whitman party in 1836 and to early immigrants on the Oregon Trail. Fort Boise was abandoned in 1855.<sup>4</sup>

The men of the fur trade explored virtually every watershed of the Boise National Forest; but by 1840 the fur-trade era was coming to an end, in part because of the scarcity of beaver and in part because of the change in fashions for men's hats from beaver to silk. In terms of economics, the fur trade was the first contribution of the area of the Boise National Forest to world trade.<sup>5</sup>

The trade in furs has continued, fluctuating with the market. Idaho Fish and Game Department records indicate that the fur trade in Idaho in the 1960's was equal to, if not greater than, the fur trade of 1824-1840. Price levels, volume, and number of trappers were much the same as in the fur-trade era.

The explorations of John Charles Fremont, en route from Salt Lake to the mouth of the Columbia in the fall of 1843, included the Boise River and a stop at old Fort Boise.<sup>6</sup>

In the 1840's, at the same time the fur trade was declining, the great migration to Oregon was beginning. During the 1840's and 1850's, thousands of men, women, and children skirted the southern part of what is now the Boise National Forest in their covered-wagon journey west. The Oregon Trail followed the Snake River Plain, which was very barren

before large-scale irrigation began in the early 1900's. Idaho was only a bridge on the trail: westward-bound people crossed it but did not stop until they reached the green, fertile lands of western Oregon. Permanent settlement did not come to the area of the Boise National Forest until gold was discovered there.

Goodale's Cutoff may have brought some Oregon Trail travelers across the southern portion of the present Boise National Forest. Timothy Goodale was a mountain trader in the Snake country before Idaho was settled and knew of Indian and fur traders' trails north of the Snake River. His route was probably the same route Donald Mackenzie explored across Camas Prairie in 1820--an old Indian trail. It left the Oregon Trail near Fort Hall, crossed the Snake River Plain to Lost River, and then headed west and crossed Camas Prairie, rejoining the Oregon Trail at Ditto Creek on the west edge of the Mountain Home Ranger District. Goodale's route was used by travelers to Oregon as early as 1852.<sup>7</sup>

<sup>1</sup>Alexander Ross, Fur Hunters of the Far West, edited by Kenneth Spaulding (Norman: University of Oklahoma Press, 1956), chapters 10-13; Dale L. Morgan, Jedediah Smith and the Opening of the West (Lincoln: University of Nebraska Press, 1953), pp. 126-130. This expedition is commemorated in the names Ross Fork of the South Fork of the Boise River and Ross Peak, both in the Sawtooth National Forest near the boundary of the Boise National Forest. Rossview Mountain, a 9,300-foot peak on the Boise National Forest boundary, overlooks Ross Fork Basin. (Ross Creek, a tributary of Deadwood River, is possibly named for an early-day ranger in this forest, Elmer Ross.)

<sup>2</sup>Archie Binns, Peter Skene Ogden: Fur Trader (Portland, Oregon: Binfords & Mort, 1967), pp. 149, 203-204; Paul C. Phillips, The Fur Trade, 2 vols. (Norman: University of Oklahoma Press, 1961), 2:455; John Work, Journal of John Work, edited by William S. Lewis and Paul C. Phillips (Cleveland: Arthur H. Clark Co., 1923), pp. 100-169.

<sup>3</sup>Washington Irving, The Adventures of Captain Bonneville U.S.A. in the Rocky Mountains and the Far West, edited by Edgeley W. Todd (Norman: University of Oklahoma Press, 1961), p. 136. Bonneville Hot Springs, on the South Fork of the Payette River, was probably named for him.

<sup>4</sup>Annie Laurie Bird, Thomas McKay (Caldwell, Idaho: The Caxton Printers, Ltd., 1972), pp. 42-57.

<sup>5</sup>Guy B. Mains states: "Forest officers have occasionally found in remote places on the Forest rectangular mounds with trees growing on them from 70 to 90 years old. These mounds, when opened, disclosed decayed logs with axe marks plainly showing on the remnants. Since the Indians of this locality did not build this type of dwelling, the conclusion is that they were built by early trappers, as there is no indication of mining near them."

<sup>6</sup>History of Idaho Territory (San Francisco: Wallace W. Elliott & Co., 1884; reprinted, Fairfield, Washington: Ye Galleon Press, 1973), pp. 58-63.

<sup>7</sup>See The Oregon Trail in Idaho, Reference Series 50 (Boise: Idaho State Historical Society, n.d.), and Goodale's Cutoff, revised edition, Reference Series 51 (Boise: Idaho State Historical Society, 1972), for further information on trail routes.

## MINING

The rush to Idaho began when gold was found at Pierce (Clearwater National Forest) in 1860. Strikes were soon made at Elk City and Florence (Nezperce National Forest), and at Warrens (Payette National Forest). In 1862 prospectors entered the area of the Boise National Forest, and Boise Basin gold was discovered August 2 on Grimes Creek--named for George Grimes, who, with Moses Splawn, led the party of prospectors. Grimes was killed (allegedly by Indians) soon after his gold discovery.

When the news of the gold strike spread, many miners came from California and Oregon as well as from the east. Subsequent discoveries in 1863 on the South Fork of the Boise River (Rocky Bar and the South Boise mines) and in the Owyhees, and in Atlanta in 1864, increased the rush to Idaho. The principal route from the west was by boat up the Columbia River from Portland to Umatilla or Wallula and then overland. By the spring of 1863, saddle trains and pack strings were leaving Umatilla and Wallula for the new diggings.

Placerville was early headquarters for travel to the Basin. The town was laid out like a Spanish town, with a plaza in the center of its business district. Better water conditions soon made Idaho City--first called Bannock City and West Bannock--the major camp. Centerville, Pioneerville, and other mining camps also flourished in Boise Basin.<sup>1</sup> The Boise Basin region became briefly the largest population center of the Pacific Northwest, with a population of 14,000 to 16,000; by mid-September of 1863 Idaho City, with a population of 6,267, had surpassed Portland to become the largest city in the Northwest.<sup>2</sup>

Since there were no federal mining laws in the days of the rush to Idaho, locations were made according to regulations drawn up by the miners, generally similar to those used in California and patterned after regulations developed by the Spanish.

The major excitement in Boise Basin occurred primarily between 1862 and 1864. However, the area continued to produce substantially even after attention was diverted by discoveries in other districts. By 1870, many of the miners had gone to other fields in Idaho (Leesburg, 1866, and Loon Creek, 1869) and to Montana and Nevada. The population of Boise Basin in 1870 had dwindled to approximately 3,500, of whom nearly half (over 1,700) were Chinese.<sup>3</sup>

Boise Basin mining continued through the depression of the 1930's. Mining was predominantly some form of placer operation, though quartz discoveries gave stability to the Basin.<sup>4</sup> Quartzburg was the scene of early quartz or "hard rock" mining when a stamp mill was set up on Granite Creek in 1864. The later Gold Hill Mine had a 25-stamp mill and continued operation until 1938.

Perhaps the mining operation most apparent to present-day visitors is dredging. The first dredge in the Boise Basin was built near Placerville about 1898. Soon after, two more dredges were built on Grimes Creek near Centerville. None of these dredges was very successful, and they all shut down within five years. One reason for their failure was the lack of sufficient electrical power to keep them operating through the summer. Their power plant was located on Grimes Creek about half-way between Centerville and the confluence of Grimes and Mores creeks. During the high-water season there was sufficient power, but during the summer and fall months there were frequent shutdowns.

In 1907, W. H. Estabrook built a dredge on Elk Creek about half a mile above Idaho City. The boat was built of native ponderosa pine timbers 24 inches square and 75 feet long. It worked the gravels below and above Idaho City. After working through the richer gravels, the dredge ceased operation about 1917. Power for the Estabrook dredging operation came from a plant with two turbo-generators located on the South Fork of the Payette River. Estabrook installed the power plant and a line to his home at Pinetop. For twenty years, Estabrook's power plant, known as the Grimes Pass Hydroelectric Company, provided power to mines in the Basin.

Another dredging operation began in 1936 when the Idaho-Canadian Mining Company built two dredges on Mores Creek and Grimes Creek above Centerville. These dredges reworked the same gravels worked by earlier dredges, but with longer bucket lines they were also able to reach gravels as yet unworked. By 1951 these dredges shut down. They had recovered more than \$10,000,000 in gold. A dredging effort on Crooked River in the late 1920's produced very little.

Boise Basin was worked through the years with both placer and quartz operations. The district has produced at least 2.3 million ounces of gold--with a value usually given as between \$60,000,000 and \$100,000,000 (depending on the price of gold used as a measure).

The discovery of gold on Feather River (a tributary of the South Fork of the Boise River) in 1863 started a rush to that area, which became known as the South Boise mining district. Camps sprang up on Red Warrior, Elk, Bear, and Cayuse creeks. Rocky Bar soon became the leading settlement for the South Boise camps. The South Boise mines were primarily quartz rather than placer. Because of the remoteness of the area, it was difficult to bring in heavy equipment, and simple mining methods were used. At first, many arrastras<sup>4</sup> were built, using native material. It is reported that by August 1864 there were more than eighty arrastras working in the South Boise mines.<sup>5</sup>

Stamp mills were brought in with great difficulty. One 12-stamp mill, weighing 14 tons, was freighted overland from St. Joseph, Missouri, to Rocky Bar at a cost of 30 cents a pound. In 1864 a 40-stamp mill came from the east by ship and then up the Columbia River from Portland. From Umatilla, it was carried on wagons. When it reached



Rocky Bar, the mine was not worth a stamp mill. The promoter later sold the mill to owners of a mine in Atlanta.<sup>6</sup>

Until about 1886, production at Rocky Bar was limited to high-grade deposits. The Elmore was the major producer. Most of the important properties were practically worked out by 1892. Total production for the Rocky Bar district had reached approximately \$6,000,000 by that time.<sup>7</sup>

There is a rather persistent story that mining was developed at Rocky Bar much earlier than 1863 by Spanish miners, but there appears no firm evidence for this account. This story probably originated in the fact that Spanish miners were among the early miners in the Rocky Bar area and their effects were found at a later time.<sup>8</sup>

Other mining camps in the Boise National Forest area came into existence as prospecting increased. Placers were discovered on Crooked River in 1863 and traced to a quartz lode that became the Banner silver mine. The mining towns in this area were Banner and Eureka. Arrastras were used at first. It was 1874 before a stamp mill was brought in, and though major production did not come until after 1882, Banner eventually produced about \$3,000,000 in silver before it shut down in 1921.<sup>9</sup>

Gold was found on Yuba River (a tributary of the Middle Fork of the Boise River) in 1864 by prospectors from Warrens. The name Atlanta was chosen by Confederate miners in honor of General Hood's incorrectly reported victory over Sherman in the battle of Atlanta. It was extremely difficult to get machinery into this district, a situation somewhat improved by a road built from Rocky Bar in 1878. Arrastras and small-scale stamp mills were not adequate for separating the gold from the refractory ores. The recovery problem for much of the ore was not solved until 1932, when a modern amalgamation-flotation concentrator was used. Atlanta produced through the Depression and World War II and continued uninterrupted until 1954. The Atlanta district produced about \$16,000,000 over the ninety years after 1864.<sup>10</sup>

Prospectors worked at Deadwood during the years 1863-1868, but without any rich strikes. There was quartz mining later, but Deadwood was a ghost town by 1876. Mining was resumed there in the 1920's and a lead-zinc mine proved profitable.

In 1885, veins of silver were reported at Silver Mountain, and the Graham mine was financed with British capital. A \$350,000 mill with a mile-long tramway to the mine tunnel was completed in 1888. The million-dollar enterprise failed for lack of ore, and sheriff's sales were held in 1889.

Placering was done on the Middle Fork of the Boise River below Atlanta as early as 1864. The Boise King mine built an early hydraulic ditch from Black Warrior Creek. Chinese miners operated extensively on the ridges above the river. Hydraulic giants were in use at Twin

Springs around 1900, and a bridge carried a siphon stream across the Boise River there. Several placer areas are located along the Middle Fork. A lode was located on Black Warrior Creek in 1903. There was dredging in the Middle Fork drainage from about 1930 to 1946, and a dredge was used at the Boise King in the 1940's.

The ridge above Boise City was prospected for many years, beginning in 1864. A mill was taken into Shaw Mountain in about 1879 or 1880, but it saw limited activity.

Gold was discovered at Pine Grove on the road to Rocky Bar in 1887. British capital was invested in 1892 and the Franklin mine produced about \$750,000 in gold before shutting down in 1917.<sup>11</sup>

Most mining activity in the Boise National Forest has ceased. Many of the towns have died, but some old cabins, stores, and hotels still stand. Arrastras can be found in some areas, and mills, smelters, and tramways exist in varying stages of decay. Some early mines have continued to the present; some new ones have been found.

The Stibnite area was prospected during the Thunder Mountain rush (1902-1905) but developed slowly. Some likely outcrops of antimony were uncovered, as were some veins that showed brick-red streaks of cinnabar, the commercial ore of mercury. Many claims were staked; but the severity of the terrain, the tough, snow-swept, below-zero winters, and the long, roadless distance to a source of necessary camp supplies discouraged most people. Pringle Smith and Albert Hennessey were among the few that stayed and worked the area. During World War I, when mercury for the munitions industry was at a premium, Stibnite came to life again briefly. Some mining was done; some flasks of mercury were shipped and marketed. But it was impossible to get needed mining machinery into the mountains and almost impossible to get the mercury out.

J. J. Oberbillig envisioned development at Stibnite. He spent the years between 1921 and 1927 consolidating the small individual claims, sampling, testing, and blocking out ore that would prove the extent and validity of the veins. He interested Fred W. Bradley in the project, and Bradley took over in 1927. Only hand tools had been used for the exploratory work. There was one small cabin on the property and there were only two trails in. One, the Johnson Creek Trail, crossed high mountains and then a bad stretch known as No Man's Land, and came down Meadow Creek twelve miles to the single cabin. The other trail followed the East Fork of the South Fork of the Salmon River. Neither was easy to travel.

Bradley installed a mountain telephone line to Yellow Pine. During the summer of 1928, packers brought in 385 tons of machinery and equipment with mules, and they were using 75 head in the packing operation by fall. They could make one round trip between Yellow Pine and Stibnite in a day, and they packed in everything: mining equipment, construction equipment, food. In 1928, the Forest Service started building

the road from Yellow Pine and got as far as the East Fork bridge. Bradley started building at Stibnite and reached Salt Creek. Meanwhile, George Stonebreaker, a contractor, hauled 85 tons around on the old Thunder Mountain road. Two steam boilers, one for the sawmill and one for the mine air compressor, were hauled by truck to Twin Bridges and then, with trucks pushing and pulling and aided by four mules, up the Thunder Mountain road to Riordan. There they were unloaded, put on skids, and dragged down the mountain to Stibnite. The load had to be anchored at times to keep it from getting away, and much of the lowering had to be accomplished by the use of block and tackle and snubbing lines thrown around tree trunks.

By 1929 motor trucks were replacing the old pack trains, and by 1930 a hydroelectric plant had been installed and mining machinery was switched over to electric power. A small landing field was cleared. Stonebreaker, who held the government mail contract, retired his dog-team winter postal service to Yellow Pine in favor of a new airplane. The dogs had required three days for the trip from Cascade. The plane was handy for carrying both passengers and light freight in and out of the mountains.

In 1931, the sawmill turned out more than a million feet of lumber for mine and building work; the powerplant was enlarged and rebuilt; a public school was started; and an assay office was completed, as were a post office, numerous warehouses, and new cook and bunk shacks. At the mine, a new record for speed in mine-tunnel driving was established: during the month of August, the Monday tunnel was advanced 663.6 feet. The tunnel, in hard granite, was six by eight feet in the clear where no timber was used and seven by nine feet where timber was required. Three shifts of six men each made the record drive, using two machine drills mounted on crossbars.

Yellow Pine had been a mountain wilderness in 1927; by the end of 1931, it was a modern, busy mining community. And in 1936, Arthur Campbell, Idaho State Inspector of Mines, was able to write in his annual report: "This property led the State in the production of gold for 1936....Supplies are trucked in from Cascade and concentrates are shipped from that point. In winter, transportation is by airplane. The ore is antimony-gold...."<sup>12</sup>

Another wartime mercury shortage, during World War II, helped to make the Stibnite area the second largest producer in the United States in 1943. Important tungsten deposits came into production in 1944, and during the war Stibnite was the leading tungsten producer in the United States. Total yields for the active period, 1932-1952, amounted to \$24,000,000 in antimony, \$21,000,000 in tungsten, \$4,000,000 in gold, \$3,000,000 in mercury, and \$1,000,000 in silver.<sup>13</sup>

Extensive monzanite dredging in Long Valley began in 1951, after principal United States sources in India and Brazil were cut off. Three dredges were in operation. One capsized and sank in 1953. The others

ceased operation in 1955 because of a lack of market. Total production amounted to approximately \$2,000,000 and byproducts added another \$1,500,000.

The most important placer deposit of niobium and tantalum known in the United States is found in Bear Valley. Dredging produced 1,168,000 pounds of niobium and tantalum between 1953 and 1959, with a total production of \$12,500,000 in niobium, tantalum, and uranium. The dredges were dismantled and hauled away in 1969 and 1970. It has been estimated that there is sufficient mineral to allow mining for thirty years at the rate of the mining there in the 1950's.

Present mining on the Boise National Forest includes antimony mines on Swanholm Creek and at Yellow Pine and gold mining on Rock Creek, Lick Creek, Miller Mountain, and Little Muddy Creek. There is a new mine at Stibnite, and several molybdenum projects are under development. Most of the mines presently operating on the Boise National Forest are surface, not underground, operations. There are presently about six different patent applications pending action. The rise in the price of gold in the 1970's resulted in some flurry of activity, but not as much as was expected. There is presently more vacation activity in placering than serious placer mining on the Boise National Forest, partly because of state restrictions on dredging and other placer methods and partly because the whole area was intensively placered by the early-day miners (including the thorough efforts of the Chinese miners), who seem to have found the great bulk of easily accessible gold.

<sup>1</sup>See Appendix 3 for names of other Boise Basin gold camps.

<sup>2</sup>Merle W. Wells, Gold Camps and Silver Cities, Bulletin 22 (Moscow: Idaho Bureau of Mines and Geology, 1964), p. 9.

<sup>3</sup>Ninth Census of the United States (Washington, D.C.: Government Printing Office, 1872), p. 149.

<sup>4</sup>See Appendix 2 for mining methods and definitions of terms.

<sup>5</sup>Robert Lawrence Romig, "The South Boise Quartz Mines, 1863-1932: A Study in Western Mining Industry and Finance" (M.A. thesis, University of California, Berkeley, 1950), p. 17; Boise News (Idaho City), September 10, 1864, p. 3.

<sup>6</sup>Merle W. Wells, class lecture, Boise State University, March 23, 1972.

<sup>7</sup>Mining in Idaho, Reference Series Number 9, revised (Boise: Idaho State Historical Society, 1969), p. 14.

<sup>8</sup>Rocky Bar Spanish Legend, Reference Series Number 19 (Boise: Idaho State Historical Society, 1966).

<sup>9</sup>Wells, Gold Camps and Silver Cities, pp. 51-52.

<sup>10</sup>Mining in Idaho, p. 3.

<sup>11</sup>Ibid., p. 14.

<sup>12</sup>John A. Thompson, "The Yellow Pine--Idaho" (typewritten copy, history files, Cascade Ranger District, no date); typed interview, Iva and Fay Kissinger (history files, Cascade Ranger District, no date); Thirty-eighth Annual Report of the Mining Industry of Idaho, for the Year 1936 (Boise, 1936), p. 283.

<sup>13</sup>Mining in Idaho, p. 16.

## CHINESE

Chinese came to the Idaho mines as early as 1864. The Chinese differed from the usual immigrant to the United States in that most of them hoped to stay only long enough to save a few hundred dollars and return to China. For this they endured hard labor, deprivation, and persecution. Chinese laborers worked on the building of the Central Pacific Railroad; when it was completed in 1869, some turned to mining and many of those came to the Boise Basin. The 1870 census records that of the 14,999 people in Idaho that year, 4,247 were Chinese.

Chinese were able and dependable miners. They sometimes worked for white miners, but most often they worked ground that white men regarded as too unprofitable to work. In many cases, Chinese recovered more gold from Boise Basin placers than did the white men who originally claimed them. They were hard workers and lived frugally. Experienced bottlegiggers say they can always tell where the Chinese placered because of the neat and thorough manner in which the creek beds have been turned over and piled in windrows.

The Chinese miner had to pay a tax of \$5 a month to work his claim, but often unscrupulous whites with blank licenses visited diggings in the guise of license collectors, and the poor Chinese would pay for the second or third time.

The Chinese engaged in various enterprises besides mining. It was popular in Boise City to have a Chinese cook or house servant. Truck gardens were operated by Chinese in the favorable climate of Boise City, and the produce was carried on foot to Idaho City or Silver City, thirty miles and more away. Their usual carryall was two baskets swung from a yoke that curved around the neck and balanced across the shoulders. Other Chinese went into laundering and merchandising in Boise City and the Boise Basin, and several Chinese were considered prominent merchants. Idaho City had an expert Chinese goldsmith. The Chinese were honorable in paying debts but were often cheated by whites, and they feared the Idaho courts.

Nearly all Idaho "celestials," as the Chinese were often called, belonged to one of several tongs with headquarters in San Francisco. For a yearly fee paid to this company, an agent looked out for the individual Chinese, cared for him if he fell ill, and when he died sent his bones to China. The See Yups and Yung Wahs were the leading tongs of the Basin. The Yung Wah tong had fewer members there, but they controlled the Chinese merchandise business in Idaho City and the Basin, owning rice shops, herb stores, and supplies of rice wine, silk, and Chinese mining supplies. The See Yups were mostly laborers. Local wars between the tongs were not infrequent.<sup>1</sup>

Chinese worked in virtually all placer areas of Idaho, and most towns and cities had their "Chinatown" sections. Chinese have operated stores, laundries, and restaurants in many of these places ever since.

<sup>1</sup>Chinese Mining in Idaho, Reference Series 364, revised (Boise: Idaho State Historical Society, 1970); Dick d'Easum, Fragments of Villainy (Boise: Statesman Printing Company, 1959), pp. 11-44; Sister M. Alfreda Elsensohn, Idaho Chinese Lore (Caldwell, Idaho: Caxton Printers, Ltd., 1970), pp. 89-103.

## SETTLEMENT

With mining in the area of the Boise National Forest came settlement. From a wilderness inhabited only by Indians in the summer of 1862, the Boise Basin region became the largest population center in the Pacific Northwest in a few months' time. The area was part of Washington Territory until Idaho Territory was established March 4, 1863, over the signature of Abraham Lincoln.

To protect the Oregon Trail and the new mining settlements in southwest Idaho from restless Indians, United States Army Major Pinckney Lugenbeel established a military post--Fort Boise--July 4, 1863, on the Boise River nearly sixty miles upriver from the Hudson's Bay Company's old Fort Boise at the junction of the Boise and Snake rivers. On July 7, 1863, a group of eight settlers laid out a townsite in the vicinity of the new fort. The name Boise City was adopted, and the new town grew as a service center for the Boise Basin, South Boise, and Owyhee mines.

Placering and quartz mines supported the mining economy of the Boise Basin for many years, and some of its mining camps became permanent towns. The early mining towns started as tent cities, gradually converting to buildings of logs and whipsawn lumber. Idaho City had a newspaper before the town was a year old: the Boise News, which became The Idaho World in 1864. The town also boasted three livery stables, three express offices, a mattress factory, a photographer's gallery, four sawmills, seven blacksmith shops, eight bakeries, nine restaurants, two bowling alleys, three pool halls, three drug stores, four breweries, several saloons, a hospital, a theater, a fire department, and three churches. Fires swept through the town in 1865 and 1867, but Idaho City did not die. Some miners and merchants rebuilt substantial structures of locally made brick.

Boise County, larger than at present, dominated territorial politics during Idaho's early years. Settlement came during the Civil War, and many miners and settlers were southern Democrats--including a large number of Confederate Civil War refugees.

The few early ranches and farms in the area were small and served only the needs of the mining community. Timber was harvested for local use in building homes and other buildings and for use in mining: rockers, sluices, flumes, mine stulls. Early grazing was by the horses and burros of miners, but cattle were soon brought in from Oregon.

Placerville, Centerville, and Pioneerville prospered and grew in proportion to the interest in mining. After rapid growth in the 1860's, these towns declined. Other mining camps in and around the Basin, such as Boston, Banner, Beaver City, and Pine Grove, experienced even shorter lives.<sup>1</sup>

During the first two years of settlement, mail was brought into the Boise Basin by horseback. Thereafter, most mail traveled on the stage



lines. The South Boise mines, Rocky Bar, and Atlanta were served by mailmen on foot, skis, and snowshoes during the winter. At least six are known to have been killed in various snowslides.

Rocky Bar was the early county seat of Alturas County, one of Idaho's early counties which no longer exists. The town is now in Elmore County, which was named for the Elmore Mine at Rocky Bar. Hard winters in Atlanta, north of Rocky Bar, resulted in shortages of supplies and necessitated their transportation by sled from Rocky Bar and Idaho City. Transportation to Atlanta was a great problem in all seasons in the early years. Pack trains of mules and oxen using mountain trails were the only source of communication and transportation of supplies to many areas. A first rough road from Rocky Bar to Atlanta was begun in 1865.

Without adequate refrigeration, and before canning became popular, most provisions did not keep long, so farming and ranching prospered in the early mining days. William J. McConnell and John Porter located a ranch in April of 1863 about four miles above Horseshoe Bend, farmed it for four years, and packed produce thirteen miles over the hill to Placerville and twenty-five miles to Idaho City.

The northern and western parts of the Boise National Forest were also prospected, but with less success than in the Boise Basin and the South Boise mines. As a result, settlement came later in the northern and western parts. Among early settlers in Garden Valley were Donald and Margaret McBride, who came from Scotland to Rocky Bar and then Idaho City and settled in Garden Valley by 1870. Elsie Ann McBride, born in Garden Valley in 1871, married James DeChambeau in 1889. DeChambeau had come from Montreal to Idaho by way of California and worked for the packer Jesus Urquides. DeChambeau homesteaded in Garden Valley around 1887.<sup>2</sup> During the Indian uprising of 1878, the McBrides and neighboring families slept out in the sagebrush for fear of Indian attacks on their homes. Some of the settlers moved into Placerville during this time, but the Indians did not attack homes in the Garden Valley area.

The tall grass of Long Valley attracted settlers between 1880 and 1890. James Horner, a single man, built his home in 1882 on Clear Creek, where he remained the rest of his life. Steve M. Sisk settled in Crawford Nook in 1883. In 1884, Levi S. Kimball settled in the area that later became the town of Van Wyck. Other early settlers included W. B. Boydston, Ralph and George Oaks, John Cox, and Mark Cole. James Smith built the first ferryboat at Smith's Ferry on the Payette.

Three rival towns developed in Long Valley: Crawford, Van Wyck, and Thunder City. Van Wyck was over the hill west of Cascade about two miles, Crawford was near the modern turnoff on the Warm Lake road, and Thunder City was about three miles southeast of Cascade. Van Wyck was the largest of the three, with a population of 300 in 1888. These three towns were the supply center for the Thunder Mountain mining activities, which lasted from 1900 until 1907 (when the Dewey and Sunnyside mines closed). The Idaho Northern Branch railroad spur reached Cascade in

1913. Business enterprises moved to the new town of Cascade, and the three rival towns died out. Van Wyck, on the Payette River, is now under the waters of Cascade Reservoir.

Before 1914, travel in Long Valley was by horseback or horse-drawn vehicles; but in that year H. H. Bryant and Son of Boise sold and delivered in the valley four Ford cars--to R. D. Thomas, F. S. Logue and Bros., Lee Lisenby, and G. E. Noggle. So began auto travel in Long Valley.<sup>3</sup>

John Reeves settled on a mining claim in Paradise Valley near Warm Lake in 1886 and named many of the geographic features on the upper end of the South Fork of the Salmon River. The nearby Knox Ranch was homesteaded in 1890 by a man named Robinette. John Knox developed the Thunderbolt Mine in the Cabin Creek drainage soon after 1900.

Peter and Eva Neeb were early settlers in Round Valley in 1898, establishing the post office at Fern near Smith's Ferry. Another early settler of that area was W. A. "Billy" Bacon, who as a young man drove cattle to summer pasture in Round Valley and later homesteaded there. He and Sara Jarvis were married in 1893 by the Rev. B. F. Morrow, a circuit-riding Baptist minister.

Lafe and Mary Cantrell homesteaded in Round Valley about 1898 after a three-month overland trip with a wagon train. Mary made butter and Lafe, wearing snowshoes, hauled it on a hand sled to Idaho City, nearly fifty miles away. He worked in the mines, blacksmithing and sharpening steel for the miners, until time for Mary to have another load of butter ready for market.<sup>4</sup>

During the Thunder Mountain boom of 1900-1907 in the present Payette National Forest, prospectors spread over the surrounding area. Albert S. Hennessy worked the area from Roosevelt to Yellow Pine. Albert C. Behne founded the forty-seven-acre townsite of Yellow Pine and became the deputy mine recorder for the Yellow Pine Mining District. In 1903, Hennessy filed a homestead on Johnson Creek. Clement G. Hanson, Alex Frostrom, and Henry Abstein, along with many others, filed both placer and quartz claims on both sides of Johnson Creek, the East Fork of the South Fork of the Salmon River, Quartz Creek, Riordan Creek, Trapper Creek, and Meadow Creek.

In the mining boom days, skiing was considered not a sport but a very necessary mode of travel. Some of the oldtimers were real experts when it came to making long and arduous trips, such as getting mail into the back country. Among these men were Al Hennessy, Charley Newell, Jake and Erick Jenson, Rufe Hughes, Ray Call, and Dan McRae. McRae was strictly a snowshoe man. They all carried mail from Long Valley to Roosevelt, a distance of almost one hundred miles. They usually traveled alone and had to consider the possibility of an accident that might end in a broken bone or bad sprain. Most skiers used a single pole of red fir about two inches in diameter at the big end and eight or ten

feet long. It was used as a sort of balance, but mostly as a brake on the steep downgrades. It was also a great help in climbing upgrade. Skis were usually made of native timber, usually lodgepole or black pine but sometimes red fir or tamarack, nine to twelve feet long and from four and a half to five inches wide. They were not as maneuverable as present-day skis, but they would keep a man on top of deep, powdery snow. Skiers usually carried a can of ski dope that they could heat and apply to the bottoms of their skis to keep them from sticking. They also carried a pair of boots made from deer hide that could be slipped over the back ends and tied to the harness of their skis to keep them from sliding back when climbing steep grades.<sup>5</sup>

Harry Withers' recollections include the story of the Yellow Pine school piano. It had been freighted into Roosevelt during the Thunder Mountain boom. After the slide there, it was freighted back to Cascade by a man named Wayland, whose wife was Valley County's first school superintendent. He used a team of four small mules and a small wagon and earned the nickname "The Thunder Mountain Pack Rat." In the spring of 1920, he held an auction of items salvaged from Thunder Mountain. Albert Behne must have been on the school board then and bid the piano in. Yellow Pine did not have a schoolhouse then and held school in a tent. Behne hired Johnny Williams to freight the piano into Yellow Pine, and it stayed at the old hotel there until the log schoolhouse was built in 1922. The piano was used at dances and other social gatherings around Yellow Pine.<sup>6</sup>

Molly Kessler is an oldtimer fondly remembered by many.<sup>7</sup> She came to Long Valley from Oregon in 1889 with her husband, Charles Willey, and a small child. She spent almost twenty years in Long Valley and became well known as a midwife. About 1907, she married Bill Kessler and moved to Knox, a tiny settlement in the mountains about twenty-five miles from the old town of Van Wyck. She was a great hunter and fisherman. Later the Kesslers moved four or five miles to Warm Lake, built a road to the lake, and built the Warm Lake Hotel--which became a favorite resort for city dwellers and popular with fishermen and hunters. She was known affectionately as Aunt Molly.

In the winter of 1935, while the Kesslers were still at Warm Lake, a Boeing airliner became lost in a storm over the mountains at night. After notifying the airport of its location, Molly built a flare on the ice of the lake and roused other people along the telephone line to build more fires to guide the plane to a landing field at Cascade. The townspeople were alerted and, with their cars surrounding the landing field, flooded it with light. The plane passengers landed safely.

Aunt Molly became a legend in the area. It was said that at the age of 72 she could out-ski any man in that part of the country. At 76, she lamented that for the first time in thirty-five years she failed to bring home her deer. She once killed a mother bear in self-defense. Yet she retained her feminine touch and often wrote poetry. In later years, she and Bill lived in McCall.

<sup>1</sup>See Appendix 3 for lists of mining camps and settlements in the area of the Boise National Forest.

<sup>2</sup>Margaret DeChambeau Duval, interview with the author, Boise, Idaho, February 1975 and March 1, 1976.

<sup>3</sup>G. E. Noggle, "Long Valley in the Making," Cascade News, March 10, 1922.

<sup>4</sup>Earl Willson, "Early-day Adventures in Round Valley Area Recalled by Descendants of Last Century Gem State Residents," Idaho Statesman, April 29, 1963.

<sup>5</sup>Harry Withers, "Looking Back," Yellow Pine Gazette, July 20, 1972.

<sup>6</sup>Ibid., June 17, 1971. Ernie Oberbillig reported in February of 1976 that the piano was still in use in Yellow Pine.

<sup>7</sup>Ruth T. Knight, "Molly of the Mountains" (typewritten copy in history file of the Cascade Ranger District, no date).

## PLACE NAMES

The first place names in the area of the Boise National Forest were given by fur hunters and explorers in the early 1800's: Boise River, Payette River, Salmon River. Settlement came with the discovery of gold, and miners brought more names to the area. Many of these names are related to mining and are similar to names in other mining regions: Placerville, Ophir Creek, Arrastra Creek, Powderhouse Gulch, Quartzburg. Indian names are few: Tohobit Peak ("black"); Bannock Creek; Hiyu Creek ("many"); Moolack Creek ("elk"); Pungo Creek ("horse"); Sacajawea Hot Springs (famous Shoshoni woman); and Shonip ("grass"). Most of these Indian names were given by the Forest Service. Descriptive names, such as Packrat Creek, Trail Creek, Twin Springs, Willow Creek, Bad Bear Creek, and Huckleberry Creek, are common.

Place names reflect the history of an area. Confederate Gulch is a reminder that the mining era coincided with the time of the Civil War, when many southerners came to the Boise Basin. Other names reflecting that time include Robert E. Lee Creek and Atlanta. Some places in the Boise National Forest have names transferred from other parts of the world, many of them where miners had previous experience, such as California Gulch, Boston Gulch, Illinois Gulch, Yuba River, Feather River, Jerusalem Valley. Ethnic place names include Basque Spring, China Creek, Irish Creek, German Creek, and Swede Creek.

Features named for early sheepmen who grazed sheep in the vicinity include Ayers Creek and Meadow, for W. A. Ayers; Bruce Meadows, for John C. Bruce; Cupp Creek and Corral, for Sam Cupp, who built a sheep corral in the area; Gabe's Peak, Trail, and Bathtub, for one of Andrew Little's Basque shepherders, whose first name was Gabriel; Potter's Pond, for Arthur Potter, early assistant forest supervisor who earlier herded sheep in the area for his father, Joel Potter; Ramage Meadows, for Andrew Ramage; Renwyck Creek and Trail, for James R. Renwyck; Sam's Meadows and Creek, for T. B. Sams or possibly Sam Little, both sheepmen; Tyndall Meadows and Creek, for Emory W. Tyndall; Wilson Creek, Mountain, etc., for an early sheepman; Woody Creek, for Rueben Woody, an early sheepman. Three tributaries of the North Fork of the Boise River are named for early sheepmen: Ballentyne, McLeod, and McPhearson.<sup>1</sup>

Other places are named for early settlers, such as Bayhouse Creek and Trail, for the Bayhouse brothers, who mined near the mouth of Silver Creek in the Graham area; Crawford, town and ranger station, for Hyrum Crawford; Crouch, for William Crouch; Gallagher Creek and station, for an early prospector; Hawley Mountain, for James H. Hawley, gold miner in Boise Basin and later governor of Idaho, 1911-1913; Smith's Ferry, for James Smith, who built the ferry; and Stolle Meadows, for an early packer who cut hay for sale in the area.

A few places bear the names of Forest Service personnel of earlier days: Grandjean Creek and Campground, for Emil Grandjean, Danish forester and supervisor of the Boise National Forest, 1907-1920; Gray's Peak

and Creek, for Graham ("Gray") McConnell, early ranger; McNutt Creek, for an early trail foreman; Pinchot Creek and Mountain, for Gifford Pinchot, first chief of the Forest Service; Ross Creek, for Elmer Ross, early ranger; Robert Jackson Lake, for a smokejumper who jumped on a nearby fire and broke his leg; Shephard Peak, for E. C. Shephard, supervisor of the Boise National Forest, 1922-1925; Taylor Creek, for an early ranger; and Taylor Springs, for early trail boss John Taylor.

Other place names of interesting origin include:

--Cabarton, a settlement at south end of Long Valley, and the road from there to High Valley: the initials and name of C. A. Barton of the Boise-Payette Lumber Company.

--Cascade: for the cascades or falls on the North Fork of the Payette River, which were about where the dam was built.

--Deadhorse Rapids: received that name when Russell Elliott, carrying mail from Long Valley to Yellow Pine soon after 1910, attempted the Johnson Creek ford near Ice Hole during high water. The team, outfit, and mail were swept downstream and only the driver escaped. The horses and mail were caught in the canyon.<sup>2</sup>

--Dime Creek: named by a timber survey party member for being near but smaller than Dollar Creek.

--Eagleson Summit: for Idaho Surveyor General Ern C. Eagleson, 1908.

--Greylock Mountain: it is reported that this great gray mountain was called Grayrock by early residents of Atlanta, but the Chinese there had difficulty pronouncing the "r" in "rock" and it soon became "Greylock."

--Hangman Tree on West Mountain: according to Val Simpson, retired Cascade ranger, this was merely a tree that sheepherders used to hang their camp gear on.

--Ice Hole, near Yellow Pine: so named because early residents of Yellow Pine harvested blocks of ice in the winter time to store for summer use.<sup>3</sup>

--Pen Basin: so named during the Thunder Mountain boom for corrals or sheep pens built in the area by early sheepherders.

--Poker Meadows and Creek: during the summer of 1909, Forest Supervisor Guy B. Mains arrived here on inspection trip and found approximately 6,000 sheep. Herders and camp tenders were having a big poker party.

--Railroad Pass: an early railroad survey was made by logging engineer Sam Swartz. It was never by a rail line.

--Swanholm Creek Peak and Lookout: named for a cadastral engineer employed by the U.S. Geological Survey office in Boise.

--Thoroughbred Mountain: for horses owned by a man named Breckinridge. The horses died in deep snow during the winter of 1882-83.

--Tripod Peak, Meadow, and Creek: named when a party of prospectors headed by H. K. Plowman found a surveyor's tripod in the area.

--Wash Creek: for Washington Kregis, hermit and graduate of Princeton University, who resided and died in a cabin on this creek.

--Whiskey Creek and Cabin: a freight stop for the Thunder Mountain area. Freight was brought and then loaded on mules to trail into the mine camps. There was a saloon here.

--Wyoming Creek: a sheep outfit from Wyoming used this area and had a minor range war with a local sheep outfit about 1908.

<sup>1</sup>Walter T. Berry, interview with the author, Boise, Idaho, December 10, 1974 (transcript in the files of the Boise National Forest), p. 32.

<sup>2</sup>Harry Withers, "Looking Back," Yellow Pine Gazette, June 24, 1971.

<sup>3</sup>Ibid., September 2, 1971.



## EARLY TRANSPORTATION

Idaho was full of trails and dim paths before any white man crossed its borders. Animals like the deer and antelope traveled in single file, following the seasons, seeking food or water. The Indian was also a single-file traveler, and his motives were similar to those of the animals: food, water, seasonal shelter. He followed the watercourses but preferred the ridges between them because the ridge was often the only clear way. He was forever in search of prey, forever in danger of being preyed upon; he followed routes that permitted watching in all directions. There were more or less important trails along most of the streams and on the ridges between watercourses.<sup>1</sup>

Many of the early trails in the Boise National Forest area simply followed these ancient, established trails. One such trail comes out to the South Fork of the Payette River on Green Creek just above Kirkham Hot Springs. Undoubtedly Indians and then trappers and miners used this route, coming down to the hot springs. In one place, the trail is actually worn down into the rock. The trail follows the ridge near Green Creek and leads toward Beaver Creek.<sup>2</sup>

Charles Enlow, retired fire control officer on the Lowman District, tells of building trails about 1956 on the upper South Fork of the Payette River, from Benedict Creek up to some of the lakes that drain into the South Fork. The trail crew found tree markings that were grown into the trees: they could see where blazes must have been but were grown over. They followed the old blazes through this rough country and found that they were actually on a practical trail that could be followed afoot or on horseback.

George Kreizenbeck, a retired forest engineer, says that except for really bad sections where there was a lot of rock and steep country, very few trails were originally located by the Forest Service. They improved known "ways" through the country, presumably used earlier by Indians, miners, sheepmen, and others.<sup>3</sup>

The fur trappers and traders who crisscrossed the area of the Boise National Forest after 1811 may have followed Indian trails and made new ones as well. When gold was discovered, there was a flurry of attempts to find the easiest and fastest routes into the new diggings. Development of commercial transportation in the Boise National Forest area may have begun with Packer John Welch, who fitted out a pack train in Lewiston in the fall of 1862 and started out with a large supply of merchandise for the Boise Basin. Between the sites of Meadows and McCall, his pack train was stalled by the first snowstorm of the season. He and his men built a log cabin for their winter quarters. (The site is now Packer John Cabin State Park). Welch cleared what was to become the Packer John Trail. Round Valley was earlier known as Packer John's Prairie, as it was one of his favorite camping places on his supply trips between Warrens and the Boise Basin.

In the spring of 1863, miners flooded into the Boise Basin from California, Oregon, Nevada, and Washington Territory. Many came by steamer from San Francisco to Portland and there took the Oregon Steam Navigation Company steamers for Umatilla or Wallula. Most were without horses or pack animals. Some banded together, bought one pack animal and provisions, and walked to the Basin. Many traveled by "saddle train": the owner of the train furnished each passenger with a horse and saddle and took provisions and utensils for the trip. John Hailey and William Ish built up a saddle-train business to the Boise Basin, leaving Walla Walla for Placerville on April 18, 1863, with a saddle train of sixteen passengers and some pack animals. This was the beginning of the saddle-train business into the Boise Basin mines.<sup>4</sup>

The business closed down for the winter and started again in February of 1864. Later that year, some pack trails were developed into roads. Construction consisted of cutting out a few trees, moving large boulders, and running a heavy wagon over the route to wear tracks and beat down the brush. By June of 1864, the stage line had been extended all the way from Umatilla to the Boise Valley and the Boise Basin. Stage lines between Boise and Idaho City, using Concord coaches and four or six horses, began service in that year as well.

Early in the spring of 1864, George F. Thomas and Company built the Thomas and Ruckles road across the Blue Mountains about twelve miles north of Ish and Hailey's line. They started from Wallula, Washington Territory, on the Columbia River, and came via Walla Walla to Placerville. They arranged with Greathouse and Company to stock and run the road from Express Ranch on Oregon's Burnt Creek to Placerville. Wells Fargo & Company contracted with Thomas to carry their cargo on his line.

Ben Holladay secured the United States mail contract from Salt Lake City to The Dalles and began service in August of 1864. His route was from Salt Lake to Raft River, then to City of Rocks near Oakley, down Goose Creek and the Snake River to Boise, and on to Wallula. Holladay gave Thomas and Company the subcontract from the present Emmett to The Dalles. Ish & Hailey met this competition by using smaller rigs and faster horses and delivering their goods faster and at a cheaper price. By 1865, through various transfers of partnerships and rolling stock and contracts, John Hailey became, temporarily, the major figure in transportation from the north into southwest Idaho communities.

At the same time, there was an increase in transportation from California. This was a longer trip by horse and stage, but it saved much time over going from California to Oregon by boat and up the Columbia River and on to Idaho.<sup>5</sup>

The common route from the Columbia River into the Boise Basin went up the Payette River and over the mountains to the Basin. About 1864, the town of Martinsville was started on this route; the name was later changed to Emmettsville and later still to Emmett. Another stage station, Squaw Creek, developed ten miles up the river at the Mitchell-

Martin ranch (later the Marsh-Ireton ranch). The real Squaw Creek was on the other side of the river two miles away, but because the ranchers from both upper and lower Squaw Creek valleys got their mail here, it was given that name. There was no river bridge at the site. In high water, mail and supplies were taken across in a rowboat. Edson Marsh was postmaster there for forty-five years. The nearby town was later called Montour; it is now gone. Another stage station, run by Hank H. Clark, was established at Horseshoe Bend.

There were toll charges for some of the roads, ferries, and bridges. The use of tolls was a means of financing road improvements in these early days. The right to charge a toll could be granted by county commissioners to someone who constructed a trail, road, ferry, or bridge. Felix Harris located a road between Horseshoe Bend and the Boise Basin that avoided the steep climb over Porter Creek and collected a toll on it. The Harris Toll Road was later managed by his widow; later owners were George Pettingill, H. H. Hawkins, Edmund Butler, and J. M. Morton. The toll road was still in operation as late as 1906.<sup>6</sup>

The Goodrich Company constructed a rough toll road from Idaho City to Rocky Bar in 1863. It crossed from Idaho City over a ridge separating the Boise Basin on Mores Creek from Barber Flat on the North Fork of the Boise River. From here the trail ascended another ridge and descended to the Middle Fork of the Boise River, where the Goodrich brothers kept a hotel at present Alexander Flat called "24 Mile House" or "Middle Boise Hotel." As the trip took two days, travelers on the Goodrich Trail usually spent a night here. Next, the trail crossed a ridge to Roaring River and then another, higher ridge that separated Rocky Bar basin from the Middle Fork. From Idaho City to Rocky Bar, the trail crossed four high ridges in its fifty-mile course.<sup>7</sup> When the South Boise Wagon Road was completed in 1864, travel diminished on Goodrich's Trail; he dropped all tolls and depended on income from his hotel.

In the summer of 1864, Julius Newberg started construction of a road from Rattlesnake Station, northeast of present Mountain Home on the Holladay Overland Stage Line, into Rocky Bar. The route was up Dixie Creek to the South Fork of the Boise River, to Featherville on Feather River, and over to Bear Creek and Rocky Bar. The first traffic over this road arrived in Rocky Bar on October 5, 1864.<sup>8</sup> The road was substantially built. Newburg, assisted by Daniel McLaughlin and Robert A. Sidebotham, bridged all the streams--including the South Fork--well above high-water level. Toll rates were high, but such a road was essential to quartz mining in such a remote district.

J. A. Griffith, William McGrorty, and William Parley incorporated in 1864 to build the Griffith Toll Road, a pack trail and wagon road from Idaho City fifteen miles up Mores Creek, northeasterly across the summit to Crooked Creek, then northeasterly across the mountain to Crooked River, and then to Silver City (Banner).<sup>9</sup> A week after their project was reported in the Boise News, the paper said that Messrs. Erwin and Birnett also planned to open a toll road to Silver City (Banner).<sup>10</sup>

A road from Rocky Bar to Atlanta was started in July of 1865. This road crossed the South Fork of the Boise River above Feather River and climbed to the head of what is now Boiler Grade Creek and over Bald Mountain Summit. Then it proceeded down Camp Gulch to Yuba City and on to Atlanta.<sup>11</sup> The seven miles from Rocky Bar to the summit were very steep, one portion so much so that wagons were let down and pulled up with the assistance of blocks and tackles. The road was closed by heavy snow about eight months of each year. A more passable road with less rugged grades was eventually built. A portion of the present James Creek Road is the original roadbed for access to Atlanta.

As the Central Pacific Railroad built eastward from Sacramento between 1862 and 1869, travel and freighting by pack train and wagons developed from various points along the unfinished route into Idaho and the mines of Owyhee, South Boise, and the Boise Basin. The road from Kelton, Utah, grew in importance after the completion of the transcontinental line in 1869. These routes flourished until the construction of the Oregon Short Line across Idaho in 1883-1884.

The building of the Oregon Short Line (Union Pacific) across southern Idaho brought an end to many of the other, earlier, freight, stage, and mail lines into Boise and the area of the Boise National Forest. The Oregon-Washington Railroad and Navigation Company built east from Portland, and the Oregon Short Line built west from the Union Pacific station at Granger, Wyoming. Track laying from the eastern end started in July of 1881, and the two projects joined at Huntington, Oregon, in January of 1884.

The early wagon road into Long Valley was via Squaw Creek, Sweet, and Brownlee, over Dry Buck Summit into High Valley, and on to Smith's Ferry, Round Valley, and Clear Creek. The road and ferry were built about 1882, when the need for ties for construction of the Oregon Short Line initiated the first export of logging products from the upper Payette River. Before the Oregon Short Line built the Idaho Northern Branch railway to McCall (opened in 1915), a four-horse-team stagecoach was operated between Emmett and Van Wyck, carrying passengers, mail, and supplies.<sup>12</sup>

The Payette Lumber Company built a wagon road from Horseshoe Bend to Smith's Ferry through the canyon of the Payette River, completed in 1908, in compliance with a state contract. But there were no provisions for maintaining it; the lumber company was not operating, and its responsibilities ceased when the road was completed and accepted. The mail still went into Long Valley over the old original route, and the county was too poor to keep both roads open, so the canyon road gradually became impassable.<sup>13</sup>

In the summer of 1886, the Oregon Short Line ran a survey for a railroad through Long Valley, seeking a northwest outlet to avoid the Blue Mountains. The route was not found feasible, and nothing more was

done for many years. The activity of the Payette Lumber Company in the first decade of this century was a persuasive factor in the OSL's decision to extend its lines, and in 1911 it began extending its rails northward from Emmett to Payette Lakes.

In 1912, the task of hewing a railbed out of the granite walls of the canyon of the North Fork of the Payette River began. All supplies, materials, and machinery were brought into the canyon over the wagon road, which had been repaired by the state and railroad contractors. Construction camps were established along the wagon road, and men crossed the swirling waters to their work on suspension bridges and log foot bridges. Several lives were lost in crossing. The rails were laid through the canyon in 1913.<sup>14</sup> In the same year, the Idaho Northern Branch spur reached the gorge or cascade in the Payette River and the new town of Cascade was born. Train service between Nampa and Payette Lakes was established in 1914.

When the railroad was built along the Payette River into Long Valley, the settlement in Garden Valley, on the South Fork of the Payette, wanted a road to the railroad. Everyone in the valley turned out with teams, plows, and tools, and the women furnished dinners. A mile and a half of road were built the first day, but later the work was harder and required blasting powder. Where the river narrowed to a rocky canyon, work stopped for the winter. Several meetings were held in the valley that winter. A highway district was organized and bonds issued to complete the work. A small part of the road was on the national forest, so the Forest Service contributed \$1,500. The job was let to the newly formed Morrison-Knudsen Company and was probably their first Forest Service road contract. It was done by hand and team labor and was finished about July 1, 1915; it gave the settlement in Garden Valley daily mail and an outlet for produce to a railroad on a water-grade, all-year road.<sup>15</sup>

The Caswell brothers (Lou, Ben, Dan, and Court), settlers on Big Creek, had discovered gold on Thunder Mountain in 1893--a discovery that led to the Thunder Mountain boom of 1900-1907. Thunder Mountain is north of the Boise National Forest, in the present Payette National Forest. The rush to that area resulted in building of the Thunder Mountain road from the Boise Basin in 1902-1903. It was a low-standard wagon road, actually a trail made wide enough for a wagon. The route lay up the Middle Fork of the Payette River to the mouth of Trail Creek, then up Trail Creek to Silver Creek, up Bitter Creek into Deadwood and Pen Basin, down Johnson Creek to connect with the Cabin Creek road, up Trapper Creek, and on to Thunder Mountain. After the mining boom was over, the road in effect closed itself because of the steep grade and lack of drainage.<sup>16</sup>

Railroad speculators were busy across the state in the early days of this century, with various railroad companies vying for routes. The San Francisco, Idaho, and Montana Railroad, also called the Butte, Caldwell, and San Francisco, made preliminary surveys throughout Idaho in

the early 1900's. Some of these surveys crossed through the Boise National Forest. One route ran up the North Fork of the Boise River and on north to Thunder Mountain and to the Salmon River.<sup>17</sup> Another survey went east from the Payette River through Bear Valley, down the Middle Fork of the Salmon River, and east through the Bitterroot Mountains to Butte.<sup>18</sup> The property, right-of-way, and interests of the California, Idaho, and Montana Railroad were purchased in 1909 by the Oregon Short Line Railroad.<sup>19</sup>

The United States Bureau of Reclamation began construction of Arrowrock Dam in 1911. There was only a wagon road up the Boise River at that time, so a railroad was needed to carry materials, machinery, and supplies from Boise and Barber Junction to the damsite. Negotiations were unsuccessful in persuading either the Oregon Short Line or the Barber Lumber Company to build a railroad, though Barber's subsidiary, the Intermountain Railway, had filed on the only feasible route. Finally a contract for the right-of-way was negotiated and the Bureau of Reclamation itself built the twelve-mile standard-gauge railroad between May and November of 1911. Virtually everything needed for construction of the dam, ranging from engineers and workers to food and equipment, came up the canyon on the little train with a woodburning steam engine. In the course of the dam construction, from 1911 to 1916, 90,000 passengers rode the train.<sup>20</sup>

The railroad contract between the Bureau of Reclamation, Barber Lumber Company, and Intermountain Railway contained a condition that when the Bureau of Reclamation was through with the railroad, the easement should revert to the Intermountain Railway or Barber Lumber Company. Meanwhile, Barber Lumber Company merged with Payette Lumber Company in 1913 and became Boise-Payette. In 1914, Boise-Payette started building the Intermountain Railway up Grimes Creek to log its properties in the Boise Basin. The railway began operation in May of 1915. In 1917, Boise-Payette bought the Arrowrock Railroad from the Bureau of Reclamation for \$70,000.<sup>21</sup> The Intermountain Railway gradually added more track up creeks where the grade was feasible, among them Grimes Creek, through Centerville to Pioneererville and Placerville, and these tributaries: Pine Creek, Wild Horse Creek, Wild Goat Creek, Meadow Creek, Granite Creek and its tributary Clear Creek, Town Creek, Lewis Creek, Smith Creek, and Sugar Creek. Intermountain Railway also built up Mores Creek to the foot of Mores Creek Summit and up the tributaries of Thorn Creek, Greenland Gulch, Baird's Gulch, Pine Creek, Bannock Creek, Granite Creek, Hoodoo Creek, and Boulder Creek.

During the depression, the Barber Mill closed; the Intermountain Railway was liquidated in 1935. The chug of the steam engine was replaced by the whine of logging trucks.<sup>22</sup>

<sup>1</sup>Byron Defenbach, Idaho: The Place and its People, 3 vols. (Chicago: The American Historical Society, 1933), 1:218-219.

<sup>2</sup>Enlow interview, p. 16.

<sup>3</sup>Kreizenbeck interview.

<sup>4</sup>John Hailey, The History of Idaho (Boise: Syms-York Co., 1910), pp. 61-62.

<sup>5</sup>Ibid., pp. 95-99.

<sup>6</sup>Arthur Hart, Idaho Statesman, February 5, 1973.

<sup>7</sup>The Goodrich Trail, Reference Series No. 93, revised (Boise: Idaho State Historical Society, 1972).

<sup>8</sup>Boise News, October 15, 1864.

<sup>9</sup>Ibid., September 3, 1864.

<sup>10</sup>Ibid., September 10, 1864.

<sup>11</sup>Idaho Tri-Weekly Statesman, July 29, 1865, p. 3, col. 3.

<sup>12</sup>Kreizenbeck statement, p. 4.

<sup>13</sup>Guy B. Mains, written statement, February 10, 1919 (history files, Cascade Ranger District, Boise National Forest).

<sup>14</sup>Ibid.

<sup>15</sup>Mains statement.

<sup>16</sup>George Kreizenbeck, written statement based on interview with the author, Boise, Idaho, October 16, 1975 (Boise National Forest files), p. 9.

<sup>17</sup>Oregon Short Line Railroad Index Map (Salt Lake City, 1917).

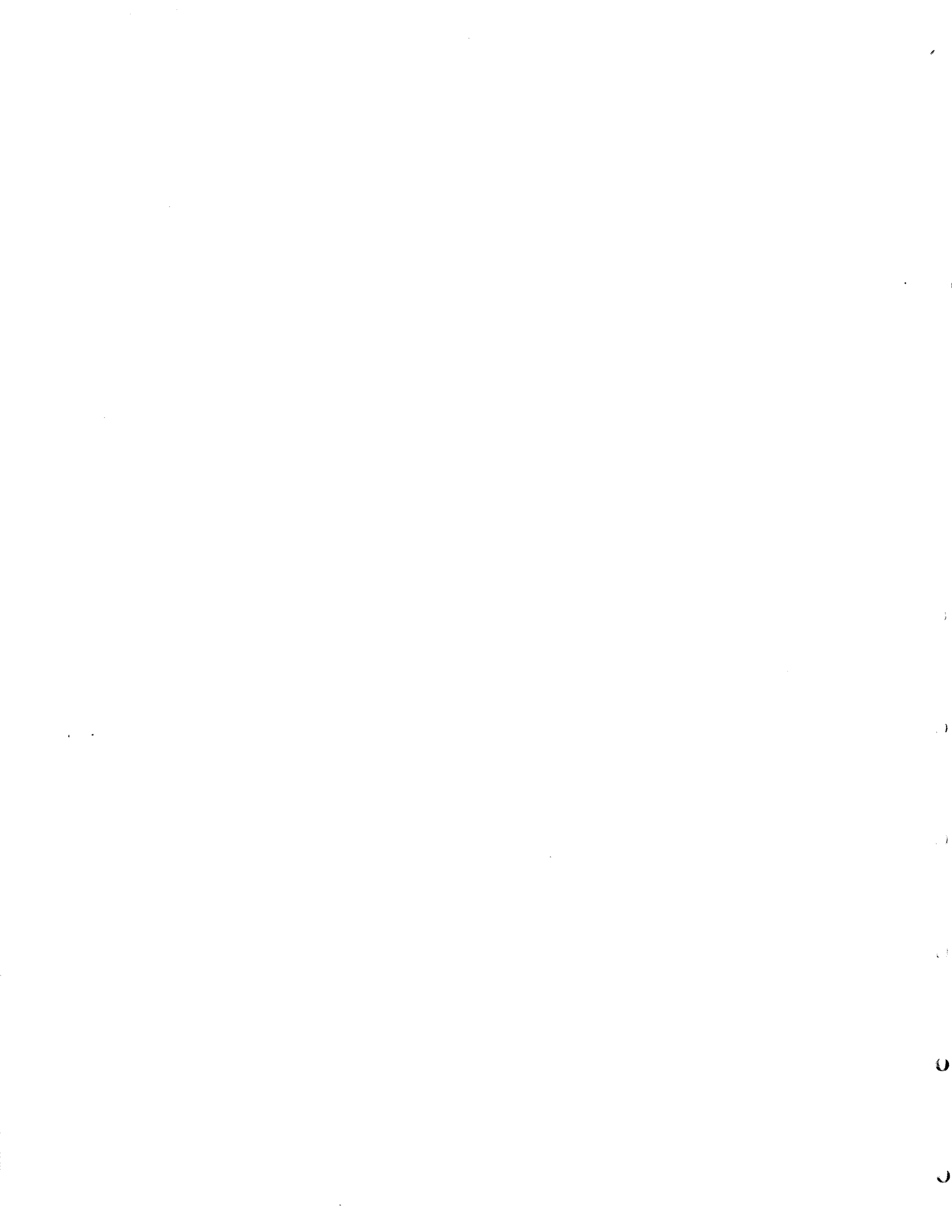
<sup>18</sup>Caldwell Tribune, August 25, 1906, p. 1, cols. 5-6.

<sup>19</sup>Ibid., January 1, 1910, p. 1, cols. 13.

<sup>20</sup>"Boise Project, Storage Unit, Feature Report: Railroads" (unpublished typewritten report, Bureau of Reclamation, Boise, Idaho, no date).

<sup>21</sup>Ralph W. Hidy, Frank Ernest Hill, and Allan Nevins, Timber and Men: The Weyerhaeuser Story (New York: The Macmillan Co., 1963), pp. 260-268.

<sup>22</sup>Ibid., pp. 535-537.





PART II

CREATION, DEVELOPMENT, AND ADMINISTRATION



## CREATION OF THE BOISE NATIONAL FOREST

Present-day recreationists, irrigationists, livestockmen, and other users of the National Forest lands...owe a seemingly little-realized but nevertheless deep debt...to those pioneer conservationists, President Theodore Roosevelt, and Gifford Pinchot, first Chief of the U.S. Forest Service [his actual title was Forester]. Their...foresight in the creation of the Forest Reserves through the western states, beginning in 1905, placed the entire nation in their debt. By their actions, these lands and their resources were saved from exploitation ...from the lumberman's axe and the...crowding of enormous numbers of domestic livestock on the thin-soiled, vital watershed areas...of the Boise, Payette, and Salmon Rivers. At the same time, the first systematic efforts were begun to control rampaging forest and range fires.

Chief Pinchot was quick to see that the administration of these lands should not be centered in Washington, but decentralized and located at the grass roots where the local Forest Officers could deal directly with the users.

Down through the years, the Forest Service has adhered to this concept, just as it has adhered to Secretary of Agriculture James Wilson's unforgettable charge to manage the Forest resources "for the greatest good of the greatest number in the long run." The present Multiple Use Law, under which the Forest Service now operates, is a direct outgrowth of Secretary Wilson's instructions.<sup>1</sup>

The settlement of the West created a need for control of the use of the public domain. Early attempts to regulate use and prohibit exploitation resulted in the Timber Culture Act of 1873, the Desert Land Act of 1877, and the Timber and Stone Act of 1878. These early public-land laws were difficult to administer, easily misinterpreted, and often circumvented.

The Forest Reserve Act of 1891 was the beginning of the national forest system. It authorized the president to set aside timbered lands from the public domain. On March 30, 1891, President Benjamin Harrison created the first reserve--the Yellowstone Timberland Reserve in Wyoming. Before his term expired in 1893, Harrison had set aside forest reservations totaling 13 million acres. President Grover Cleveland, Harrison's successor, proclaimed more than 20 million acres of new reserves at the end of his second term. No plan of operation was adopted by Congress; the reserves were simply closed areas.

Strenuous opposition to this non-use policy resulted in the Organic Act of 1897, which outlined a system of organization and management for these public forests. The act, with later amendments, is the basic law under which the national forests are now administered. Also in 1897, the first forest reserve in Idaho--the Bitterroot Forest Reserve--was established. The Bitterroot Reserve was followed by twelve other forest reserves in Idaho, the majority established in 1905 and 1907.

Initially the General Land Office in the Department of Interior administered the forest reserves, although few of the GLO men on the ground or in Washington had been trained in forestry. In 1905, the administration of the forest reserves was transferred from the Department of the Interior to the Department of Agriculture. The present Forest Service dates from this action. Gifford Pinchot was put in charge of the new agency by President Theodore Roosevelt, and the two men began to delineate and proclaim forest reserves, bringing the total to almost 107 million acres.

On May 29, 1905, Roosevelt proclaimed the establishment of the Sawtooth Forest Reserve. With its headquarters in Boise, the original 1,947,520-acre Sawtooth Reserve was the lineal predecessor of the Boise National Forest. The Payette Forest Reserve of 1,460,960 acres, proclaimed June 3, 1905, is also involved in the later configuration of the Boise National Forest.

Major Frank A. Fenn, who had been forest superintendent of several large Bureau of Forestry reserves in northern Idaho and western Montana, was named first forest supervisor of the Sawtooth Forest Reserve. Fenn's jurisdiction included the Sawtooth, Weiser, and Payette forest reserves. His initial staff consisted of eight men: three on the Sawtooth, two on the Weiser, and three on the Payette. Their first jobs were to fight fires and to bring unrestricted timber cutting and livestock grazing under control and into an orderly system.

There was considerable local opposition to the forest reserves, much of it generated by the larger livestockmen and especially sheepmen. They first thought that the reserves were to be maintained under a non-use "lock-up" policy. The smaller cattlemen were more favorably disposed toward government administration of the public range, since their operations had been limited by depredations of large bands of sheep. Opposition to the Forest Service continued in varying degrees for many years; early on, the 1907 state legislature proclaimed in a memorial to Congress: "The Forest Reserve policy of the National Government as administered is detrimental to the interests of Idaho." But Major Fenn, an Idahoan for many years and a member of the first state legislature, was well known and respected--a good choice to represent the Forest Service to the people. He traveled throughout Idaho explaining what the forest reserves could accomplish, creating better acceptance of the Forest Service and its programs.

Much of the 1905 field season was spent fighting fires, checking grazing use, doing preparatory work on outlining grazing allotments, and organizing districts and personnel. The winter of 1905-06 was spent working with livestockmen to set up sheep and cattle range allotments. District boundaries were established, with a ranger in charge of each district. "Ranger" was then a colloquial synonym for "range rider," later for "forest guard."

The early field organization consisted (from bottom to top) of guards, assistant rangers, rangers, forest assistants, and supervisors. The forest supervisor reported directly to the Chief of the Forest Service in Washington, D.C., but there were forest inspectors or district foresters, equivalent to later regional foresters, who inspected the work of the supervisors and the activities on the reserves and also reported to the Chief. The Use Book, adopted in 1906, provided the initial instructions for the administration and regulation of the forest reserves. This guide, predecessor of the Manual and Handbook, listed the maximum salaries of positions in the field work of the Forest Service. Supervisors received \$2,500 per year, rangers \$1,400, assistant rangers \$900. All of the field staff had to furnish their own horses (at least two), saddles, tools, and equipment. Most of the men, before joining the Forest Service, were local settlers who had their own homes and land to tend. Many resigned when they found they could not care for their farms and perform their Forest Service jobs too. This problem became more acute when ranger stations were built and men assigned to them at an inconvenient distance from their farms.

The Forest Homestead Act of 1906 provided that agricultural lands in the national forests be classified and opened to homesteading. This act resulted in the first systematic, large-scale land classification in the nation's history. The classification was begun immediately on the Sawtooth Forest Reserve. In the fall of 1906, additional land was added to the reserve, mostly in the Wood River drainage, bringing the total to 3,340,160 acres.

In 1907, Fenn was succeeded as supervisor of the Sawtooth Forest Reserve by Emil Grandjean. Grandjean, a professional forester, had been an assistant to Fenn. Adjusting allotments and settling other range disputes were the major jobs that season. By this time, the field force of the reserve numbered approximately fifty-six men, who were able to "do the chores" while Supervisor Grandjean inspected the grazing-allotment system. Ranger stations, telephone lines, and trails were built.

In 1907, President Theodore Roosevelt proclaimed an additional 40 million acres as forest reserves, and in the same year all the reserves were renamed national forests. In the flurry of additions to the national forest system, a major readjustment of boundaries was made. In February of 1908, the old Sawtooth Forest Reserve, since March 1907 known as the Sawtooth National Forest, was split into the Sawtooth National Forest (East) and Sawtooth National Forest (West), with super-

visors' offices at Hailey and Boise to administer the two divisions. Emil Grandjean became supervisor of the west division, and C. N. Woods was appointed supervisor of the east division. This arrangement proved cumbersome, and President Roosevelt made sweeping changes in the national forests of Idaho. By executive order dated June 26, 1908, the Challis National Forest was created out of portions of the Sawtooth (East), Salmon River, and Lemhi national forests. A second order, dated July 1, 1908, created the Boise National Forest from portions of the Sawtooth (West) and the original Payette Forest Reserve. The Payette National Forest was redrawn by providing some lands for the creation of the Idaho National Forest and absorbing parts of the original Weiser and Sawtooth forest reserves. What remained of the former Sawtooth Forest (East) then became the Sawtooth National Forest, with headquarters at Hailey. By 1918, the Use Book would list nineteen national forests in Idaho.

Boise remained headquarters of the Boise National Forest, Grandjean continued as supervisor there, and Guy B. Mains became the Payette National Forest Supervisor with headquarters at Emmett. The area of the Payette National Forest was then 865,000 acres; the area of the Boise National Forest was 1,147,360 acres.

<sup>1</sup>Victor O. Goodwin and John A. Hussey, Sawtooth Mountain Area Study, Idaho: History (Washington, D.C.: Forest Service and National Park Service, 1965), p. 95.

back from the nearest town, Idaho City, when the trail was open....

All of the Christmas presents for the children were whittled by pocket knife from apple boxes. The presents consisted of jumping jacks, monkeys on a string, etc. The snow was very deep but the fishing was good.

Early in the spring of 1912, Dad was transferred to the Long Gulch Ranger Station. The family moved on horseback. At one crossing of the South Fork of the Payette River, the two children [Merlin, aged three and a half, and Orville, aged one and a half] were put in packbags, one on each side of the most trustworthy horse. The river was high and Dad had some anxious moments until all were safely across.<sup>4</sup>

Edith Berry, wife of early ranger Walter Berry, recalls that good food was not easily obtainable in remote areas of the national forest. However, miners and settlers, long gone, had often planted berries, watercress, and orchards where there was "permanent water." A foraging trip to such nearby abandoned homesites added welcome extras to the meager diet at the ranger station.<sup>5</sup>

Especially in the early days, Forest Service wives often found themselves giving many hours of "volunteer service." At Cottonwood in 1919, the ranger's wife took care of the switchboard from Idaho City, Atlanta, Pine, and Smith's Prairie. She did receive recompense for this --in the amount of 15 percent of the price of any calls coming out from Boise, but nothing for calls into Boise. She also took care of the post office, which was named Cumbux. Her pay there came from postal cancellations; she and her husband recall that the pay was not even enough to pay for his snuff. The Cumbux post office was in the ranger's residence. When people came for their mail from long distances on horseback, they usually stayed for dinner. All this on \$91 a month!<sup>6</sup>

Norma Enlow, wife of retired Forest Service employee Charles Enlow, recalls the progression from early-day summer quarters to modern housing--including the transition from sad-irons to electric irons, from balky wood stoves to electric, and from washboards to washing machines--and has little desire to return to those "good old days."

During fires in the early days, Forest Service wives spent hours preparing food, checking in firefighters, and being general "handymen." Other Forest Service wives have found themselves helping to tally sheep as the flocks move onto national forest land for summer grazing.

The forester sometimes met situations for which he found no instructions in his college textbooks. Within the Boise National Forest, there is a nudist camp located on private land, but Forest Service per-



sonnel must cross through it to reach federal forest land above it. Bill Deshler tells of taking a Forest Service worker through the camp property to work farther up the creek. They saw no one on the way up; but on the way down a man perhaps 60 years old, wearing nothing and "hairy as a King Kong ape," came along as they were opening the gate. After they had left the place, the other worker turned to Bill and said, "Well, I had visions of lovely things flitting around in the altogether, but all I can say for your nudist camp is aagh!"<sup>7</sup> A recent ranger on the Boise Ranger District mentioned a similar trip through the camp; as he and a colleague returned, a man wearing only a long beard came by and opened the gate for them, dropping a pack of cigarettes in the process. After they left, the ranger and his coworker pondered, "Where does a nudist keep his matches?"

The following poem gives a glimpse of the life of a 1921 ranger:

More Pleasures of the Ranger

Have you tried to catch your horses in a meadow wet with dew,  
Where grass grew rank and luscious, that wet your clothing through;  
Watched them kick their heels with pleasure, and then start on the  
run

Across that same wet meadow 'til you wished you had a gun?  
Did you finally corral them in a corner of the fence,  
Stamping, snorting, wildly eager, looking for another chance  
To dash by you, kick their heels up, just as though you were  
a stranger?

If you haven't, then you've missed just half the pleasures of  
the Ranger.

Have you ridden for an hour beside a roaring brook,  
Watching trout jump in the sunlight when you didn't have a hook;  
When the shadows on the water were alluring as a dream,  
Did you swear by all that's holy that as sure as Sunday came,  
You'd be back there with your fishrod and mix with that little  
game;

Did you roll out Sunday morning, half awake and half asleep,  
To get this little message: "Will you go count Freeman's sheep?"

Have you ridden through the Forest with the shadows at your feet,  
While the grouse were drumming 'round you, and you hadn't any meat,  
And the quails were thick as spatter, and you couldn't take a shot?  
Did the badge on your suspenders help your feelings out a lot?  
And at night when you're so tired you could hardly even eat,  
Did some tourist "drop in on you," take your only easy seat,  
Stick his feet up on your stove hearth, and although he was a  
stranger,

Tell you calmly as he lolled there, "It's a snap to be a  
Ranger"?<sup>8</sup>

Ranger district boundaries were well established on the two forests in 1908. These districts were, in the Boise National Forest, Long Gulch, Cottonwood, Idaho City, Atlanta, Lowman, Troutdale, and Pine; and in the former Payette National Forest, West Mountain, Third Fork, Garden Valley, High Valley, Deadwood, Bear Valley, South Fork, and Long Valley.

Charley Gray was the first ranger appointed to the Boise National Forest. He served first at Atlanta and later went to Lowman. His brother, Frank Gray, and Charley West also received appointments as rangers. Lawrence Phelan and Fred Rutledge were among the first rangers on the former Payette National Forest. Locating salting grounds, grub-

bing larkspur, and clearing stumps from ranger station sites were some of the summer duties when they were not fighting fires or on fire and trespass patrol. Trail maintenance, phone line construction and maintenance, and station construction and maintenance were also part of the season's duties. An administrator in 1908 said: "In a few years' time, the demand upon the administrative forces by the public will require a great increase in the present Ranger force. Each Ranger will need a headquarters cabin, a piece of agricultural land, and a horse pasture." He was right.

Examinations of forest boundaries were made in 1909 by Walter A. Hopson and C. C. A. Galarneau. Apparently their work, done on foot and horseback, was intended to provide a narrative description of the terrain along the boundary and to provide data for making recommendations for boundary changes. The south boundary of the Danskin division was established on the basis of an old map that showed the ridge at the head of Willow and Syrup creeks in the wrong place; thus the headwaters of the streams draining into the forest were outside the boundary. Forest Service staff expected trouble from sheep outfits when they learned of this and brought their herds in to get the good feed at the heads of these creeks.

The south, southwest, and east lines of the forest were originally marked by setting posts eight to ten feet long at each section and quarter-section corner and where the boundary crossed prominent ridges. At road and trail crossings, two posts were set to show the direction of the line.

Boundary adjustments and recomputations of area were made frequently. In 1910, a proclamation by President William Howard Taft returned certain lands on the south end of the forest to the public domain and adjusted the boundary between the Boise and former Payette national forests along the South Fork of the Payette River.

The Weeks Law, enacted in March of 1911, provided for the acquisition of lands for national forests by purchase, exchange, or donation. This primarily made possible the establishment of national forests in the eastern United States, where no public domain remained. The law recognized the need for protection of watersheds and anticipated the purchase of denuded lands for reforestation and fire protection. Minor

boundary adjustments were made between the Weiser and Payette national forests in 1911, but the actual acquisition program did not begin until 1915.

The Idaho Enabling Act, signed July 3, 1890, reserved for the State of Idaho title and claim to sections 16 and 36 in each township as grants-in-aid to common schools. These school sections, sprinkled throughout the national forests, presented a potential management problem. A memorandum of agreement was entered into on October 4, 1911, between Secretary of Agriculture James Wilson and Governor James Hawley of Idaho, followed by a presidential proclamation in 1913, which provided for adjustments of the claims of the state to lands under the Common School Grant. The exchange with the state on the Boise and Payette forests was begun in 1915 with an initial exchange of approximately 12,000 acres. The program continued until about 1920, when the state accepted other lands "equivalent in acreage and value lying along and within the boundaries of said National Forests, in such position that, when eliminated therefrom, all of said selected lands will lie outside the new exterior boundaries of the National Forests."<sup>9</sup> The lands involved in these transactions have become known as "lieu lands" because the state accepted them in lieu of the designated lands within the national forest boundaries.

During these and following years, partly because of the land adjustments, changes in ranger district boundaries were made to equalize the areas of responsibility for the personnel. On the former Payette National Forest, the Deadwood and Bear Valley districts were combined in 1917, the Pen Basin and Middle Fork Salmon River districts were set up in 1920, Third Fork and High Valley were combined about 1920, and the Peace Valley District came and went about 1918.

In 1913, a bill was introduced in Congress that would have established a Sawtooth National Park at the headwaters of the Boise and South Fork of the Payette. It was to be administered by the Department of the Interior for protection and preservation of the game, fish, timber, and all other resources therein. Ranger Charley Gray circulated a petition in Atlanta in opposition to the park. A report by Supervisor Grandjean showed that there were 6,700 sheep grazing in the Boise National Forest portion of the proposed park. The park was advocated by the State Federation of Women's Clubs and endorsed by the national federation, but the measure failed. A similar bill was introduced in Congress by Senator James P. Pope in 1935 and again failed.

In 1919, the Thunder Mountain District, which had been a no-man's land of public domain, was added to the former Payette National Forest. It was a problem area for some time because of its location, inaccessibility, and unreserved status. There had been considerable mining activity in the area immediately prior to the establishment of the forest reserve in 1905. Because of the efforts of the Idaho Mining Association and Senator Weldon Heyburn, this area was eliminated from the 1905 proclamation. From 1908 to 1918, there were at least five murders in

the area. Sheep trailed through the national forests to graze the unregulated area were a serious problem: in 1918, over 200,000 sheep crowded into the region. The bad fire year of 1919 brought the problem to a head. General Land Office officials were compelled to fight the fires all summer since the land was not in a national forest. Although several rangers were loaned out to help them, the Land Office special agents had their fill of firefighting. They signed a statement to that effect, and the land was added to the national forest. The total area of the former Payette National Forest became 1,233,657 acres. Most of the addition later became part of the Idaho Primitive Area, now the River of No Return Wilderness.

Proposals for the addition of the Boise Basin to the Boise National Forest were initiated in 1920. There was much diversity of opinion on this addition, and the proposal was explored for fourteen years. In 1921, there was another minor trade of lands among the national forests in Idaho, and the former Payette National Forest lost about 2,000 acres. The Clarke-McNary Act of 1924 provided for additional protection of forest lands by means of fire protection, reforestation, and acquisition of strategic parcels, and in 1926 new topographic surveys resulted in another change in the area of the former Payette National Forest--to 1,348,579 acres. At the same time, there was sentiment around Boise for the addition of the Shafer Butte area to the forest. The proposal was endorsed by the Boise Chamber of Commerce, the Idaho Daily Statesman, and Harry Shellworth of the Southern Idaho Timber Protective Association. Work on the Boise Basin addition was still in progress, and the Shafer Butte District was eventually included in that.

The former Payette National Forest headquarters was moved from Emmett to Boise in December of 1930. Because of concern over the effect on relations with people in and around Emmett, the move was delayed while it was explained and discussed in the community. Supervisor Rice explained why the move was necessary administratively. The Emmett Chamber of Commerce sustained a majority vote in favor of the move, while the editor of the Emmett Messenger-Index circulated a petition protesting any such move. The pros and cons were weighed; the move was made.

Arrowrock Dam and Reservoir had been constructed in 1915, and much of the watershed around the reservoir had remained outside the Boise National Forest. Over the years, there was agitation to protect the watershed by adding it to the forest. The addition became more desirable as continual overgrazing, fires, and placer mining contributed to accelerated erosion. On July 1, 1930, the addition was officially made. It included 308,180 acres of state, private, and public lands. All the Boise River watershed above Arrowrock Dam became national forest land.

The Idaho Primitive Area was designated by R. Y. Stewart, then chief of the Forest Service, in 1931. It included approximately 1,225,000 acres in parts of the Payette, Boise, Challis, and Salmon national forests, composed mainly of the Middle Fork of the Salmon River drainage and drainage of streams entering the Salmon River from the south, from below the Middle Fork to Mackay Bar. The Sawtooth Primitive Area, set

mineral production to meet the needs of the war effort. One administrative officer reported:

1942 was a tough year on the clerical force of the Boise National Forest. We lost our clerks, typists, and stenographers 100 percent from April to June, filled the positions again by transfer and new appointments, lost 50 percent of those, and filled them again. Also, due to the manpower situation, we had much difficulty in filling and keeping filled numerous Guard positions, and were short from 40 to 50 of these men during the most hazardous season.

In April of 1944, the then Payette and Boise national forests were combined into one. A new Payette National Forest was established, with headquarters at McCall; it encompassed the lands that had been the Weiser and Idaho national forests. The gross area of the new Boise National Forest was approximately 2,950,000 acres. Resurveys, mineral patents, purchases, and other adjustments have caused this gross area, and also the net acreage of about 2,646,000 acres, to fluctuate somewhat on occasion.

By the spring of 1950, the Bureau of Reclamation's Cascade Reservoir construction project was partially completed and the reservoir about half filled. When the bureau was acquiring the properties necessary for the project, some landowners wanted to sell all of their land rather than only the portion needed by the bureau. In order to avoid lengthy condemnation proceedings, the bureau purchased the surplus land; but by 1948 it was obvious that it had acquired about 30 percent more land than was needed for the construction and operation of the reservoir. As the project neared completion, a decision had to be made about management of the surplus land. The bureau had neither the facilities nor the funds to manage shoreline properties for recreation purposes. The State Department of Public Lands was consulted but did not want to undertake management of the land. The Idaho Fish and Game Department was planning to put in a bird refuge and provide suitable nesting grounds on the lake shore on the west side of the lake, and it wanted the land placed under the overall management of the Forest Service. The business people of Cascade wanted the lands made available and usable for recreation to benefit the economic growth of the town. Each of these groups believed that the Forest Service was the best agency to handle these lands and so stated in meetings, letters, proposals, and resolutions.

The inclusion of these lands in the national-forest system required an act of Congress. Initial attempts at inclusion involved all of the surplus land on both sides of the reservoir. It took more than ten years of meetings, discussions, investigations, studies, and correspondence to produce Public Law 86-92, enacted July 17, 1959, which extended

the forest boundaries of both the Boise and the Payette National Forest to include certain land on the west side of Cascade Reservoir. The surplus lands on the east side were divided into two classes: those that were then or were likely within ten years to become valuable chiefly as home, cabin, recreation or business sites; and all other lands. Lands of either class were to be either exchanged for non-federal lands or sold to the highest bidder. Prior owners were given a preference to purchase at highest bid price a parcel of land not to exceed five acres that they had formerly owned. The total acreage added to forest lands in this process was 18,087 gross acres to the Payette National Forest and 38,145 gross acres to the Boise National Forest. Of this total area, 27,506 acres would be covered by water. With further consolidation of forests in July of 1974, a portion of the Payette National Forest was transferred to the Boise National Forest, and as a result the Payette's portion of the west side of Cascade Reservoir was included in the Boise National Forest. The lands in question are all managed at present by the Cascade Ranger District of the Boise National Forest.

In 1964, two new positions, unique to the region in one case and to the Forest Service as a whole in the other, were added to the supervisor's office: a forest-level position of contracting specialist, the first such specialist in the Forest Service, and personnel specialist, the first on any national forest in Region 4. Four years later, as the result of a study which concluded that in terms of workload, budget, and staff, larger ranger districts were in most cases able to operate more effectively than smaller ones, the Chief of the Forest Service established a new district size policy. At the time there were ten ranger districts on the Boise National Forest--Mountain Home, Cottonwood, Idaho City, Atlanta, Lowman, Emmett, Garden Valley, Bear Valley, Cascade, and Landmark. These were consolidated in 1972 to the present six districts: Mountain Home, Boise, Idaho City, Lowman, Cascade, and Emmett.

The Middle Fork of the Salmon River was included in the National Wild and Scenic Rivers Act of 1968.<sup>10</sup> The Sawtooth Primitive Area became the Sawtooth Wilderness Area in 1972, and the Sawtooth National Recreation Area was created at the same time. The eastern portions of the Lowman, Boise, and Mountain Home ranger districts, formerly in the Sawtooth Primitive Area, became part of the Wilderness and National Recreation Area and are administered by the NRA Superintendent under the Sawtooth National Forest.

Also in 1972, all of the Primitive Area land from Pistol Creek Ridge to the Middle Fork of the Salmon River, as well as the land east of Morehead Mountain, was transferred to the Challis National Forest for administrative purposes. The land northeast of Antimony Ridge (including Stibnite) was transferred to the Payette National Forest. The balance of the Landmark Ranger District became part of the Cascade Ranger District, and Landmark Ranger Station became Landmark Work Camp.

In addition to continued management, protection, and development of the water, forage, wildlife, wood, and recreation resources of the Boise

National Forest for their economic and social values, research is regularly conducted in the Boise National Forest to develop better management methods. The Intermountain Forest and Range Experiment Station in Boise is one of the activities of the Forest Service, which operates the world's largest forestry research organization. The agency's goal is to protect the nation's natural resources, gain the maximum conservation, economic, and social benefits from their use, and leave the environment unspoiled. Findings of studies conducted by the Experiment Station on the Boise and other Idaho national forests are made available to all national forests, to other interested groups such as private forest owners and processors of forest products, and to the general public. Some of the work of the Intermountain Forest and Range Experiment Station is described in a separate chapter. The cooperative Boise Interagency Fire Center is discussed in the chapter on fire management. The Boise National Forest headquarters also houses offices for other Forest Service agencies that have a larger zone of responsibility than just one national forest. One of these is the Forest Service zone minerals examiner; another is the Forest Service zone entomology group.

<sup>1</sup>Berry, interview, pp. 2-3.

<sup>2</sup>Mains letter, 1956. Boise National Forest history files.

<sup>3</sup>Berry, interview, p. 9.

<sup>4</sup>Old Timers News (June, 1976), 14:22.

<sup>5</sup>Berry, interview, p. 46.

<sup>6</sup>Ibid., pp. 9-10.

<sup>7</sup>William Deshler, interview with the author, Boise, Idaho, November 13, 1974, pp. 21-22.

<sup>8</sup>Alumni Bulletin (April 1921), p. 10 (reprinted from Montana Forestry Kaimin).

<sup>9</sup>Proclamation No. 1235 by the President of the United States of America, March 3, 1913, p. 1.

<sup>10</sup>See Appendix 4, Changes in Management through Legislation.



## CIVILIAN CONSERVATION CORPS

One of the first measures adopted under Franklin D. Roosevelt's presidential administration to deal with the depression of the 1930's was the creation in 1933 of an Emergency Conservation Work program. It was designed to hold 100,000 young men off the already depressed job market; prepare them in skill, health, and self-confidence for their ultimate return to a normal economy; and use their labor in constructive improvements on the forest, range, and park lands of the public domain. The program's Civilian Conservation Corps quickly became one of the most popular agencies of the New Deal and was extended from a temporary six-month experiment to a permanent part of the federal government. It was reluctantly dismantled when the needs of wartime removed its sources of manpower. In nine years, the CCC enrolled 2.5 million men (most of them from eastern, urban environments), relocated many of them in the West, and employed them in developing state and national parks and forests, in fighting blister-rust and fires, in building access roads and bridges, and in other work that furthered conservation of water, soil, and wildlife. Because of an epidemic of blister-rust throughout the public and private forests of Idaho, and because Idaho has a larger proportion of its land in public forest than do most states, a disproportionately large number of CCC camps were established in Idaho.<sup>1</sup>

The jobs were physically demanding, and a great amount of construction was completed. But perhaps the most significant impact was on the men themselves, whose lives were changed as they developed a feeling of commitment and a sense of identity through their work. The Army supervised the enrollees and their camp activities, while their fieldwork was supervised by men from the agency responsible for the work--in this case, the Boise National Forest or the former Payette National Forest.

CCC camps in the Boise and former Payette national forests were located at Cottonwood Creek, Alexander Flat, Big Birch Creek (Twin Springs), Granite Creek (Idaho City), Gallagher, Tie Creek, Third Fork, Crawford, and Warm Lake. There were other camps which may have been base camps or subcamps, often called spike camps: Landmark, Pike Fork (Crooked River), Silver Creek, Mountain View (near Lowman), Deer Creek, Cow Creek or Danskin, Twin Bridges (Johnson Creek), and Stolle Meadows. In addition, there were state CCC base camps or spike camps--on state land and with their own personnel, but within the forest boundaries--at Centerville, Shafer Butte, Clear Creek (near Cascade), and Packer John (near Smith's Ferry).

For the most part, the men built their own camps. Glen Smith, a retired Forest Service employee, recalls:

the first year, when they hit in April, we had nothing at all. One day the train pulls in and unloads 1,800 of them at Cascade. No camps, no anything. We rented a field across from where the present office is. That was vacant land then, by

the mill. And they set up their squad tents and mess tents there, until we could get them partly organized and equipped with tools and out onto their locations.<sup>2</sup>

After 1933, the number of camps was reduced on the Boise and former Payette national forests; some were relocated on other forests in the region. From 1934 through 1942, the two forests had some year-long camps and some winter camps. Men were transferred to the winter camps from other forests that did not have a desirable location for winter work.<sup>3</sup>

Much was accomplished on the Boise and former Payette national forests with CCC labor. The CCC work in cone collection, seed gathering, and tree planting is mentioned elsewhere, as is the enrollees' roadbuilding, construction of forest buildings, fire-fighting activities, and construction of recreation facilities. An inspection of the Landmark District in 1968 revealed that all campgrounds except Ice Hole still had some of the log tables built by the CCC in the 1930's. The CCC work in construction of recreational facilities coincided with a time when the population of this nation became more mobile. Organized public campgrounds were pioneered by the CCC program; few existed before the 1930's, and those that did were used primarily by local people. The combination of construction and mobility opened the national forests to more recreational use by more people.

In the winter of 1934-35, a large base camp was constructed at Alexander Flats on the Middle Fork of the Boise River. The camp remained at this location through the CCC program and was dismantled in the spring of 1941. CCC personnel from Alexander Flats worked on the Middle Fork road from Atlanta and constructed many new buildings, including a bathhouse at the Atlanta Hot Springs. They also did fish habitat and stream improvement work on the Middle Fork and other trout streams in the area. They constructed and maintained campgrounds and recreation areas along the Middle Fork from Atlanta downstream and, of course, were on call for fire suppression wherever needed on the Boise and adjacent national forests. (Several of the Boise National Forest's historic fires occurred during the CCC period.)

During the spring and summer of 1934, a "spike" tent camp from the main CCC camp near Idaho City was located at Trapper Flat on Crooked River. The camp's chief work was the relocation and rebuilding of much of the old road into Graham, first built during Graham's brief boom period from 1886 to 1888. The CCC camp at Crawford remained a tent camp, with over twenty tents and a water system. The Warm Lake camp was located on the flat at the present Forest Service project camp location, with a spike camp and pole-treating plant in upper Stolle Meadows near the Vulcan Hot Springs road.

CCC projects on the Cascade Ranger District included:

--road construction from Stolle to Cup Corrals, from Forest Highway

22 to Gold Fork Lookout and Gold Fork Rock, and from Clear Creek road to East Mountain Lookout;

- Warm Lake water system and summer home subdivision;
- development of a swimming pool at the plunge on the South Fork of the Salmon River;
- garage construction at Stolle Meadows Guard Station;
- the building complex at Landmark, parts of which are still in use;
- twelve Adirondack shelters for Boy Scouts at Billy Rice Camp;
- Pen Basin and Warm Lake campgrounds; and
- Yellow Pine airfield and bridge into the town.

On the Mountain Home Ranger District, the Danskin camp (a subcamp on Cow Creek) was engaged mostly in road construction. The Gallagher CCC camp on the Emmett Ranger District was assigned the jobs of improving the road up the South Fork of the Payette River and building the Scott Mountain road from Gallagher Guard Station. CCC enrollees at the Mountain View camp above Lowman built facilities at the Lowman Ranger Station and roads and campgrounds on Clear Creek. Road work during the early days of the CCC program was accomplished mostly with pick and shovel and the few teams of horses available. As motorized equipment became available, trucks, pickups, tractors, graders, and compressors were used, so that by the end of the CCC the forest had become motorized.

The CCC program opened new vistas for many young men. Recruits came from all over the United States, although a small proportion of each camp was from the local area. The usual period of duty was six months, but many boys reenlisted and many later made Idaho their permanent home. Charles Enlow came to Idaho in 1931, joined the CCC in 1935, and stayed to make a career in the Forest Service. Mrs. Walter Berry recalls the camp on Crooked River when most of the enrollees were of Italian descent and from the Bronx. One boy asked permission to move out of the tent and sleep under the stars because, he said, "I have never seen the stars before." Permission was granted.<sup>4</sup> Nellie Hirt, who ran the Last Chance store on the Middle Fork of the Boise River, acted as banker (and mother) for many of the CCC boys in her area, keeping their money until they could send it home or take it when they left.<sup>5</sup>

Donald Tanasoca, who was from New Jersey, kept a journal of his six months in the CCC on the old Payette National Forest.

All day we travelled thru picturesk southern Idaho. We were excited knowing that our journey was almost at an end....

At four next morning we were awakened by the porter. We had reached our destination. Banks, Idaho!...I could hardly wait for the dawn in order to see what kind of country we were in....I climbt off the train...it was unusually cold...I could

see the outline of mountains on all sides...I heard the roar of a river below...We were in timber country....we got into three trucks with seats built around the edge. We huddled together in the open vehicles for it was cold....This journey from Banks to our camp, a distance of about twenty miles was the coldest ride I've ever experienced....Suddenly we beheld the camp....It was astonishing to see as we alighted...the group of boys standing about with only shirt and pants on, gazing curiously at us. They manifested no sign of being cold while we were dressed heavily and still felt it. I wondered if I would ever be able to do the same. One thing I was certain about was a tremendous appetite...I never enjoyed food more than on that morning....the camp had a beautiful site.... Beautiful mountains adorned with majestic pines rose at the other side of a clear and cold flowing stream just below the edge of camp. This stream...was the Payette River, and the forest we were in bore the same name.

...We were glad to learn that starting the first of the week we would be assigned to work crews. Most of us were eager to begin....The old-timers laughed and predicted that we would soon regret ever beginning work....We had to listen to several lectures on camp regulations, safety, and the proper use of tools....

...We made advancement in our road building work, and the job became more interesting as we saw what we were accomplishing....I was becoming harder, more rugged. I could actually feel my muscles expanding. I attribute this to working on the saw....

All in all this life seemed to agree with me. It was lonely, yet peaceful and soothing. It was a good change from the noisy city life. I realize that not everybody felt the same. My friend was one. He couldn't reconcile himself to this quiet existence. He missed the New York atmosphere tremendously. I missed it also, but liked the change, too....Our job paid thirty dollars a month. Out of this we received eight for ourselves; twenty two dollars went to our parents, guardians or other allottees. However, a few of the enrollees had their money put on deposit for themselves, and received this money at the end of their enrollment....

...the Army and Forestry Service...ran the camp. The Army under the commanding officer, who was a lieutenant, handled the food, shelter and clothing affairs. They also had charge of the finances....The Forestry Service, the other governing body, had charge of most of the work projects.... Forest conservation and road work constituted most of the work ....Classes were held in first aid, clerk training, leader

training, typing, journalism, fotography, forestry, blue-print reading, surveying, road construction, eighth grade subjects, as well as other actual demonstrations in handling the jack-hammer, tractor, caterpillar and trucks....If a person was interested and determined he could advance himself in six months time, and in many instances less. When a person became rated he received more pay and had the benefit of certain privileges....

Now that I'm home again and look back at those six months,...I don't think I could have spent six months of my life more profitably anywhere. It's an indelible experience in a young man's life. The fysical benefits alone were worth my enrollment. I emerged stronger, hardier and proud of a better body....A city boy learns that the world is larger than just the city....CC life teaches a person to be independent and shows the value of money. It gives boys time to think and plan a career in their minds. The C's had its faults too, but its virtues far outweigh them. I sincerely believe that the C's has done more to rehabilitate and restore confidence in American youth than any other organization ever existing  
....<sup>6</sup>

<sup>1</sup>Donald Tanasoca, "CCC: Six Months in Garden Valley," edited by Elmo Richardson, Idaho Yesterdays 11 (Summer, 1967), 16.

<sup>2</sup>Glen T. Smith, interview with the author, Boise, Idaho, September 9, 1975 (transcript in the files of the Boise National Forest), p. 6.

<sup>3</sup>Kreizenbeck statement, pp. 16-17.

<sup>4</sup>Berry interview, p. 17.

<sup>5</sup>Nellie Hirt, interview with the author and a National Forest ranger, Hirt store/home, Middle Fork, Boise River, November 11, 1974.

<sup>6</sup>Tanasoca, "CCC," pp. 19-21, 24.

## INTERMOUNTAIN FOREST AND RANGE EXPERIMENT STATION

In 1933, the Chief of the Forest Service approved the establishment of the Boise Basin Experimental Forest to provide a demonstration and research area for concerns such as timber management, soil erosion, and range problems. This experimental forest is administered by the Intermountain Forest and Range Experiment Station, a separate branch of the Forest Service that operates in close cooperation with the Boise National Forest. Some of the station's research is conducted on lands throughout Idaho, Montana, and Utah. Findings are made available to all national forests and other government agencies such as the Bureau of Land Management, to other interested groups such as private foresters and processors of wood products, and to the general public.

The experimental forest contains 5,292 acres in the Bannock and Pine Creek drainages about four miles south of Idaho City and 120 acres surrounding the headquarters site just north of Idaho City on the Centerville road. The Bannock Creek portion is virgin forest, one of the last such blocks of any size remaining in the Boise Basin. It consists of 2,182 acres of ponderosa pine, 244 acres of Douglas fir, and 902 acres of unmerchantable timber, brush, and grass. The Pine Creek portion, essentially all pine species, was selectively cut over in 1933. The headquarters area contains a sample of even-aged 70-year-old second growth pine that resulted from early-day cutting and mining activities.

In addition to the Boise Basin Experimental Forest, there are experimental plots on several sites scattered throughout the Boise National Forest. These sites are fenced and protected, and in some cases they are irrigated and cultivated. Among the earliest were permanent timber experimental plots established on Carpenter, Poorman, and Big Pine creeks in 1913; these were remeasured in 1931 and 1941 to determine growth.

By the end of 1934, the headquarters group of buildings for the experimental forest was largely completed and a climatic station was also established. A small residence and three structures to house erosion study equipment were built on the Bannock Creek unit at the same time. During the experimental forest's early development, a great deal of assistance was given by the CCC at Idaho City, not only in building and grounds improvement but also in road construction and surveys on the experimental forest and in the initiation of several research projects. Under the general supervision of the first director of the Intermountain Forest and Range Experiment Station, C. L. Forsling, the local research program and improvements were supervised by George W. Craddock, who handled the studies of factors influencing the forest, such as erosion and stream flow, and Charles A. Connaughton, who was in charge of timber-management research. The staff employed at the station has varied from about forty men at the peak of construction and "emergency research" down to four in 1940. The station shut down in 1941 because of World War II and reopened in 1947.

The Boise Basin station has been headquarters and work center for two main classes of investigation: silvicultural studies in the ponderosa pine type, and erosion and streamflow investigations on the granitic soils of grassland ranges of the Boise River watershed. Since 1936, a large share of the range research has been carried on at the Arrowrock substation, and the work in the Boise Basin is predominantly in timber investigation.

The silvicultural studies in ponderosa pine have focused on solving problems and determining methods in: (1) harvesting the mature timber in such a way that maximum growth of best quality will be obtained, that the area will restock naturally, and that watershed values will not be impaired; (2) improving immature stands by such practices as thinning and pruning; (3) reforesting burned or otherwise denuded forest lands; and (4) guiding forest-fire protection and measuring fire effects.

On the experimental forest and nearby in the Boise Basin, the station has established ten permanent methods-of-cutting plots, twenty-eight stand-improvement plots, and fifteen fire-effects plots for the study of natural reproduction and other problems. A small forest nursery has been in operation on Bannock Creek since 1936 to grow special stock for experimental plantings and to develop nursery techniques.

Most of the early watershed research was concerned with grazing and its potential. Research in the 1930's and 1940's was range oriented because of the condition of the Boise National Forest lands from overgrazing in the 1890's and early 1900's. In the late 1940's and 1950's, the emphasis on range research decreased and interest shifted to timber research and management, especially natural regeneration and reforestation after logging; research into site preparation and planting; and ways to increase timber reproduction. More recently, studies have been made of management practices in water and watershed, wildlife, livestock grazing, revegetation, timber, water quality, and soils, all to improve management in the future.

F. G. Renner, associate range examiner at the Intermountain Forest and Range Experiment Station, conducted a study of conditions influencing erosion on the Boise River watershed in 1929 and 1930. As in many western drainages, the excessive runoff from rain and melted snow robbed the uplands of fertile topsoil, loaded the streams with silt and heavier material (thus clogging stream channels), filled storage reservoirs, increased flood heights, and frequently covered productive land with gravel or other debris. Valuable irrigated lands were endangered by accelerated erosion then in progress on two-thirds of the portion of the watershed examined in the survey, an area of 371,313 acres. This study took into account the influence of various factors on erosion, such as the steep gradient, soil texture and depth, plant types, density of vegetation, rodent infestation, and accessibility to livestock. The survey brought to light the serious erosion on a valuable watershed and provided information on factors that, under conditions peculiar to the watershed, have been chiefly responsible for the erosion. The data



gathered pointed to the immediate need to restore plant cover to a density of at least 30 percent, reduce the excessive rodent population, and initiate improvements in range and livestock management on areas particularly susceptible to erosion. This study also indicated that further research should be done to determine management practices that utilize the range resources without endangering watershed values.<sup>1</sup>

Through the efforts of the research of the 1930's, there are now new grasses to plant and management practices that can increase range productivity. Some of the grasses now used on rangelands and in private pastures were developed then at the research stations, and some of the nation's first planned revegetation of forage for big game was done on the Boise National Forest.

Because of heavy livestock use, ecological studies were made at different altitudes with exclosures of up to 40 acres. These date back to about 1929--providing one of the longest histories of accumulated data available and another study unique to Idaho.

Approximately 1,280 acres in Bear Run were added to the experimental forest in 19??, and in 1953-54 the ponderosa pine production series was begun: sixteen compartments totaling about 1,800 acres were dedicated to tree selection and group selection, harvesting, regeneration, and growth response. This study has been remeasured and a new cutting was made in 1976 and 1977.

Present-day timber research considers all the impacts of logging and associated road construction. A major study, using Silver Creek as a control area, is evaluating conditions in an undisturbed state. The study is designed to use various logging and cutting methods and should provide a major source of information on the clearcutting issue.

Other studies that have been conducted at the Intermountain Forest and Range Experiment Station include:

- a bark beetle survey on the Boise Basin Experimental Forest, 1935-1940, with annual surveys sampling 20 percent of the area;
- thinning and improvement on 70-year-old stands, 1934-1936, with remeasurements at 5-year intervals;
- studies related to pruning, 1934 (pruning lower limbs to stimulate trunk caliper growth);
- studies relating to natural reproduction of ponderosa pine, 1934-1944;
- studies of factors affecting germination survival and growth of seedlings under semicontrolled conditions in exclosures, 1936-1942 (ponderosa pine);
- studies to determine the germination, survival, and growth of seedlings in natural virgin forest, 1933-1935, with additional study continuing until 1945;
- studies of regeneration of ponderosa pine, 1936-1939 (collection, extraction, and storage of seeds; preplanting practices; collection of

seeds of different age trees and seeds from different altitudes and different densities of stands);

--seed storage study, 1936-1944 (different temperatures, water soaking, etc.);

--studies of propagation under nursery conditions, 1936-1942 (watering frequency and intensity, use of mulches, root pruning, thinning, and top pruning).

The experimental forest is used as a demonstration and training area for public and private foresters.

<sup>1</sup>F. G. Renner, Conditions Influencing Erosion on the Boise River Watershed, Technical Bulletin 528 (Washington, D.C.: U.S. Department of Agriculture, Forest Service, 1936). Renner is better known to the general public for his work on the Western artist Charles M. Russell.

## THE LUCKY PEAK NURSERY

The Lucky Peak Nursery lies comfortably in a bend of an arm of Lucky Peak Reservoir, fifteen miles east of Boise on State Highway 21. Since 1960, the nursery has produced young trees for planting on burned-over and logged-over lands to speed reforestation and restoration of forest values.

The nursery is administered by the Boise National Forest and serves sixteen national forests of the Intermountain Region of the Forest Service and eight national forests in New Mexico and Arizona. Others receiving seedlings are the states of Idaho, Utah, and Nevada; the Bureau of Land Management in Idaho, Wyoming, and Utah; and the Bureau of Indian Affairs in Wyoming, New Mexico, and Arizona. Lucky Peak is one of thirteen nurseries administered by the Forest Service.

The nursery site of 296 acres was purchased by the Forest Service in August of 1959. Five acres of land were leveled, a temporary water system was installed, and the first seed was planted in the spring of 1960. The first two buildings, the combination office, laboratory, and greenhouse and the warehouse, were constructed that same year. By 1964, seven additional buildings had been completed and a total of 65 acres had been leveled and provided with a permanent overhead sprinkling system.

In 1964, more than four million seedlings were shipped for planting, and from 1962 through 1974, 65,500,000 seedlings were shipped from the nursery. At any one time, the nursery is growing from 12 to 20 million seedlings that are one to three years old. There are ten species of seedlings presently grown at the nursery: ponderosa, lodgepole, Jeffrey, and southwestern white pine, Douglas fir, white, grand, and red fir, Engelmann and blue spruce. In addition, the nursery grows shrubs for streamside and roadbank stabilization and wildlife habitat rehabilitation: bitterbrush, ceanothus, Rocky Mountain maple, elderberry, chokecherry, bittercherry, woods rose, snowberry, and others.

Tree cones are sent to the nursery from all national forests in the Intermountain Region. The collections are catalogued by lots, and a record is made of the site from which the cones were taken. Later, the seedlings will be planted within fifty miles of the spot from which the cones came and within 500 feet of elevation. The principal steps in processing from cone to clean seed are: drying to open the cone's scales to release the imprisoned seed; tumbling opened cones to extract the seed; dewatering to detach the seed from the wing; and cleaning to separate detached wings, dirt, and other debris from the seed. Seed must ordinarily be stored for a number of years, waiting the time it is needed for planting. The seeds are stored in metal containers at 0°F and 10 percent humidity to retain viability. Throughout the region, considerable care is taken to build up a large supply of seed during good seed-production years, so the nursery can be operated at capacity every year,

and to provide sufficient amounts of seed for emergency seeding or planting of areas denuded by forest fires.

In the spring, the seedbeds are prepared for planting. Seeds are planted mechanically by a drill adjusted to distribute 25 to 30 seeds per square foot of space. Some seeds, either too large or too small, must be sown by hand. Next, a thin layer of sand is applied to prevent the soil from crusting. When the seedlings emerge one or two weeks later, the technical work of tending the crop begins. Fertilizer is applied to provide nutrients; disease or insect infestation is controlled by spray or dust. The trees must be sprinkled to supplement natural precipitation and are weeded manually when necessary. When the trees are an inch or two in height, sawdust is applied to help insulate the ground from heat, hold moisture, and discourage weed growth.

It takes two years to grow seedlings with a well-developed root system suitable for transplanting. A lifting machine then slices about twelve inches deep beneath the seedlings to raise the trees up and out of the soil. The trees are hand-lifted, boxed, and covered with wet burlap. Their next stop is the packing shed, where the seedlings are sorted, counted, and crated for shipment to the forests and other recipients. Each crate is carefully labeled so that the seedlings will be sent to the area from which the seeds came.

The trees are shipped to the forests during the late fall and early spring. Most seedlings are shipped in refrigerated vans that maintain a temperature of around 33-34°F. After the trees arrive at the recipient forest, they are cached in snowbanks to keep the humidity and temperature just right while the planters wait for the snow to clear from the planting area.

Planting sites are carefully prepared to remove competitive vegetation. Seedlings are planted in the ground mechanically if the terrain permits; if not, the tiny trees are planted by hand. After harvesting and processing the seed and careful handling at the nursery, its product is finally planted back in the forest. At the nursery, the entire process begins again.

The peak time of activity at the nursery is during the spring, when over one hundred people are employed. There are seven full-time employees.

## YOUTH CONSERVATION CORPS

The Youth Conservation Corps was begun in 1970 by the federal government to acquaint young people aged 15 through 18 with their environment and allow them opportunity to develop an appreciation for natural-resource conservation and heritage. The program is carried out in summer camps of short duration. Most are under federal agencies such as the Forest Service, Bureau of Land Management, and Bureau of Indian Affairs, though there have also been state camps. The Boise National Forest has participated in the YCC program since 1971.

During its first three years, 1971-1973, YCC was a pilot program. Public Law 93-408, passed in 1974, made the YCC a continuing summer program, "thereby to further the development and maintenance of the natural resources by America's youth, and in so doing, to prepare them for the ultimate responsibility of maintaining and managing these resources for the American people." YCC became a part of regular Forest Service work programs and funding. Participants on Idaho's national forests are chosen by lottery from within the state.

The Boise National Forest's first camp, in 1971, was an all-male group based at Idaho City. In 1972, the YCC became coeducational. From 1973 through 1976 the camps were based at Beaver Creek, using old CCC barracks. The eight-week 1976 camp had thirty-two enrollees, half male and half female. The YCC reported to the Idaho City District Ranger, and work was carried out mainly on the Idaho City, Boise, and Lowman ranger districts and the Boise Basin Experimental Forest. In 1982, the only YCC project was an eight-person crew on the Mountain Home Ranger District.

Work has included trail rehabilitation; timber stand improvement, such as pruning and thinning; planting trees; placement of signs; streambank stabilization, such as riprap and willow planting; fishery research in Bear Valley; and brush disposal. Hazardous jobs such as those using power equipment are excluded from YCC projects.

Nationally, youth have returned seventy cents in project work for each dollar expended. Proponents of the program hope that this exposure to the natural environment will influence these young people in their decisions as adults and that the participants will be gaining skills and experience that will be valuable in obtaining work later. The YCC has been an exciting and encouraging program.

**PART III**

**RESOURCES AND FUNCTIONS**





## GEOLOGY

Geologically, the Boise National Forest lies primarily within the Idaho Batholith--a body of granite, measuring roughly 240 by 70 miles, that is one of the largest of its kind in the world. This batholithic intrusion in central Idaho and western Montana dates from over 100 million years ago, in the late Jurassic or early Cretaceous period of the Mesozoic era.<sup>1</sup> The batholith includes the entire forest except for the western half of the Emmett Ranger District and the southern portion of the Mountain Home Ranger District. The batholith rocks range from quartz gabbro to granite; most are granodiorite or quartz monzonite.

A late Jurassic disturbance probably caused marked uplift by early Cretaceous times. Vigorous erosion followed the formation of the mountains and continued until hampered by lava deposited by volcanic activity. A complex of stresses early in the Cenozoic era produced several later crustal disturbances. The end results were faults, domes, and fault-block mountains. The faults established the general drainage patterns over much of the forest.

That portion of the Boise National Forest lying west of Long Valley and Round Valley represents one of the largest and best-documented faults in the area. It roughly parallels the east boundary of the Columbia River Basalt formation. The basalt layer is underlain with older granitic rock of the Idaho Batholith. The basalt layer is thin in some areas, as indicated by road cuts that have exposed the underlying granite and on West Mountain, where the ridgetop and upper slopes on the east face are capped with Columbia River Basalt formation while the remaining lower east-facing slopes are underlain by schists or gneissic rocks of the Idaho Batholith border zone.

There is an indication that the course of the North Fork of the Payette River was changed from west-flowing to its present southerly flow by the uplift and/or the Columbia River Basalt flow.

Remains of volcanic action across the southern portion of the Boise National Forest can be seen in basalt columns along the Mores Creek road between Boise and Idaho City and in the canyon of the South Fork of the Boise River. These are Snake River Basalt formation. The flows in Grimes Creek and Mores Creek erupted there and flowed downstream south toward the Snake River Plain.<sup>2</sup> The Columbia River Basalt formation is older than that of the Snake River, having been dated as occurring in the Tertiary Period of the Cenozoic Era. The Snake River flow was in the more recent Quarternary Period.

Evidence of glacial action is found throughout the Boise National Forest, and glacial deposits are found in some valleys. Fissures and dikes occurring in the Boise Basin near Atlanta, between Yellow Pine and Stibnite, and in the vicinity of Pistol Creek resulted in ore and mineral deposits. Erosion and weathering caused sedimentation of assorted material in most major valleys.

<sup>1</sup>Clyde P. Ross and M. Donald Forrester, Outlines of the Geology of Idaho, Bulletin No. 15 (Moscow: Idaho Bureau of Mines and Geology, 1958), p. 33.

<sup>2</sup>A. H. Anderson, Geology and Ore Deposits of Boise Basin, Idaho, U.S. Geological Survey Bulletin 944C (Washington, D.C.: U.S. Geological Survey, 1947), p. 155.

## WATERSHED, SOILS, AND MINERALS

The major portion of the Boise National Forest is in the Idaho Batholith, whose soils and land mass are highly erodible and unstable. Natural erosion has been depositing silt and sediment in the streams of the area for thousands of years. Massive slumps are characteristic of the geomorphology of the batholith and cause difficulties in roadbuilding and management.

The Boise Fault, which is an active fault, runs through valleys in the western part of the Boise National Forest. There have been several small earthquakes in the area.

Precipitation on the Boise National Forest varies from approximately eight to ten inches in lower elevations along the Boise Front and toward Mountain Home, up to fifty to sixty inches in a number of places, and up to seventy inches in higher elevations. In the area of Deadwood Summit, snow depths exceeding 180 inches have been recorded.

Climate in the Boise National Forest is affected primarily by seasonal movements of two opposing pressure systems. The Aleutian Low, an extensive, moisture-laden air mass, influences the area during winter. The Pacific High dominates the summer weather and greatly reduces available moisture. Moist air masses from the Gulf of Mexico reach this area in the fall and stimulate thunderstorm activity. Occasionally, warm subtropical Pacific storms appear from November through January, causing warm rainstorms. Two such storms occurred in December of 1955 and of 1964. Deadwood Dam received nine inches of rain in a five-day period during the 1964 storm, and temperatures did not drop below 29°F.

Agricultural development followed the early mining activity in the Boise National Forest, and agricultural use of the water from the forest dates back to the early 1860's. Water rights for irrigation were established in 1864. The benchlands above Boise were first irrigated in 1888. There have been many floods along the lower portion of the Boise River since the days of the first settlers. The highest stages of the Boise and Payette rivers each year have generally occurred in the spring because of melting snow. Many floods on small drainages tributary to these rivers have occurred after intense summer rainstorms.

Since 1890, rights-of-way for ditches and reservoirs have been reserved in all patents west of the 100th meridian. In 1903, First Form Reclamation Withdrawals of certain lands were made, removing them from public entry. Tracts already patented were not included.

In May of 1905 (two days before the establishment of the Sawtooth Forest Reserve), there was a flood in northeast Boise from the Boise Front watershed area. It produced one of the earliest instances of public awareness of the need for protection of this critical area. In 1909, considerable worry developed over grazing on the Danskin division. It was believed that the watershed would be depleted by grazing, thus

endangering water supplies for the ranchers on the South Fork of the Boise River and affecting the reclamation project (Arrowrock) then being considered.<sup>1</sup>

There has been flooding in the Boise National Forest through the years. The spring runoff on the Cottonwood District (now a part of the Boise District) in 1927 followed a heavy snow season. The bridge above Twin Springs at Logging Gulch washed away, as did a new bridge that had been built at Barber Flat.<sup>2</sup> The Thorn Creek and Idaho City roads washed out in the spring of 1937 or 1938 along with several bridges.<sup>3</sup>

The serious flood, sedimentation, and erosion problem in the Boise River drainage basin, most of which lies within the Boise National Forest, received considerable attention in 1938 and 1939. The Boise River Flood Control Project included a survey and a report of its findings that was published in 1940. The survey found that damaging floods occur in the Boise Valley an average of every two years. The survey report showed that the floods are caused by rapid snowmelt and intense short-duration cloudbursts. Rapid runoff from cutover and burned timberlands and seriously overgrazed rangelands were listed as factors contributing to the floods and the sedimentation accompanying them. The report recommended that the federal government initiate a coordinated plan of improvement in the interests of flood control, conservation, power, and irrigation that would consist of watershed improvements, including intensified land management and fire protection; artificial revegetation; and supplementary mechanical aids. The report also recommended a multi-purpose dam project on the South Fork of the Boise River, including a dam and powerplant at the Anderson Ranch site and improvements in the Arrowrock Dam outlets.

During this period, general interest in soil erosion problems resulted in the formation of soil conservation districts, some of which include parts of various ranger districts. The district rangers involved worked with the district Soil Conservation Service staff on cooperative projects. The Mayfield Soil Conservation District, organized in June of 1940, was the first established that included land within the Boise National Forest. It involved parts of the Atlanta, Cottonwood, and Mountain Home ranger districts. Others formed later took in portions of ranger districts farther north on the forest.

A project on Willow Creek, in the Mountain Home Ranger District, to install and maintain improvements to the watershed conditions on Willow and Case creeks was started in 1950. This was a cooperative project, with the Bureau of Reclamation furnishing some of the money and the Forest Service doing the work. "Weeping dam" gabions were installed, willow shoots planted, and fences built.

In the fall of 1955, a cloudburst hit the Morehead Mountain area on the Landmark Ranger District. The fragile soil there, already weakened by the overgrazing of sheep, gave way and produced a mud/rock flood of extreme, though local, proportions. Gullying, scouring of stream channels, and property damage resulted. The Sulphur Creek Ranch, a resort

operation in Sulphur Creek at the base of Morehead Mountain, suffered damage to its hydroelectric plant and pasture and a few buildings. In 1956, the Morehead Mountain Soil and Moisture Project was completed. It included contour trenching, installation of gully plugs, and planting of perennial grasses and was the first project of its type in southern Idaho.

A flood that did considerable damage occurred in December of 1955. Substantial snowfall accumulated in the mountains during an unusually cold November and December. Just before Christmas, a warming trend melted much of the snow, which ran off along with rain that fell during the warm period. The excessive runoff caused erosion and carried a lot of sediment and debris down the steep slopes into the main drainages. Serious flooding occurred along major drainages, causing extensive damage along the Middle Fork of the Boise River. The road was washed out near Breadwinner Creek, and campgrounds in that area were damaged by sediment and debris.

A very damaging flood of water from the Boise Front occurred in east Boise in the fall of 1959. In early August of that year, a man-caused fire burned off virtually all the vegetation along the Boise Front. Rainstorms on August 20 and September 22 and 26 resulted in overland mud/rock flows from the upper reaches of this watershed. Estimated damage to private property and buildings in Boise and immediately to the east of Boise was over \$500,000. This deluge of water, mud, rocks, and other debris was the worst disaster in the history of the city to that time.

A project was undertaken to rehabilitate the flood source area to prevent a recurrence. Funds were provided by municipal, county, state, and federal agencies. Although only a small part of the area involved was Boise National Forest land, Forest Service personnel did the watershed rehabilitation work on private, state, and national forest lands. The Bureau of Land Management worked mainly on the federal range on this watershed. A total of 2,670 acres of land was treated by the Bureau of Land Management and Forest Service. Contour trenches were constructed on the upper and steeper slopes; contour furrows were plowed on the more gentle slopes. Yellow pine seedlings and bitterbrush were planted on the higher terraces, and all the area was seeded to perennial grasses. Agreements were reached with private landowners to allow the Forest Service to treat their lands at the same time and to protect the whole area from grazing until the vegetation became reestablished. To this end, all the treated area was fenced. The soil became stabilized, and the treatment was remarkably effective. Limited livestock grazing was resumed on the private lands several years later.<sup>4</sup>

A similar project on a smaller scale was undertaken in 1960. A seventy-acre fire on Willow Creek northeast of the Cottonwood Ranger Station denuded the area of vegetation. Contour trenches were constructed in the area, and perennial grasses were planted on the disturbed areas.

The Thorn Creek and Cold Springs Creek fires of 1960 caused widespread removal of ground cover. To forestall further damage that might have occurred with subsequent rainstorms, the area was given the now-conventional contour trenching and revegetation treatment. An intense rain in June of 1961 caused substantial erosion and damage along Mores Creek. State Highway 21 was covered with sediment and debris, and the Mores Creek stream channel was scoured upstream and downstream from the mouth of Thorn Creek. It is probable that this damage would have happened regardless of the Thorn Creek fire of 1960.

Heavy summer rainstorms in 1961 and 1962 caused isolated watershed damage in Fall Creek, Camp Gulch, Sacrifice Creek, and Sheep Creek. Tree planting and erosion control treatment followed the salvage logging on over 2,000 acres on the Holbrook Ranch burn of 1961.

In 1962, Boise National Forest staff conducted a condition analysis survey of the Boise River drainage system above Arrowrock Dam. The survey included 1,394,825 acres located on the Boise and Sawtooth national forests. Of the total, 596,495 acres (43 percent) of the area was found to be in unsatisfactory condition. Unstable soil, topography, and past use of the area have affected the conditions of this watershed. Earlier studies by F. G. Renner and by Craddock and Pearse had found that the watershed on the south part of the Boise National Forest was in poor condition. The importance of coordinating resource use with good watershed management became so obvious by 1964 that the position of watershed specialist was added to the forest staff.

The most extensive--and probably to that time the most damaging--flood on the Boise National Forest occurred in December of 1964. There was damage on all of the forest's main drainages. After the middle of December most of the forest was snow-covered, with depths ranging from a few inches at the lower elevations to twelve feet and more at elevations of 7,400 feet near Trinity Guard Station and Atlanta Summit on the Boise River drainage. On the Payette River drainage, the snow was nine feet deep at Big Creek Summit and twelve feet deep at Deadwood Summit, at 7,000 feet elevation. The water content of the snow was well above the average of the preceding fifteen years, and precipitation on the watershed was well above normal. Temperatures in November and until December 18 were below freezing. Two and three days later, temperatures were above freezing both night and day and heavy rain fell, causing a high rate of runoff and flooding. There was damage on all the districts of the forest, with the major portion on the southern segment.

Repair costs were estimated at over \$1,206,000, including repairs to ranger stations and other structures, 335 miles of forest roads, five bridges, 26 miles of forest trails, county roads, private homes, and summer homes within the forest. There was also some damage to farm land. One small sawmill, the Weatherby Sawmill, was damaged by floodwaters, debris, and sediment, and its owners estimated their loss at \$45,000. The flood conditions were almost identical to the 1955 situation, making this the second "100-year flood" in ten years.

Two projects were undertaken to rehabilitate watershed in 1964 and 1965 in cooperation with the Bureau of Reclamation, on Rattlesnake Creek and Fall Creek. The Fall Creek project was the result of damage done to the area for the second time in four years by high-intensity summer storms.

In August of 1965, a cloudburst hit near the head of Phifer Creek west of Steel Mountain. Because of the steep, rough topography and lack of vegetation, runoff was heavy. Several miles of the Phifer Creek road were washed out or covered with sediment and debris. The stream channel was scoured and cut out and in several places was eroded to a depth of ten to twelve feet. Extensive damage was done at the mouth of Phifer Creek, where it runs through the west part of the Weatherby Lumber Company camp. One building was overturned and sediment and debris were deposited on the flat area west of the sawmill and in the Middle Fork of the Boise River.

The Stibnite Reservoir flood occurred on June 10, 1965, when the dam above the former town of Stibnite failed and released the residual or minimum pool impoundment of water in the reservoir. An abnormally high snowpack during the winter of 1964-65 was the main cause of the flood. Approximately five miles of road along the East Fork of the Salmon River between Yellow Pine and Stibnite were damaged. Five bridges or metal pipes spanning the river and its tributaries were destroyed.

Camp Gulch, flooded in 1961, was again hit in August of 1965 by a localized storm that washed soil from steep, open slopes and scoured the stream channel. Debris and sediment lodged in the streams, and a portion of the trail along the creek was washed out.

#### South Fork of the Salmon River

The South Fork of the Salmon River has received much publicity because of the deterioration of its watershed and resultant silting of the stream, once famous as a salmon and steelhead stream. The South Fork has often been referred to as a dead or dying stream.

Before 1941, land management in this area focused on sheep grazing, fire suppression, salmon fishing, and mining. These early activities produced minor sedimentation in the river, but the streamflow was adequate to flush these relatively small amounts through the system with no appreciable damage.

Timber-sale activity commenced in 1941 on the Krassel Ranger District of the Payette National Forest. This early harvest was on safe, gently sloped landtypes, and little damage to the soils was noted. Following World War II, timber prices began to climb and more efficient logging equipment was developed. In 1947, the prime sawtimber in this drainage became economically feasible to harvest. Early sales occurred on the northern portions of the South Fork in areas of easy access, but soon logging moved on to steeper, less accessible areas. Because of the

extremely steep topography of the South Fork drainage, the logging method known as "jammer," involving a dense pattern of roads, became standard practice.

The first noticeable logging-related soil damage occurred during a spring storm in 1948. Although some concern was expressed, this storm was judged by climatologists to be a 100-year event (likely to occur only once in 100 years) and had caused problems throughout the Pacific Northwest. Because there appeared to be no cause for alarm, the sale and harvest of timber was accelerated, and logging began on Cabin Creek on the Cascade Ranger District in 1950.

By 1954, it was becoming evident that jammer logging methods were causing stream sedimentation. Timber harvest on these sensitive lands would, it appeared, require logging methods involving fewer roads than did jammer logging. Because of the need to develop appropriate methods to log steep slopes of the Idaho Batholith, in 1958 the Zena Creek Logging Study was initiated on the Payette National Forest "to develop a system of logging that can be used to log areas . . . considered nonloggable under present logging methods."<sup>5</sup>

The Zena Creek Log Study sale was awarded on October 14, 1959. It provided for removal of approximately 60 million board feet of sawtimber to be logged by a mobile spar or aerial crane or comparable method. As the sale progressed, an improved Skagit mobile spar and sky car were developed to permit yarding over distances of up to 1,800 feet. Development of this method showed promise, although road construction on steep slopes continued to be a problem.

Between December of 1964 and January of 1965, an unprecedented 11.04 inches of precipitation fell on the South Fork drainage, the last of it a warm rain on a fairly substantial snowpack. Road fills literally turned into mudflows. This storm was followed on April 19, 1965, by another rain-on-snow storm at a time when the soil mantle was still fully saturated by the December-January storms. Severe soil damage was widespread throughout the drainage.<sup>6</sup> By the summer of 1965, concern over the situation had resulted in a suspension of land-disturbing activities pending development of techniques for managing lands of such complexity. Logging was completely suspended and a rehabilitation program was initiated. Stabilization efforts on roads and related disturbed areas utilized mulch, grass-mulch mixture, and alder stakes. Only the grass-asphalt mulch technique permitted development of grass; the mulch-only and alder-stake methods failed. Many of the roads were closed so they could be cross-ditched and planted with vegetation. Extensive planting projects were also initiated on burned areas and slopes disturbed by logging.

A direct result of the special survey on the South Fork<sup>7</sup> was development of a soil-hydrologic reconnaissance technique that may be the best management tool for sensitive areas ever developed. It made it possible to identify problem landtypes and to predict the result of a



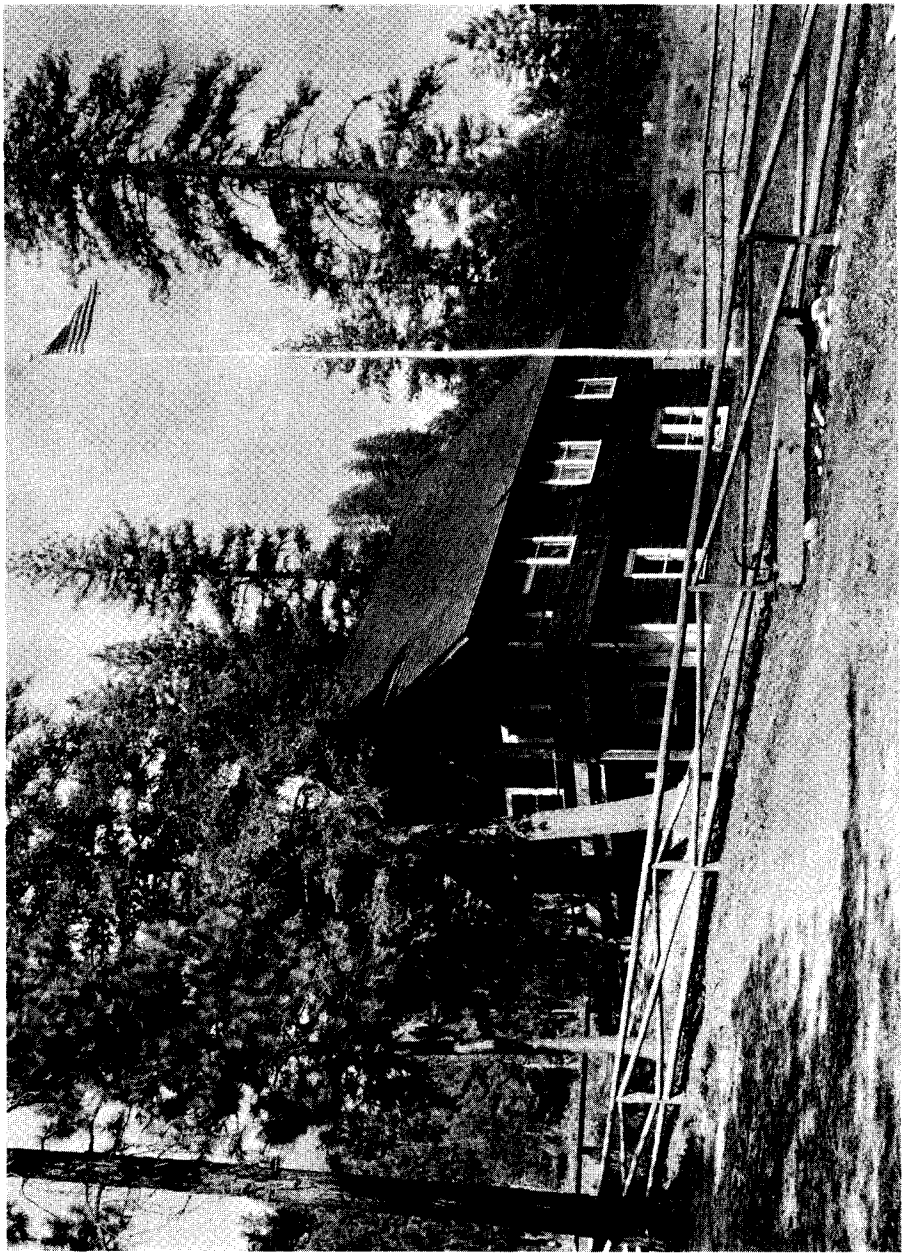
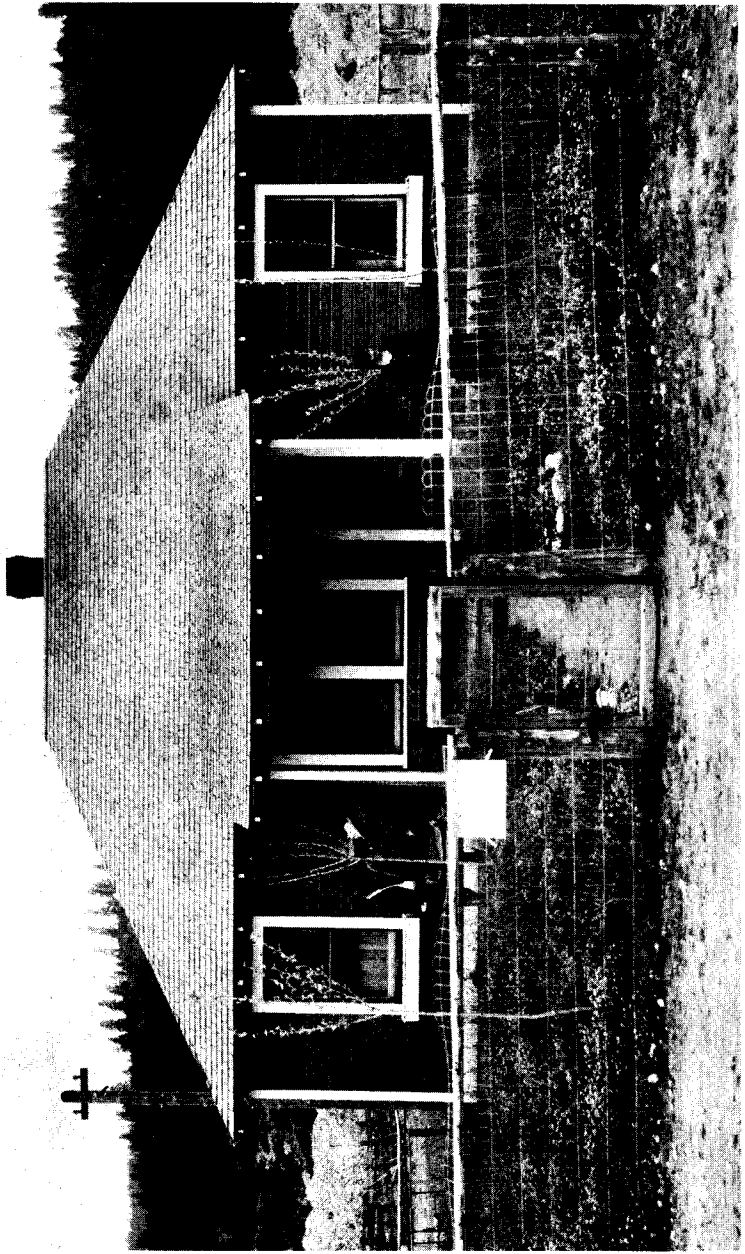


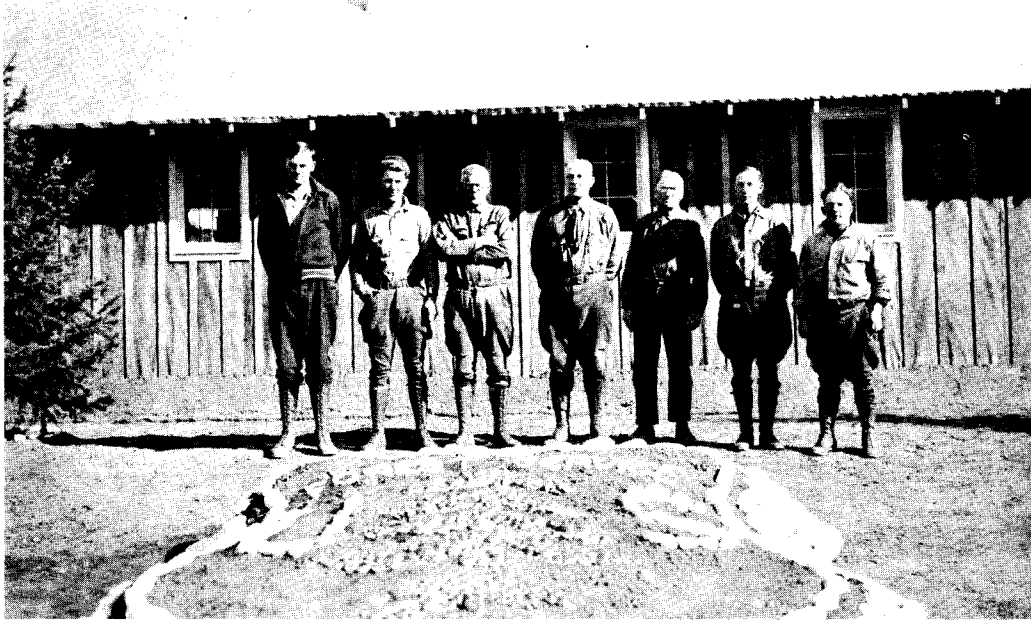
Above: Forest Supervisor Emil Grandjean in his office (FS). Below: The Forest Service display at the Gem State Fair Boise in 1916 (USFS).



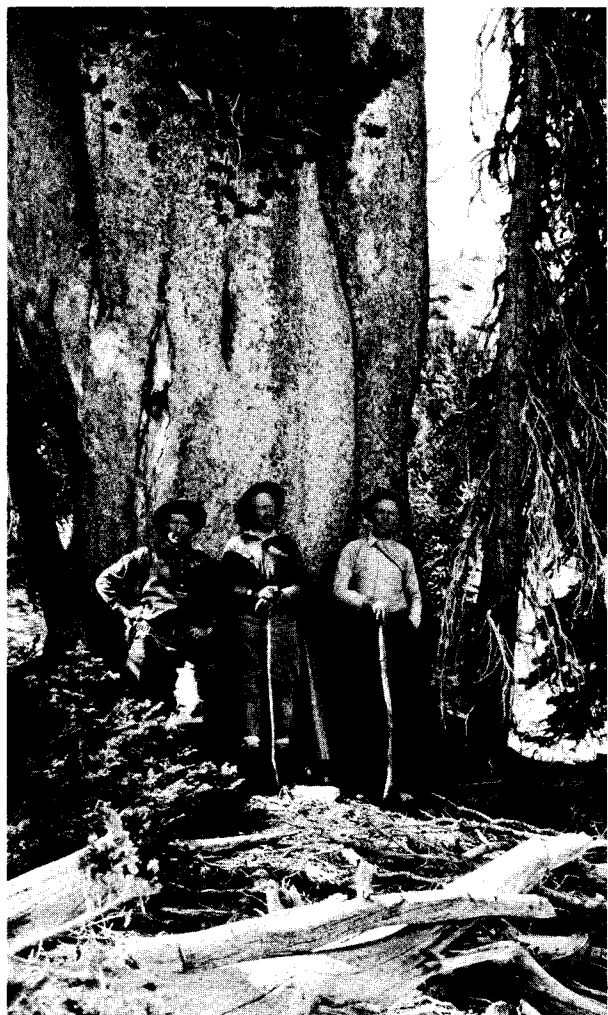


The design of ranger stations has changed many times in the history of the Boise National Forest. The picture above shows the original Lowman (Lick Creek) stations (FS); its successor is at the right below (FS). The Idaho City ranger station is shown at the right above as it looked in 1920 (FS). At left, Forest Service employees are shown whipsawing lumber with which to build the Warm Springs ranger station in 1910 (FS).





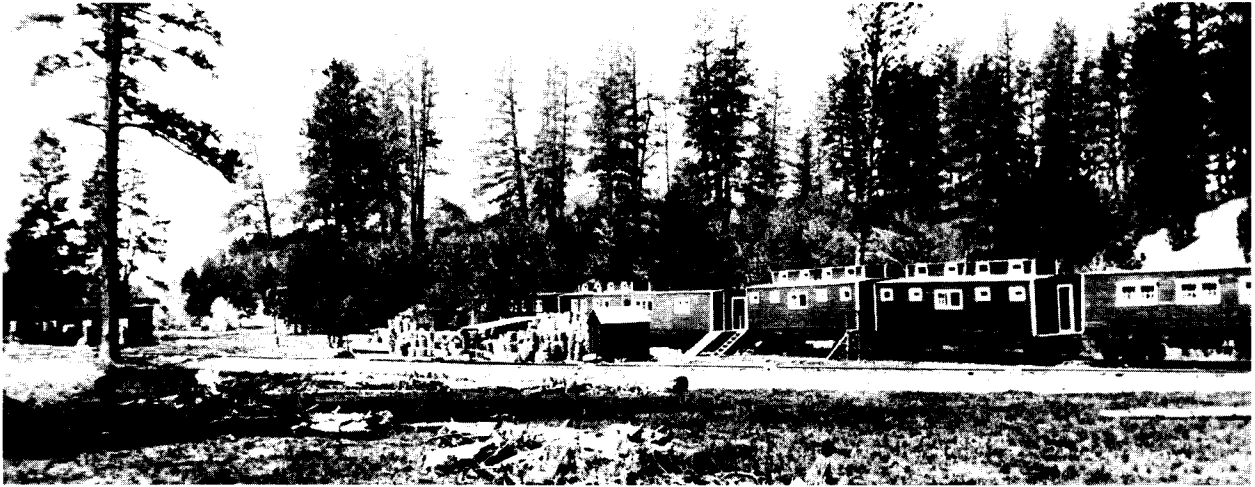
Above: The staff of Civilian Conservation Corps Camp 104 at Danskin (FS).  
Below left Forest Supervisor Guy Mains and his son, Keenan (FS). Below  
right: Forest Service staff members Casner, Grandjean, and Fenn (FS).





Mining has always been a significant activity on the Boise National Forest. The ball mill shown at left, used in the activities of the Atlanta mining district, is one of the focal points of the Riverside campground in the Forest. Hydraulicking--using powerful streams of water to wash away hillsides and make ore accessible--was used as late as 1941, as this photograph taken near Idaho City demonstrates.

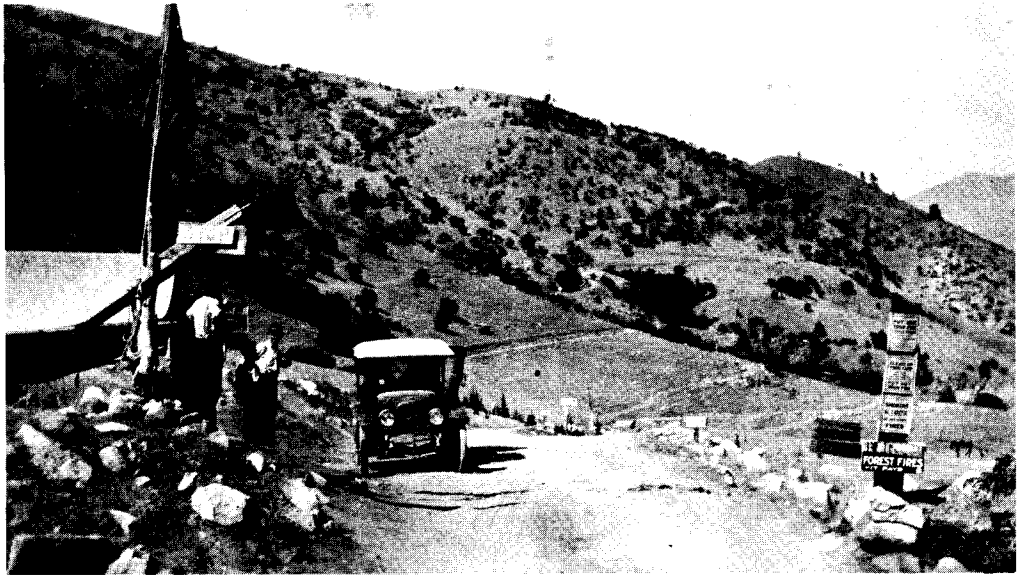




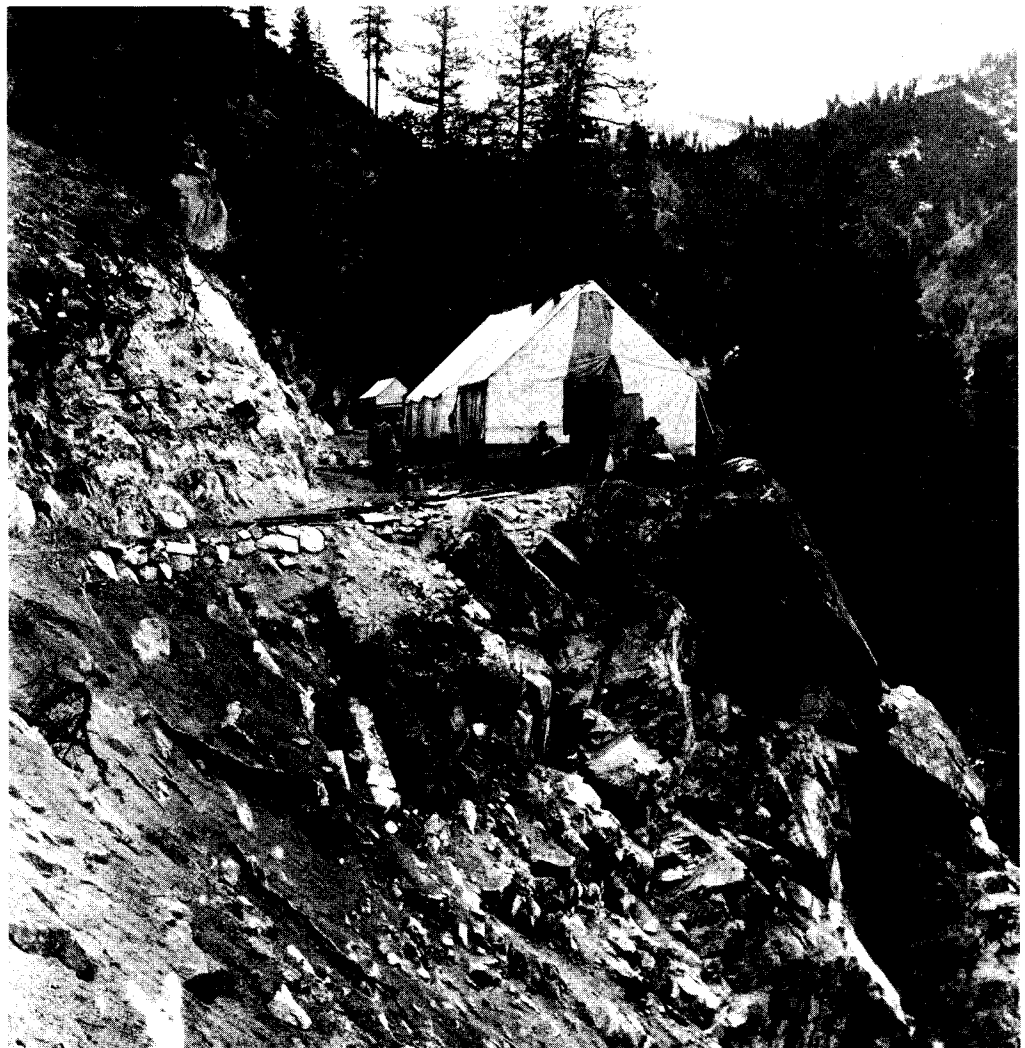
Lumbering on and near the Boise National Forest has undergone many changes over the years. Clockwise from above: A Boise-Payette longging camp, using railroad cars to house loggers and their families and for a schoolhouse, in 1927 (ISHS); sledding a log in winter, probably near Holcomb (ISHS); railroad ties being floated down Grimes Creek to a mill in 1914 (ISHS); the last Forest Service logs leaving the site of the Clear Creek sale in August, 1926 (FS); and a logging camp, probably near Idaho City (ISHS).







Above: A forest station near Banks, at the west end of the road along the South Fork of the Payette River in August of 1924 (FS). Below: A road-building camp in the canyon of the South Fork (FS).





management practice on soil and water. Completion of a soil-hydrologic reconnaissance in 1969 and 1970 has provided a complete inventory of landtypes with interpretations of limitations, suitabilities, and potential uses.

During the late 1960s, more sand and sediment was contributed to the South Fork than the river could flush out during high water.<sup>8</sup> In the last few years, however, the river's own energies have been able to move more sediment out of the system than is contributed each year. For this reason, the fishery habitat is now improving and indeed is approaching a "natural" condition in some areas.<sup>9</sup>

In 1975, Forest Service fisheries biologist Don Corley undertook a survey of the fishery habitat of the South Fork of the Salmon River to determine conditions for the reproduction and rearing of salmonid fishes and to develop techniques for monitoring the aquatic habitat. The physical structure of the river, streambed composition, and juvenile fish populations were investigated. Although this fisheries habitat was seriously damaged by the severe erosion of the mid-1960's, Corley concluded that the habitat has shown improvement since soil-disturbing activities were terminated and an intensive rehabilitation program was initiated. Corley's investigation found that the South Fork was in relatively good condition for spawning salmon at Stolle Meadows, only fair condition at the Dollar Bridge area, and poor condition below Dollar Bridge.

Some writers still refer to the South Fork system as "dead" or "sedimented" from man's activities. But the ability of the South Fork to flush sediment from its system has proved considerably greater than originally thought. With the improved technology developed and the knowledge gained in erosion prevention and control in recent years, the Forest Service believes that timber can be harvested once again in the South Fork drainage with minimal impacts to the aquatic resources. Corley's studies are designed to monitor the aquatic habitat as management activities are carefully restructured in the South Fork drainage in an effort to insure that the river environment continues to improve.<sup>10</sup>

#### Other Land-Management Concerns

Given the potential for heavy sediment production in the Idaho Batholith soils and the importance of keeping the sediment load in the streams to a minimum, fire management is also a very important activity. Mining too has an impact on soil management. Present mining on the Boise National Forest includes antimony mines on Swanholm Creek and one at Yellow Pine, some gold mining on Rock Creek, Lick Creek, Miller Mountain, and Little Muddy Creek and major gold-mining activity at Stibnite as well as several molybdenum mines. Because much of the mining predates establishment of the Boise National Forest, this subject has been covered chronologically in the section on mining in Part I.

A land-systems procedure has been developed over a period of years by the soils staff of the Intermountain Region. Originally, efforts

were directed toward obtaining land-base information for national-forest ranger districts located within the Idaho Batholith. Because of the lands' high value and sensitivity to disturbance, the need for reliable planning information on them had been recognized for some time. A soil-hydrologic reconnaissance of the Cascade Ranger District was completed in 1969, and inventory efforts have continued in the Idaho Batholith. A land-systems inventory of the Boise National Forest was published in 1974. This is an ecological inventory that provides basic information for management decisions regarding allocation and uses of national forest lands.<sup>11</sup>

The land system is a concept that produces an integrated overview of the relationships between geologic and climatic history, soils, and plant ecology. These relationships are made up of independent basic components such as lithology (kind and character of the bedrock), geologic structure (arrangement, internal features, and shape of rock formations), and climate, all acted upon over time to produce soils, landforms, and plant communities. The land-system inventory serves as a framework so that other basic data for timber, range, wildlife, visual resources, recreation, water, and fire management can be related to specific basic land-systems units. Such integration provides a comprehensive picture of the management limitations and possibilities of the forest.

<sup>1</sup>See Appendix 5, Dams and Reservoirs.

<sup>2</sup>Leo Fest, interview with the author, Boise, Idaho, December 3, 1974 (transcript in the files of the Boise National Forest), p. 27.

<sup>3</sup>Berry, interview, pp. 14-15.

<sup>4</sup>A thirty-minute motion picture entitled "When the Pot Boiled Over" was made of the fire, flood, treatment, and results. It has been shown to many and varied groups.

<sup>5</sup>George W. Craddock, Zena Creek Logging Study Evaluation Report (Ogden, Utah: Intermountain Region, Forest Service, U.S. Department of Agriculture, 1967).

<sup>6</sup>Frank Jensen et al., "South Fork of the Salmon River Storm and Flood Report," mimeographed (unpublished study, Intermountain Region, Forest Service, U.S. Department of Agriculture, 1965).

<sup>7</sup>John F. Arnold and Lloyd J. Lundeen, "South Fork of the Salmon River, Special Soils and Hydrology," mimeographed (unpublished study, Intermountain Region, Forest Service, U.S. Department of Agriculture, 1968).

<sup>8</sup>William S. Platts, "Aquatic Environment and Fishery Study, South Fork Salmon River, Idaho, with Evaluation of Sediment Influences," mimeographed (unpublished study, Intermountain Region, Forest Service, U.S. Department of Agriculture, 1972).

<sup>9</sup>Donald R. Corley, Fishery Habitat Survey of the South Fork Salmon River, 1975 (Boise, Idaho: Forest Service, U.S. Department of Agriculture, 1976), p. 2.

<sup>10</sup>Ibid., p. 4.

<sup>11</sup>George E. Wendt, Richard A. Thompson, and Kermit N. Larson, Land Systems Inventory, Boise National Forest, Idaho (Ogden, Utah: Intermountain Region, Forest Service, U.S. Department of Agriculture, 1975).

## TIMBER MANAGEMENT

There are more reasons for harvesting timber than just to make a profit. Timber harvest is sometimes a means of controlling insects and disease; removal of dead and unsightly trees can improve the appearance of the forest; removing old and mature timber and making room for young growth can improve game habitat; fire hazards can be removed; and some species are benefited by certain methods of removal, such as clearcutting or selective cutting.

All timber harvest is therefore concerned with a balancing of values. Present-day national-forest timber management requires awareness and consideration of these values as well as consideration of the importance of timber for the nation's lumber needs. The housebuilder, the elk hunter, the backpacker, and the logging operator often have somewhat different and conflicting interests in the timber on the national forest.

Timber harvest in the area of the Boise National Forest started, of course, with the first miners and settlers. Whip-saws were used at first to provide lumber for miners' cabins, flumes, sluice boxes, and other needs; but soon sawmills were established to meet the demand. A water-powered sawmill was built on Grimes Creek in the winter of 1862-63, but its operators had to wait for spring to have enough water to run it. A steam-operated mill built by two men named Taylor opened in July of 1863 at Idaho City. The engine, boiler, and machinery were brought by ox team from the nearest landing point on the Columbia River. Lafayette Cartee operated a sawmill at Rocky Bar in the summer of 1863. A successful early sawmill was operated by Robie and Bush in the 1860's on Bear Run above Idaho City. They had a sawmill and a custom quartz mill that operated off the same drive mechanism. They constructed a small railroad, also steam driven, to haul cordwood from their mill to Main Street in Idaho City, a distance of 3,300 feet. Between 1862 and 1890, more than twenty sawmills operated in the Boise Basin--which was, when the miners arrived, completely covered with yellow pine except for the meadows along the creeks.

In 1873, equipment for a sawmill at Atlanta, named the Greenback, was shipped from Chico, California, to Kelton, Utah, via the Central Pacific, and from there to Rocky Bar and over the 1865 Boiler Grade route by ox team. The mill was located on the flat at Atlanta below the future site of the Atlanta Ranger Station.

As the Oregon Short Line built a railroad across southern Idaho between 1881 and 1884, there was no source of ties on the treeless Snake River Plain. Coe and Carter of Omaha contracted to furnish the ties and brought in woodsmen from Maine, Michigan, Wisconsin, and Minnesota to the North Fork of the Payette River. Their quota was 300,000 ties. Lumber was sawed by hand from the native timber. Rivermen drove the ties down the river, and boats were built to follow the drive down the canyon and carry the men from shore to shore. Long, strong cables were

used to line the boats down the rapids. The camp outfit and supplies were kept on the west bank and carried by pack horses. There was no passable trail along the river, so it was necessary for the packer to climb up out of the canyon to the top of Dry Buck and then drop down along a ridge to the river again. In this manner, the last of the 300,000 ties were brought through the canyon in the summer of 1883 and delivered to the railroad at Payette. Many of the woodsmen who had worked in the camps then settled in the valley.<sup>1</sup>

Early logging along both sides of the South Fork of the Payette River from Jordan Bridge to MacDonald Creek was done with ox teams. The logs were decked along the river bank and driven on high water in the spring to the Horseshoe Bend sawmill. Locally built boats were used to transport the food, bedding, and equipment of the "river rats" following the logs downstream. Seven men were drowned at the falls about eight miles below Lowman, where the boats had to be let down through the water with ropes handled from the shore.

In the years between 1890 and about 1905, timber cutting proceeded in all the most accessible areas. Mills were frequently set up on or near the logging sites. Horses were used for skidding and wagon teams for hauling. Good timber was left on high ridges and steep slopes where horse-team skidding was too difficult, but there was still no shortage of high-grade material available. Mills were built on Logging Gulch, Badger Creek, and Deer Creek and in the Boise Basin. A boundary surveyor in 1909 reported: "Slopes of Grape Mountain have been extensively logged during the past 20 years."

About 1890, as pineries in the Lake States became seriously depleted, lumber interests there began looking westward for their next source of lumber, and reports reached them of the fine stands of yellow pine near Boise. Two separate groups set up corporations to operate in southern Idaho. The Barber Lumber Company was organized in 1902. Frederick Weyerhaeuser was not a participant in this transaction, but the firms of the organizers had been associated with him in Chippewa River undertakings. Barber Lumber Company purchased 25,000 acres of timberland on Grimes and Mores creeks from former governor Frank Steunenberg. Barber Lumber built a mill six miles from Boise and began driving logs to it. River driving "broomed" the logs, silt accumulated behind the dam of the storage pond, heavy snow hindered logging, and ponderosa logs stained blue if cut one season and driven the next; so in 1907 Barber Lumber got a charter for a railroad, the Intermountain Railway. All construction and operation was suspended later in the year when a federal suit for timber fraud was instituted against Barber Lumber, William E. Borah (the company's attorney), and Steunenberg: it came to light that most of the timberland had originally been acquired from the public domain by buying up claims under the Timber and Stone Act. Barber Lumber was not cleared of the conspiracy charge until 1912.<sup>2</sup>

The other company in south Idaho, Payette Lumber and Manufacturing Company, was organized in 1902. The company purchased 33,000 acres of

ponderosa pine stumpage in the basin of the Payette River from the state. In 1903, the company started to improve the Payette River for log driving by constructing a huge splash dam at the head of the canyon two miles below Smith's Ferry. John Bell of Eau Claire, Wisconsin, headed the job. He was usually called "Roaring Jack" because of his mighty voice, which could be heard above the rushing waters. A picked crew of woodsmen and rivermen worked with him, including "Big Jim" Irvine and his brother Jack, from the woods of Ontario, Canada; Big Nels Overland, Sugar Ole, Little Nels, and Big George Jorgenson; "white water" boys from the Chippewa; Mike Mahoney, as "wood butcher"; and Charlie Rada, camp cook. They worked through the summer, hewing the timbers from the forest, as there was no sawmill within twenty miles. When the water was low, Big Nels and a crew of rock drillers and powder men started down the canyon to clear the streambed of any obstructions to log-driving. To get the men and supplies down the canyon for this work, a pack trail was constructed on the west side of the river--the first route established through that area. Earlier routes had left the river and gone over the mountains. Tons of powder were used; and for several years the stream flowed through the canyon with more freedom and smoothness than at any time in its existence. But winter avalanches and spring freshets brought huge trees and stones to dam the channel, and fifteen years later it was difficult to find a trace of the great labor performed in that summer of 1903.<sup>3</sup>

Management of the timber on the Boise National Forest area before the establishment of the forest reserve in 1905 was limited to efforts by an inadequate number of Bureau of Forestry and Land Office agents to seek reimbursement to the government for timber that had already been cut. Soon after the Sawtooth Forest Reserve was proclaimed in 1905, the cutting was mostly brought under control. Free use was granted for timber needed for personal use, firewood, homestead construction, and other essentially non-commercial purposes. Actual sales, with payment in advance of cutting, were instituted for all commercial timber. The first timber sale was made in December of 1905 to J. McNish of Emmett. Although never cut and removed, 109,189,000 board feet of sawlog timber were bought and paid for. This sale was actually marked and prepared by the Weiser Forest Reserve. The second sale, which was cut but never removed, was made in September of 1906 to the Idaho White Pine and Milling Company. It involved 17,800,000 board feet on the South Fork of the Boise River. The first sale that was cut out and removed was 1,610,000 board feet of ties, poles, and sawlogs sold to J. F. Barnes on January 22, 1907. This timber was in the Tie Creek drainage, and the ties were floated down the Payette River to Emmett. This sale was also the first to have a timber survey.

Not all work with trees had to do directly with timber production. An apple orchard was planted at Third Fork about 1906, and a nursery for tree seedlings was established at about the same time near the Long Gulch Guard Station; pinyon pine planted then at the latter continued to grow in 1976. Sequoia trees were produced here, several of which were planted in Boise as ornamentals. At the time of writing, one of these

is still growing on the grounds of the Woman's Clinic; in February of 1966, it was 37.4 inches in diameter. Walt Berry remembers gathering ponderosa pine cones at fifty cents a bushel for the nursery during the winter of 1910-11 near the town of Pine. Earlier, pine seed was gathered around Idaho City. Berry also remembers planting trees about that time in Lester Creek.<sup>4</sup>

In 1908, a sale of 188,000 board feet of ponderosa pine and Douglas fir from Sweet Gulch was made for \$2.25 per thousand board feet; the material was used in the construction of the Grimes Pass dam. A timber survey was made in conjunction with the sale. That year 940,734 board feet of timber were sold, and 600,765 board feet were legally taken for free use.

The first timber inventory in the forest was taken in 1909. The harried rangers were ordered to estimate and report the merchantable timber on their districts. The estimated total was 2.5 million board feet. Also in 1909, in March and April, the first seeding with forest-produced tree seeds was done on three acres on Carpenter Creek. Three pounds of Austrian pine seed and ten pounds of ponderosa pine seed were planted. In November of the same year, five pounds of yellow pine seed were planted on Third Fork. Further seeding was done in 1910 near Ola, Third Fork, and Second Fork. These seedings included black locust and, like the earlier efforts, were unsuccessful. Black locust seeds were also sown at the newly established Poorman Creek Nursery.

The impact of animal and insect life on the forest was taken into consideration early. The first intensive studies of the effect of sheep grazing on forest reproduction were made by Forest Examiner William Sparhawk in 1912, 1913, and 1914. These studies were made in the Deadwood River and Silver Creek drainages.<sup>5</sup> At the same time, Sparhawk also made examinations of insect attacks on forest trees. Previous reports of insect infestations, dating back to 1893, show pine butterfly on the High Valley District. Western pine beetles were recorded in the Bear Valley area in 1907, 1909, and 1912.

The first marking policy for ponderosa pine was developed in 1913 by Roy Stewart of the Forest Service's Washington office, Guy B. Mains, Emil Grandjean, O. M. Butler, and Duncan Lang. The policy was developed in conjunction with the sale of 11,000,000 board feet of ponderosa pine and 500,000 board feet of Douglas fir on Poorman, Station, and Nelson creeks. The timber was bought by the Michigan-Idaho Lumber Company of Payette at \$2.50 per thousand board feet for pine and \$1.00 per thousand board feet for fir. Little of the sale was ever cut, as the company's mill burned down shortly after the sale was made.

The Barber and Payette lumber companies joined in 1913 and incorporated as the Boise Payette Lumber Company, thus combining logging operations on the Boise and Payette river drainages. Most of the original management, as well as many of the lumberjacks for the new company, were employees of the Northland Pine Company, which was approaching the

end of its operations (and timber supplies) in the Bemidji, Minnesota, area. C. A. Barton, manager of Northland Pine, became vice president and general manager of Boise Payette Lumber Company. Others who migrated to Idaho included Warren Hewitt, sales manager; Ike Wilson, traffic manager; George Bacheller, purchasing agent; Jimmy Long, logging superintendent; E. C. MacGregor, checkscaler and cruiser; and Dakota Slim, teamster.<sup>6</sup>

The company had a mill at Barber, and the mill at Emmett was operating by 1917. The Intermountain Railway, which had been built to Arrowrock by the Bureau of Reclamation to facilitate construction of the dam there, was purchased and continued up Mores and Grimes creeks--and up each tributary where the grade was not too steep.<sup>7</sup> Logging methods in the Boise Basin in the 1920's involved chutes built up the draws from the railroad. The chutes were made of peeled logs--one in the bottom and one on each side. Boys were hired as grease monkeys to keep the chutes greased, using a swab and a bucket of heavy motor oil. Teams of horses skidded the logs to the chutes and decked them there. "Chute teams" put the logs into the chute one by one and accompanied the logs down the chute. Other horses loaded the logs onto the train. The skidding and chute horses were trained for their jobs, and log-loading contests were popular.<sup>8</sup>

The Idaho Northern Railroad was completed up the North Fork of the Payette River into Long Valley by 1915 and commercial logging then began in that area. Cabarton (named for C. A. Barton), seven miles south of Cascade, became the center for logging operations there. Ten-by-thirty-two-foot homes were built and mounted on skids built for easy loading on flatcars. Single "jacks" lived in the bunkhouse and ate at the cookhouse. Other camp buildings included a community bathhouse, a first-aid shack, a company store, and a roundhouse for locomotives, rolling stock, and horse equipment.<sup>9</sup> A mill was established at Cascade in 1914. Early timber harvesting in that vicinity was done by horse skidding in conjunction with railroad hauling, and railroad spurs were pushed up most of the major stream bottoms.

One of the early large timber sales on this forest took place in 1923, when the Dion Lumber Company bought 48,000,000 board feet of timber on Beaver and Pearsol creeks. Most of the timber was ponderosa pine; the rest was larch, Douglas fir, white fir, and Engelmann spruce. The company constructed a mill at Cascade with a daily capacity of about 50,000 board feet, built a dam, and had 3,000,000 board feet of logs in the river ready for the saw when they sold out to W. H. Eccles Lumber Company of Baker, Oregon, in 1924. In 1927, the Eccles Company was purchased by the Hallack and Howard Lumber Company of Denver.

Insect infestations reached serious levels in the forest in 1923 and 1924. Mountain pine beetles hit the Middle Fork of the Payette River and western pine beetles damaged stands on the South Fork of the Salmon River. A spruce budworm attack spread over the forest in stands of Douglas fir, white fir, alpine fir, and larch. The white pine butter-



fly was rampant on the Middle Fork of the Payette, and most of the lodgepole pine stands north of the South Fork of the Payette were attacked by epidemic infestations of the western pine beetle.

Civilian Conservation Corps labor was used for special projects on the forest as well as for general construction and fire fighting. In the 1930's, CCC labor was used for cone collecting and seed gathering, and 80,000 ponderosa pine trees were planted by the CCC's in October of 1940 on the Elk Creek burn near Idaho City at a cost of \$25 per acre.

During World War II, in 1942, the Hallack and Howard Lumber Company at Cascade bought the largest-volume sale to that time on the former Payette National Forest. This sale on the South and Middle forks of the Payette River amounted to almost 79,000,000 board feet for \$232,636. But World War II brought a drop in logging activity because of the reduced labor supply, and in 1944 only one sale was made. The War Production Board set maximum stumpage prices.

During the 1940's, the Boise National Forest operated as nine "working circles," with the total allowable cut in 1947 set at 21.5 million board feet--1.7 million above 1920.<sup>10</sup> The Boise National Forest operated as one working circle by 1950; the allowable cut was raised to 34.1 million board feet, and then to 38 million in 1952. The actual cut in 1952 was 34 million board feet. The Southwest Idaho Timber Survey was begun in 1952; it resulted in the 1956 management plan for the Boise National Forest, which changed the allowable annual cut to 129.9 million board feet. The allowable cut for fiscal year 1960 was calculated at 129.9 million board feet; the actual cut that year was 129 million, valued at \$1,946,400. A revision of the management plan approved in 1962 increased the allowable cut to 135.3 million board feet. In 1964 and 1965, the Boise National Forest was reinventoried by a timber survey crew from the regional office. Using the data from this survey, a new management plan was developed for the forest's timber starting in 1965, taking into account not only the improved inventory data but new concepts of "operability."

Extensive areas of merchantable ponderosa pine in Boise, Valley, and Elmore counties were badly infested by the pine butterfly during the summer of 1953. A 400-acre block of timber was successfully tested for the feasibility of exterminating this threat by means of aerial DDT spraying, and the Boise National Forest then undertook a major aerial spraying project: 250,000 acres were treated between June 7 and July 7, 1954. This control, the first and only one of its kind directed at the pine butterfly, was successful--and was accomplished at a lower cost than had originally been projected. The first large-scale spruce budworm control project in southern Idaho was undertaken in 1955. The project included aerial application of DDT over 983,212 acres of the Boise and Payette national forests and achieved an average of 95-percent insect mortality. A mountain pine beetle control project was conducted near Atlanta in 1959 and 1960. The treatment was by winter decking and burning, but the high cost of this method makes it almost prohibitive.

Using malathion in 1960 and DDT in 1961, the Town Creek Plantation was aerially sprayed to eliminate the tussock moth. Aerial spraying for tussock moth control was carried out in 1963 on the Atlanta district, using a specific virus biological control spray instead of chemicals.

The Town Creek Plantation, a pilot project in experimental techniques of planting ponderosa pine in central Idaho, was established on the forest in 1954. The results of this study, which continued until 1958, were used in the planting between 1961 and 1965 of 22,700 acres on old burns and on cutover timber sales. A trend toward site preparation prior to planting was also started in 1954, on the Cabin Creek timber sale on the Cascade Ranger District. The work was done by horse-drawn plow, with planting in the furrow. Site preparation by small Caterpillar tractor with Holt plows or Rowen trenchers soon followed, as did planting by machine.

In July of 1955, the Harris Brothers Lumber Company--then operating the sawmill at Barber--bought the Big Owl Creek sale of about 30 million board feet of timber, which netted the government \$759,301.06 and was the most valuable sale on the Boise National Forest up to that time. The stumpage and K-V bid price<sup>11</sup> for the ponderosa pine on this sale was \$39.30. In 1956, the Southern Idaho Timber Company of Meridian bid \$43.55 as the stumpage and K-V price for over 9.4 million board feet of ponderosa pine in the Six Mile Creek sale--the highest bid price for ponderosa pine up to that time.

The Boise Payette Lumber Company acquired the Hallack and Howard mills at Cascade in 1953. Four years later the Cascade Lumber Company, founded in 1903 in Yakima, Washington, was acquired by Boise Payette, and the name of the company was changed to Boise Cascade Corporation.<sup>12</sup> A scaling agreement was initiated with Boise Cascade in 1958 whereby the Forest Service would provide 100-percent scale at their Cascade mill. A similar agreement was made with the Sawtooth Lumber Company at Mountain Home later the same year. Within a short time, scaling services were provided at the seven major sawmills cutting Boise National Forest timber. Forest Service scalers are assigned full-time to these mills, and the lumber companies pay for the additional services involved in 100-percent scaling.<sup>13</sup>

A considerable increase in all phases of timber management on the Boise National Forest began in 1959 and 1960. Land was obtained near Lucky Peak Reservoir for construction of the Lucky Peak Forest Tree Nursery (whose activities are described in an earlier section). The land was leveled, a well drilled, buildings erected, a sprinkler system installed, and over 3.5 million trees planted. Harvest cutting became important; and, as larger and larger blocks were cut by harvest-type methods, selective marking of individual trees was proportionately reduced.

In many places on the Boise National Forest the tractor-and-jammer method, requiring a dense pattern of roads, has been replaced by one or

more other methods. The use of skyline yarding systems as economical harvesting methods and the introduction into the Intermountain Region of more sophisticated aerial yarding systems (the balloon and the helicopter) have permitted the harvest of timber stands that cannot be handled acceptably by conventional methods. High-lead logging was initiated on the Boise National Forest on the Trinity-Byron sale in 1959. Over 3.5 million board feet were purchased by the Sawtooth Lumber Company. Road-building and tractor-and-jammer skidding were restricted, and a mobile-spar high-lead arrangement--a cable system that drags logs along the ground to a hauling point--was used. Skyline logging uses a fixed cable, but the logs are lifted and transported; this system has been used throughout the Boise National Forest. Balloon logging was first used on the forest in 1971 on Anderson Creek, on the Middle Fork drainage of the Payette River. The first helicopter logging on this forest was also on Anderson Creek, in 1973. Boise Cascade used two Sikorsky 61 double-rotor helicopters in several operations on Scriver Creek in 1976.

Horse logging has been used in selective logging on the Boise National Forest for the past ten years. In particular, it was used in 1975 on the South Fork of the Payette River to recover dead lodgepole pine used for hop poles in California.

To help recovery from the Boise Front flood and fire of 1959, Boy Scouts planted ponderosa pine seedlings on contour terraces high on the the Boise Front watershed project starting in 1960. The Cold Springs and Thorn Creek fires of 1960 and the Holbrook Ranch fire of 1961 necessitated large-scale salvage logging operations, and the burned and logged areas were replanted by 1963. In 1960, 650,000 ponderosa pine seedlings were planted on 1,178 acres on the Boise National Forest. The overall survival rate for the recent plantings is about 85 percent.

- <sup>1</sup>Guy B. Mains, history files of the Cascade Ranger District.
- <sup>2</sup>Ralph Hidy, "Lumbermen in Idaho," Idaho Yesterdays 6 (Winter, 1962), 2-17.
- <sup>3</sup>Mains, February 10, 1919.
- <sup>4</sup>Berry, interview, pp. 3-4.
- <sup>5</sup>William Norwood Sparhawk, Effect of Grazing upon Western Yellow Pine Reproduction in Central Idaho, Department Bulletin No. 738 (Washington, D.C.: U.S. Department of Agriculture, Forest Service, 1918).
- <sup>6</sup>Gordon MacGregor, presentation to Intermountain Section, Society of American Foresters, Boise, Idaho, January 25, 1974, pp. 4-5.
- <sup>7</sup>See section on Early Transportation, pp. 29-35.
- <sup>8</sup>Clyde Rutledge, telephone interview with the author, March 19, 1976.
- <sup>9</sup>MacGregor presentation, pp. 9-10.
- <sup>10</sup>"Allowable cut" is the amount of timber that can be cut from a given acreage while still maintaining sustained-yield management of the timber stand.
- <sup>11</sup>From the Knudsen-Vandenberg Act, which authorized the Forest Service to collect, in the price of timber, an amount for reforestation and site preparation.
- <sup>12</sup>Pamphlet published by Boise Cascade Corporation's Department of Company Relations, August 1, 1958.
- <sup>13</sup>Scaling is a means of measuring the board feet of lumber that can be obtained from a log; it is a standard method of determining the value of timber that has been harvested.

## RANGE MANAGEMENT

Grazing of domestic livestock on the area that is now the Boise National Forest began soon after mining activity started in 1862. Settlers came to provide the mining camps with necessary goods and services. Public lands were grazed first by the horses, mules, and oxen of the packers and freighters. Soon after settlement began, livestock raising became profitable. The mining camps were a good market for beef, and stages, freight, and livery created a substantial demand for horses; so cattle and horses were brought in first, with a very few sheep.

The early cattle on the ranges were mostly Shorthorn breed, the first probably brought in from Oregon. The market was mostly local, with the crop selling as fat steers; some extra-large steers were held and sold locally as oxen. There were losses from predation by wolves, but the heaviest losses were caused by severe winters.

"Gypsy bands" of sheep began trailing through in the 1870's and 1880's. Close herding was the common practice; herders would stay out with their flocks year-round, following a long and unplanned route that might take two years to complete. The coming of the railroad in 1884 made markets for lamb, mutton, and wool accessible. Sheepmen from Oregon drove their bands across Idaho and Wyoming to Nebraska, but Wyoming passed a quarantine law in 1898 and stopped this traffic. Sheepmen gradually spent more and more of their time in southern Idaho, moving their headquarters here. Sheep use in the area of the forest expanded through the 1880's; by 1890, settlers in the Boise Basin were accusing sheepmen of spoiling the game country on Pine Creek and tributaries.

A typical grazing circuit covered by sheep at the turn of the century was that of sheepman William Cupp, whose headquarters were at Squaw Butte, about ten miles northeast of Emmett. The route the sheep covered in their summer grazing was 272 miles as the crow flies, but much farther as the sheep graze. The bands left Squaw Butte when the grass was "two bites" high in the spring, followed Squaw Creek through Ola to High Valley, and then crossed over Tripod Mountain to Thunder. They crossed the Payette River at Crawford and grazed the Curtis Creek trail to Old Knox or Warm Lake. The breeding stock stayed here for most of the summer. South of Warm Lake at Cupp Corrals, the lambs to be shipped were separated from the breeding stock. The former were trailed from there through Bear Valley and Stanley Basin to Ketchum. Lambs were shipped from Ketchum because they had the advantage of high-mountain grazing up to the shipping point and could keep their weight, and the Wood River Branch railroad reached Ketchum by 1884. The breeding stock were held around Warm Lake as long as possible and then retraced their route back to the ranch near Emmett. By the second or third week of November, the sheep were winter feeding at Notus. The most popular breed then was the American Merino, which was bred more for wool than for meat.<sup>1</sup>

The following notes were made by Guy Mains, probably about 1916:

Douglas Knox says that when he first settled in the Emmett Valley there was no sagebrush on the bench or the hills adjoining. In early and middle summer, the country would be covered with a dense stand of grass 12 to 18 inches high and resembled a wheat field. The settlers called it "June Grass" because it matured in the month of June. It probably was one of the many species of brome grasses that are native to this locality. When the wind swept across these grass fields, the changing colors were beautiful to behold.

The only shrubbery to be found between Emmett and Boise was a patch of buckbrush (*Symphoricarpos*) in the gulch where the road drops down into the Boise Valley. It was tall enough to hide a man or horse, but has long since been removed by the settlers for wood.

The scarcity of sagebrush was probably due to the frequent prairie fires set out by the Indians and later by the white settlers. The Indians used the fires to make game drives, the settlers to make the spring range better for their flocks and herds and to drive out the jack rabbits that ate their crops.

During the latter part of August, the settlers near Emmett would take a load of straw and scatter it in windrows along the bench, then set it alight. These fires would sometimes sweep north as far as Crane Creek before checked by the fall rains.

One early sheepman said:

All the range in the early days was good. The lower country, where there is now little but cheatgrass, was covered with bunchgrass, which served as dry feed throughout the winter. The high Sawtooth ranges were very good, being covered with bunchgrass and herbaceous plants.<sup>2</sup>

Another early rancher reminisced:

The way we were ruining the country, some sort of regulation was necessary. Very few wanted government regulation, but most of us knew we needed it, and eventually fell into line. If the National Forest had not been created, the area it now embraces would soon have been a dust bed, and good range would no longer have been available.<sup>2</sup>

With the establishment of the forest reserve in 1905, unrestricted grazing practices were brought under control. Most local stockmen favored the establishment of the forest, since they knew the feed on their allotted range would be there when they got to it instead of being already grazed off by some other outfit. A few ranchers outside the southern boundary opposed a petition to include more land in the forest because it would deprive them of an area of public land for which they were charging grazing fees to others. Upon creation of the forest and after initial trials of the allotment system, users were able to plan their business from year to year based on known range conditions, and many believed their stock were reaching market in better condition than they had before.

Numerous small areas were closed to sheep in 1906 in order to save forage for work and pack animals of freighters, prospectors, and miners. Some grazers complained of the scarcity of forest officers to enforce trespass.

Except when they were busy with firefighting duties, much of the work of the early supervisors and rangers consisted of issuing the initial grazing permits, setting up the allotment and preference systems, and deciding on allotment boundaries. Disputes over allotments, especially where inevitable discrepancies and overlaps occurred, had to be settled on the spot when they happened. The early forest supervisors--Frank Fenn, Guy Mains, and Emil Grandjean--spent most of their winter months attending stockmen's meetings working out these problems and their summer months riding the range to see the results of their planning.

During the period from 1903 to 1916, about 5,000 head of sheep grazed in Bear Valley. In about 1907, a conflict arose between the large Van Deusen sheep outfit and a large Wyoming sheep outfit over grazing privileges on Big Meadow. They had barricaded themselves at opposite ends of Big Meadow and were armed with Winchesters, ready to shoot it out. A Forest Service man, sent to investigate the problem, set up camp between the two sheep outfits and asked them to hold off any further moves until they could work out some solution. After much discussion, the Wyoming boss was convinced by the Forest Service man to take the matter to Lowman. A day later he returned with a letter from Forest Supervisor Grandjean that settled the matter.

When the former Payette National Forest was created in 1908, there were 166,095 sheep and 5,612 cattle and horses permitted on the area. Some of the larger outfits at the time were:

Sheep Permittees

Andrew Little	17,500
J. E. Van Deusen	24,500
Gillenwater Co.	6,000
William Hosell	13,000
A. W. Ayers	5,000
F. H. Brownlee	3,000
Mohr & Case	3,000
John Little	2,800
John C. Bruce	2,800
Dick Bairdons	2,800
J. W. Moore & Co.	2,670
E. Tennyson	2,900
Chrichton Syme	2,800
L. A. Thompson	2,800
Andrew Ramage	2,600
James Renwyck	2,600

Cattle Permittees

Andrew Nielsen	400
Charles P. Mace	300
Sam Charters	300
J. Gromer	350
D. W. Kennedy	325
G. E. Holbrook	250
J. Hartley	200
J. C. Mills	200

Descendants of many of the first permittees on the Boise and former Payette national forests still had permits on the Boise National Forest in 1966. Many creeks and geographical locations were named for early livestockmen on the forest.

A boundary surveyor noted in 1909 that lower Nevins and Nibbler creek drainages were covered with bunchgrass, the Danskin division was well covered with grass and sheep browse, and the land at the mouth of Trail Creek (Boise River) supported an excellent stand of grass.

On January 21, 1909, the sheepmen on the forest organized the Emmett-Payette Woolgrowers Association. The first officers elected were J. E. Van Deusen, Emmett, president; John Bruce, Ola, vice president; and Andrew Little, Emmett, secretary-treasurer. The advisory board included Van Deusen; Andrew Little; James Little, also of Emmett; and Andrew Ramage and Elliot Tennyson of Midvale. Homer Fenn and E. E. Clark of the district (regional) office attended the first meeting.

Adjacent to the Cascade (formerly Long Valley) Ranger District was the vast Thunder Mountain area. Over a million acres in size, this area had been eliminated from the lands included in the original forest reserve. Subsequent efforts to have it included in the Forest Service lands were thwarted by the Idaho Mining Association, Senator Weldon B. Heyburn of Idaho, and various others. This unrestricted area attracted stockmen who drove their sheep across national-forest lands to reach the grazing. During World War I, eastern packers were loaning money to increase meat production, and thousands of sheep from eastern Oregon and northern Nevada were rushed into the area. In 1918 and 1919, over 200,000 head of sheep were trailed into the Thunder Mountain area, most of them going in over national-forest land. This caused many problems for Forest Service personnel, local ranchers, and other local permittees. Trespass was common and overgrazing became a serious problem. The war



effort created a severe manpower shortage, making it difficult to control the movements of trailing sheep bands. With the inclusion of the Thunder Mountain area in the former Payette National Forest in December of 1919, grazing was brought under control and many of the Long Valley grazing problems diminished.

A grazing allotment study was laid out and managed under Forest Service supervision on the former Payette National Forest in 1911. After three years of study, results showed that damage to timber reproduction was greatly reduced by open herding methods and that larger gains were made by lambs when they were run in smaller bands. Partly because of this information, grazers on the forest cut the size of their bands, and the total number of stock on the forest had dropped almost 50 percent by about 1920. Range inspection notes from 1920 show that the forest appeared not to be overgrazed, although the south end of the Danskin division was in poor condition. There were no salting plans; instead, rangers accompanied ranchers on salt distribution trips.

Two of the larger sheep outfits merged in 1924 when J. E. Van Deusen sold out to Andrew Little. It is said that Little thus became the largest sheep operator in Idaho. In 1942, Andrew Little died and his outfit was divided among Andrew Little, Jr., David Little, and Jessie Little Naylor. Each of them was then among the larger permittees on the forest. Andrew Little, Jr., and David Little each had a number of allotments on the Long Valley (Cascade) District as well as on the Thunder Mountain (Landmark) District. The Highland Live Stock and Land Company, operated by Robert and Jessie Little Naylor, had several sheep allotments south of the South Fork of the Payette River.

In 1929 and 1930, a range reconnaissance survey was conducted on an area south of the Boise River on the Arrowrock Addition then in progress. The survey crew included Edward Cliff, later chief of the Forest Service; Charles Connaughton, later regional forester of the Pacific Southwest Region of the Forest Service; Louis Dremolski, later Humboldt National Forest supervisor; James Hockaday, later range management staff officer on the Payette National Forest; and C. C. Averill, later Black Hills National Forest supervisor.

Artificial reseeding to improve grazing land was begun on the forest in 1939. Considerable acreage, mostly on the south part of the forest, was seeded with varying degrees of success. The reseeding projects included, in 1939, one at Gallagher Flat, Garden Valley Ranger District (successful); in 1940, those at Lucas, Mountain Home Ranger District (successful), Squaw Creek, Emmett Ranger District (successful), and Grouse Creek, Cottonwood Ranger District (partially successful); in 1942, again at Squaw Creek (partially successful); in 1943, Willow Creek, Mountain Home Ranger District (good success), and Blue Bunch, Bear Valley Ranger District (little success); in 1945, Gooseneck, Mountain Home Ranger District (good success), and Alexander Flats, Atlanta Ranger District (patchy); and in 1947, Nelson Creek, Garden Valley Ranger District (patchy).

In 1952 and 1953, most of the rangers made extensive surveys and mapped many of the allotments, indicating usable range and noting apparent conditions and trends. On many of the allotments, large acreages were shown as waste, inaccessible, or conditional-use range. The maps also indicated that considerable acreages on the allotments were in poor or very poor condition--and the trend was downward.

Meetings and training sessions were held during the early 1950's to acquaint Forest Service personnel with new and more up-to-date methods of making such range surveys and inspections. In 1957, the method of making range analysis on an allotment basis was initiated. The method was refined several times and the work was intensified in order to obtain more and better data on each allotment. In the same year, the position of range technician was established on the Boise National Forest.

By 1960, range allotment analyses were under way on at least one allotment in each of the ten ranger districts in the forest. The range analysis program was started on the Cascade Ranger District on the Sixteen-to-One sheep allotment. When the analysis was completed, the district ranger informed the permittees, David Little and Allen Wilson, that a reduction of approximately 70 percent in the number of sheep permitted was necessary. Forest Supervisor Howard Ahlskog agreed, and in February of 1959 the permittees appealed to the regional forester after the permittees, other permittees, Forest Service officials, range consultants, and other interested parties had inspected the allotment.

The case aroused much local interest and a great deal of publicity. Little and Wilson sent a petition with the signatures of nearly 100 permittees to Secretary of Agriculture Ezra Taft Benson demanding the transfer of Supervisor Ahlskog, the range staff officer, and the range technician. The petition was denied.

The regional forester upheld Ahlskog's decision. The permittees appealed to the chief of the Forest Service and requested a hearing, which was set for May of 1961 in Boise. Negotiations continued, however, and finally the permittees requested that the allotment be converted from sheep to cattle. An agreement was made between the permittees and the forest, and the hearing and appeal were cancelled.

Following that case, and as allotment analyses neared completion, there were significant adjustments--including changes in the class of livestock on several allotments. Permitted numbers of sheep were reduced substantially; and by 1966 few sheep were permitted at all on the north part of the forest, in the Landmark and Cascade districts.

In addition to the reductions in numbers of stock and changes in class of stock, there were changes in management of livestock on the forest. Instead of stock using all of an allotment, the rangers worked with permittees toward use only on suitable range areas and toward developing these areas for their full potential. Reseeding was done on the Willow Creek and Smith Prairie cattle and horse allotments, which

were then fenced into pastures. Fences were constructed on the Gem County cattle and horse allotment in Bear Valley, dividing suitable range into pastures. In 1963 a system of deferred rest-rotation grazing was initiated, whereby ranges are divided and the plots are rotated so that each gets a complete rest every three or four years and is not always grazed at the same time of year.

Old drive trails for sheep and/or cattle are found throughout the Boise National Forest. The Bitter Creek trail into the Deadwood drainage was used by the Gem County Cattle Association through the 1969 grazing season. These permittees have trucked their cattle onto and off their allotment since then. Following the 1976 grazing season, a written decision will be made on whether trailing or trucking of livestock will be continued. The Garden Valley Cattle Association trailed its cattle over the Scott Mountain-Deadwood Road until the end of the 1976 grazing season; since then, the livestock have been trucked to and from the allotment.

Indeed, almost all cattle using the Boise National Forest are now trucked from the home ranch to the summer grazing allotment. One Meridian permittee still trails cattle to the backwaters of Arrowrock Reservoir. However, because each sheep outfit usually utilizes several different grazing areas during each season, it would be impractical to pick them up and truck them each time they change pastures, so there are several active sheep trails in the Boise National Forest.

<sup>1</sup>Marian Frahm, "A Sheepman Finds a Town" (copy of typed manuscript, history files, Cascade Ranger District, no date), pp. 5-6.

<sup>2</sup>"Boise National Forest History" (typescript, Boise National Forest headquarters, 1966).

## WILDLIFE MANAGEMENT

Before white men occupied it, the Boise National Forest area was a hunting ground for several Indian tribes. Shoshoni groups, such as the Weiser and Boise, and the Nez Perce Indians came into the Squaw Creek area and up the Boise and Payette rivers. The Sheepeater Indians hunted and fished in the rugged mountains of the Payette, Boise, and Salmon river headwaters. The Blackfeet infrequently hunted as far west as the eastern fringes of the Boise National Forest.

The trappers who worked through the forest area from about 1812 to 1835 practically depleted the beaver population, and they subsisted on wild game. In the 1860's and 1870's, commercial hunters thrived throughout the area: at that time, there were thousands of miners in the Boise Basin and South Boise mines, and the supply of domestic livestock for meat was very limited. In addition, hundreds of deer and elk were taken strictly for their hides.

One early wildlife problem in the area was a "plague" of jackrabbits in 1878. It is said that they swarmed through the lower Boise and Payette river drainages so thickly that they were drowned by the hundreds in the streams and rivers. Settlers even set fires to drive off the jackrabbits and save their crops.

In the 1880's, the tie-cutting crews along the Payette River and in High Valley subsisted mainly on deer meat. Railroad surveyors and construction crews reported an abundance of elk along the Payette River canyon during the building of the Idaho Northern Railroad between 1911 and 1915. By 1890, big-game hunting in and around the Boise Basin was adversely affected by overgrazing caused by the huge numbers of sheep using the area and by heavy hunting by local residents.

Bighorn sheep were numerous in the headwaters of the Boise, Payette, and Salmon rivers when white men first came to the area. The sheep suffered severe losses when disease struck them in the 1870's and again in 1890 and 1910.<sup>1</sup> The uncontrolled harvest of wildlife was a concern of many early settlers. The first Idaho legislative assembly, meeting in Lewiston from December 1863 to February 1864 to draft the "Laws of the Territory of Idaho," took action to protect wildlife. One law made it illegal for any person to kill buffalo, deer, antelope, elk, mountain sheep, or goat between February 1 and July 1 of any year. The concept of bag limits had not yet been developed. Open season on buffalo, elk, deer, antelope, and mountain sheep was shortened to three months in 1887, with hunting permitted only from September 1 to December 1. Also during the period before statehood, a law was passed prohibiting the taking of fish with drugs, giant powder, or explosives. Use of seines, nets, and fishtraps was prohibited in the taking of trout.

An Idaho Fish and Game Department was created in 1899, and fish and game laws were revised. A limit was set of not more than four each of deer, antelope, mountain sheep, and goat, but the season was extended

from September 1 to December 30. Elk season was shortened to three full months--September through November--and the limit was set at two animals only. Buffalo were taken off the list of large game, and beaver were put on the protected list for a five-year period. A law passed in 1908 provided for predator control of wolves, coyotes, wildcats (lynx), and cougar.<sup>2</sup>

Seasons on game birds were liberal, and no bag limits were imposed. No hunting of ducks, geese, and swans was permitted between March 1 and September 1; quail season was limited to October 31 to December 1; grouse, prairie chicken (sharptail), sagehen, and fool hens (Franklin's grouse) could be hunted from August 15 to December 1; and "No Mongolian pheasant shall be killed, ensnared, trapped, or destroyed for a period of 3 years following the passage of this act." The reference to Chinese pheasants in Idaho suggests that attempts may have been made by individuals to introduce this bird into Idaho before 1899. The Fish and Game Department's first pheasant-rearing project was in 1908 on a private farm west of Boise in Ada County; it resulted in the release of 1,000 birds in 1909.

A general trout season from May 1 to November 1 was established by the legislature in 1899. An earlier law had restricted the taking of trout to hook and line only.<sup>3</sup>

Hunting and fishing licenses with established fees were created by the 1903 session of the state legislature. There were three kinds of licenses: resident fish and game, \$1.00; nonresident bird and fish, \$5.00; nonresident fish and game, \$25.00. Children under 12 and women were at first exempt from licencing. By 1927 women were required to have hunting and fishing licenses, but resident children under 14 could fish without a license.

The Fish and Game Department constructed a fish hatchery in 1907 in Blaine County. Four years later, 100,000 largemouth bass, seined in northern Idaho, were released at Barber Dam near Boise. The Forest Service acquired native trout from Fish and Game and was planting fish in the Cascade area as early as 1917, including 25,000 each in Big, Fawn, and Tripod creeks that year.<sup>4</sup>

Historical accounts reveal that elk were more plentiful in Idaho in 1975 than at the turn of the century.<sup>5</sup> In 1909, through the urging of Forest Supervisor Emil Grandjean, the legislature created a state game preserve on the South Fork of the Payette River. State Game Warden J. B. Gowen reported about twenty-five elk when the preserve was established; the number had increased to about two hundred head by 1914. One of the earliest elk transplanting projects in Idaho took place in 1915, when sixty-five elk were brought by railroad from Yellowstone Park and released at Arrowrock Dam.

In 1930, a start was made in obtaining data for managing big game on the forest, and special concern was given to the winter range areas.

In 1930 and 1931, several big-game exclosures, each one rod square, were established along the Middle Fork of the Salmon River near Thomas, Range, Whites, and Bridge creeks. Heavy snows during the winter of 1931-32 forced large numbers of deer onto the lower slopes around Garden Valley. The Fish and Game Department fed hay to the deer that winter, and a total of 2,700 deer were counted on the feedlots. Estimates of the actual number on the winter range area ranged from 5,000 to 8,000. An extremely heavy loss occurred during the spring. The Fish and Game Department paid for burying 1,800 head of deer between Garden Valley and the mouth of the Deadwood River. The next hard winter on the South Fork of the Payette River was in 1935-36. The game were fed again that winter, and the spring loss was light. A count made in late February of 1936 figured the population at 8,000 deer. The deer herd increased until the spring of 1942 when the population reached 12,000 deer. The hunting season was extended that year, and 3,500 deer were taken by hunters.

Heavy infestations of grasshoppers during 1940 and 1942 defoliated much of the browse, and an inventory of the live brush indicated 43 percent of the bitterbrush had been killed. The winter of 1942-43 was extremely severe. About 500 elk moved onto the winter range below the Deadwood River. Fish and Game fed hay and concentrates to the game, but in spite of heavy feeding the spring loss amounted to 2,000 deer and 200 elk.

In 1944, several plots were established to study the bitterbrush situation on the South Fork of the Payette River. The plots on the Middle Fork of the Salmon River were studied in 1947, and Fish and Game and the Boise National Forest began cooperative trend counts in 1948. In 1957, browse utilization transects were established on the Mountain Home, Cottonwood, Atlanta, Lowman, Emmett, Garden Valley, and Landmark ranger districts. Data recorded annually showed that there was a large amount of use by the big-game animals and much of the browse had become nonproductive through overuse. In 1961, a large exclosure was constructed near Sunflower Creek in cooperation with the Fish and Game Department to provide a broad basis for comparison of utilized and unutilized range, giving better information on ways to manage the game and the range. In 1965, a big-game range analysis was made on the winter-range area of the Middle Fork of the Salmon River to provide additional information for use in preparing a management plan for this critical area. In 1964, the Fish and Game Department began using helicopters to make the trend counts on the winter range areas. The severe winter of 1963-64 in the localized area near Arrowrock Reservoir caused more than average loss of deer. Heavy snow forced the animals to low elevations, and then the snow became encrusted, making it difficult for the animals to move about and feed.

Fur bearers have not been numerous on the Boise National Forest since the days of the early trappers. However, nearly 1,500 beaver were live trapped in 1943 and 1944 and moved from complaint areas in the state to remote mountain streams. By 1945, it was estimated that Idaho

had about 45,000 beaver.<sup>6</sup> Trapping has continued through the years, and every year beaver, muskrat, bear, bobcat, coyote, and cougar are taken by hunters and trappers on the forest.

Some transplanting of game animals and birds has taken place in recent years. In the early 1950's, seventy-three white-tailed deer from the Farragut refuge in north Idaho were released near Banks on the east side of the North Fork of the Payette River with the purpose of establishing the species in that area.<sup>7</sup> They have not increased substantially but are presently considered to be holding their own.<sup>8</sup> A small planting of Merriam turkeys was made in 1966 near Krall Mountain in the Rattlesnake Creek drainage on the Mountain Home Ranger District.

The philosophy of predator control has changed over time. In the early years of this century, predator control was considered necessary to protect the game animals. "Government trappers" were employed to hunt predators. Retired ranger Walt Berry recalls working on predator control in 1917 and 1918 near Troutdale.<sup>9</sup> R. E. Thomas, state game warden in 1926, reported that during the 1925-1926 biennium thirty-six regular hunters were employed throughout the state during the fall and winter months to kill coyotes, cougar, lynx, bobcats, timber wolves, and weasel.<sup>10</sup> Later the bounty system was used as a control. In 1946, the bounty system on predators paid \$3 for adult coyotes and bobcats, and the bounty on cougar was raised from \$15 to \$50.<sup>11</sup> In 1959, the bounty on cougar was removed--and the number of cougar killed annually after 1959 was larger than for most years when there was a bounty paid for cougar, as people began to hunt them for sport. The cougar was removed from the predator list in 1972 and is now considered a game animal.

The black bear has been listed as a game animal since 1973. Recent discoveries of bear taking elk calves have resulted in management units in some parts of the state, such as the Clearwater drainage, allowing two bear per hunter where deemed necessary.

There are presently no antelope and no bighorn sheep on the Boise National Forest, but there are several small herds of mountain goats on the upper drainages of the Middle and south forks of the Boise River, South Fork of the Payette River, and South Fork of the Salmon River. The deer population dropped between 1969 and 1972 but then increased. Since 1960, the number of elk in hunting unit 39 (the unit nearest Boise) on the Boise National Forest has dropped off about 60 to 70 percent because of more roads, more hunters, and elk moving away from disturbed areas.<sup>12</sup>

The position of wildlife biologist was added to the Boise National Forest staff in 1973, and the position of fisheries biologist was added in 1975 when Don Corley transferred from the Idaho Fish and Game Department and undertook a survey of the fishery habitat on the South Fork of the Salmon River. His findings are reported under the chapter on watershed.



Timber harvest has caused both beneficial and adverse effects on wildlife. Some species of wildlife, such as big game, have benefited from converting old-growth timber to early successional stages of vegetative composition. Other forms of wildlife, such as small birds and animals, have been temporarily disturbed.

Each year, in accordance with treaty rights, Shoshoni-Bannock Indians fish for salmon within the Boise National Forest, not confining their fishing to the stated fishing season. In 1973, about fifty Shoshoni-Bannock camped in the Bear Valley area while fishing for salmon.

Wildlife presently living within the Boise National Forest include the following: big-game species--elk, mule deer, white-tail deer, mountain goat, black bear, cougar; fur-bearing animals--beaver, otter, pine marten, wolverine, mink, muskrat, fisher; predators--coyote, fox, bobcat, lynx; bird species--blue grouse, ruffed grouse, Franklin grouse, sage grouse, geese, ducks, osprey, hawks, bald eagle, golden eagle, greater sandhill crane, prairie falcon, Merriam turkey, and a variety of songbirds; fish--chinook salmon; steelhead, rainbow, brook, cutthroat, and Dolly Varden trout; whitefish; coho; kokanee.

There have been occasional unconfirmed sightings of timber wolves in Bear Valley and one recent confirmed sighting of a wolverine.

It is estimated that some 217 different species of birds and 78 different mammals can be found on the forest.

<sup>1</sup>Dwight R. Smith, The Bighorn Sheep in Idaho, Wildlife Bulletin No. 1 (Boise: Idaho Department of Fish and Game, 1954), p. 21.

<sup>2</sup>"A Century of Idaho Wildlife, Chapter Two: Game Department Created," Idaho Wildlife Review 19 (November-December 1967), 3-11.

<sup>3</sup>"A Century of Idaho Wildlife, Chapter One: The Early Years," Idaho Wildlife Review 19 (September-October 1967), 3-6.

<sup>4</sup>History files, Cascade Ranger District.

<sup>5</sup>Jim Humbird, "Modern Day Elk More Plentiful," Idaho Wildlife Review 27 (January-February 1975), 16-17.

<sup>6</sup>"A Century of Idaho Wildlife, Chapter Four," Idaho Wildlife Review 19 (March-April, 1968), 3-13.

<sup>7</sup>Ibid.

<sup>8</sup>Jerry Thiessen, Idaho Fish and Game Department, interview with the author, Boise, Idaho, 1976.

<sup>9</sup>Berry, interview, p. 8.

<sup>10</sup>R. E. Thomas, Eleventh Biennial Report of the Fish and Game Warden of the State of Idaho, 1925-26 (Boise: The Department, 1926), p. 1.

<sup>11</sup>"A Century of Idaho Wildlife, Chapter Four."

<sup>12</sup>Thiessen, interview.

## RECREATION AND LAND USE

From the 1860's--when the area of the Boise National Forest was first settled--to about 1925, recreation use of the outdoors was given little recognition as a forest activity. Hunting and fishing forays, visits to hot springs, and an occasional picnic were practically the extent of recreation use by the general public. Dana Parkinson, who served on the Boise National Forest from 1912 to 1917, has written that recreation improvements in those days consisted of a few improvised toilets and rocks rolled together for fireplaces.<sup>1</sup> By 1925, there were perhaps a dozen of these "developed" campgrounds.

With the construction of roads, trails, and the railroad to Long Valley, recreation use of the Boise and former Payette national forests expanded. Recreation as a public use of the forests increased to an estimated 800 visitors in 1920, and it was becoming obvious that some kind of management and administration of this activity was needed. Developments in the 1920's were directly related to roads and auto travel. Other than the few scattered campsite developments, early improvements were mainly related to warm or hot springs: public baths and swimming facilities were built in the 1920's and 1930's utilizing these springs.

In recognition of future needs, the Sawtooth and Idaho primitive areas were designated in 1931. Because of other priorities, the expansion and development of recreation facilities outside the primitive areas lagged for several years.

The first major campground improvements were made in the mid-1930's. Civilian Conservation Corps labor, which became available in 1933, was used not only for firefighting, station maintenance and construction, and telephone line and trail construction and maintenance, but also for construction of campground facilities. Between 1933 and 1940, the CCC constructed and installed 252 campground tables, 117 toilets (some of which were placed at ranger stations and guard stations), and two bathhouses--one at Atlanta and one at Kirkham--all improvements on the Boise portion of the forest. On the former Payette forest, CCC camps at Warm Lake and Gallagher made vast improvements in the recreation facilities on the South and Middle forks of the Payette River and around Warm Lake. Bathhouses were built at Warm Lake, Boiling Springs, Pine Flat, and Hot Springs campgrounds. It is possible that this work was less for management of the recreation resource than as a fire-prevention measure to concentrate campers in known locations and to make these locations fire-safe.

Recreation visits increased to an estimated 13,190 in 1935. The majority, perhaps 85 percent, were for hunting or fishing. The trend during this time was already toward more but shorter visits: the average visitor in 1920 stayed for five days.

A recreation management plan was started on the Boise National Forest in 1935. It included development plans for campgrounds on the

Boise River and at Trinity Lakes. But even with the CCC labor, the need for recreation improvement and facilities expanded so rapidly that the forest could not keep up or get ahead. Skiing on the national forest became popular, possible facilities were studied, and the Bogus Basin ski area began its development from a rope tow and 180 acres cleared for skiing about 1939.

The Middle Fork of the Salmon River has long been a popular recreation area on the Boise National Forest, but the numbers of people visiting it have been limited by its inaccessibility until recent years. In the days of mining at Yellowjacket, Loon Creek, and Thunder Mountain, when all travel was on foot or by horseback, the Middle Fork was crossed by main thoroughfares of travel, and several homesteaders settled there in the early 1900's to raise food for the nearby miners. The lower part of the canyon, below the mouth of Big Creek, was labeled "Impassable Canyon" by those who came in to find Sheepeater Indians during the Sheepeater War of 1879.

It is not known who first floated the length of the Middle Fork; but Lester Gutzman, a retired Forest Service employee, recalls a float trip on the Middle Fork around 1940 by a party from the Rogue River in Oregon, using a type of plywood boat called the Rogue River boat. The party made two trips, with several boats each time.<sup>2</sup> After World War II, rubber boats were used as they became available. It is estimated that by 1949 about twenty-five people were floating the river annually. Recreational use of the Middle Fork of the Salmon River increased phenomenally during the 1960's.

Camping and picnicking had overtaken hunting and fishing as the dominant recreational use on the Boise and former Payette national forests by 1939. Combined recreation visits that year were 43,740. This use dropped off during World War II but picked up again immediately afterward. Campground construction progressed steadily through the late 1940's and 1950's, and so did all forms of recreational use. The philosophy of recreation management during this time was to follow the dictates of the public by providing campgrounds wherever camping was popular. Small one-, two-, and three-unit campgrounds were established at the randomly scattered spots favored by campers.

Retired forest supervisor William Guernsey recalls that in 1951 the total budget for recreation on the Boise National Forest was \$1,100.<sup>3</sup> Recreational use on the forest had grown by 1957 to the extent that a staff position was established in the supervisor's office to handle recreation. In the same year, nationwide interest in national forest recreation had reached such proportions that "Operation Outdoors" was begun. This was a five-year program to modernize existing facilities and to provide adequately for the recreational use of the forests expected by 1962. Tables, toilets, and grills were constructed for the program in a central location, under the Boise National Forest "winter work" system.

A national-forest recreation survey was undertaken between 1958 and 1961 for the purpose of projecting the recreation needs, on an acreage basis, to the years 1976 and 2000. Meanwhile, stimulated by the Operation Outdoors program, the upgrading of campground construction standards continued beyond the end of the program itself. By 1960, it was standard practice to develop potable water; to surface campground roads, parking spurs, and the areas around tables; and to erect traffic barriers. Between 1960 and 1965, approximately 190 family units were installed in existing or new campgrounds.

Trail scooters and trail bikes, first available about 1960, soon became a popular mode of recreational transportation. In 1962, this growing outdoor sport became a problem when a party of "tote-goters" violated the restriction against motorized vehicles in declared primitive or wilderness areas by entering the Sawtooth Primitive Area near Atlanta. It was found that the wording of the regulation regarding this type of trespass was inadequate in not specifically pertaining to primitive areas. Within a year, the proper authority was provided by a new regulation. In 1963, another group of "tote-goters" trespassed into the Idaho Primitive Area on the Landmark District. This case was successfully prosecuted and, as the first such case in the nation, established a precedent for the prosecution of similar cases thereafter.

Early in 1963, a policy concerning the desirable size of campgrounds was clarified. Based partly on the cost per family unit for maintenance, it was decided that one-, two-, and three-unit campgrounds should be eliminated and that larger campgrounds with more family units should be built. Several small campgrounds were therefore eliminated. Two campgrounds, Rattlesnake and Eightmile, were completely wiped out by the December 1964 floods. This resulted in a loss of ten to fifteen family units. The intentional elimination of a small campground on Clear Creek in the Lowman Ranger District resulted in public objections and an inquiry by a congressman. Larger campgrounds were built in 1964 and 1965, including one of sixteen units at Boundary Creek and one of fifty units at Sage Hen Reservoir. Two boat-launching ramps and a picnic area were also constructed at Sage Hen. Other boat ramps were constructed between 1960 and 1965, including three at Warm Lake and one each at Mack's Creek on Lucky Peak Reservoir and at Arrowrock Reservoir.

Also under construction between 1960 and 1965 were the Bogus Basin Road portion of the planned "mile-high" scenic recreation way from Shafer Butte to the South Fork of the Payette River and the expansion and development of the Bogus Basin ski area itself. The first double chairlift was in use in 1960 and there were three chairlifts by 1965, with 1,000 acres involved in the development.

Recreation use, measured in total recreation visits, increased from 751,600 in 1960 to 767,800 in 1964. The Land and Water Conservation Fund Act of 1965 resulted in the designation of thirty-two campgrounds on the Boise National Forest as "fee" or "charge" recreation areas. Total recreation visits on the forest dropped to 666,700 in 1965. By 1981 they had doubled to 1,343,900.

Float-party use on the Middle Fork of the Salmon River had increased to approximately 1,200 people by 1962 and remained near that level in 1963, 1964, and 1965. As a result of the National Wild and Scenic River Systems Act of 1968, the Middle Fork became one of the nation's first designated wild rivers. The popularity of the Middle Fork float trips created a problem of crowding. One of the largest parties on the river in 1970 was a group of seventy-seven people in fifteen boats. Over 200 people came off the Middle Fork during a two-hour period in August of that year.<sup>4</sup> Four national forests--the Boise, Challis, Salmon, and Payette--are bordered or crossed by the ninety-seven-mile-long Middle Fork. For administrative purposes, the management of the river is handled by the Challis National Forest, though the increasingly heavy traffic on Dagger Falls Road remains a responsibility of the Boise National Forest. There is presently a controlled or regulated season for Middle Fork floaters from June 24 to September 3. There is a limit on the number of people in a float party, and only seven parties can launch per day during the regulated season. These regulations are in the interest of safety, to maintain privacy for the boaters, and to insure ample space for overnight camping without undue strain on the environment. Boaters carry out their own garbage. During the 1975 season, there were 203 float parties with commercial guides for a total of 3,201 people, and 167 noncommercial parties totaling 1,383 people.

The Bogus Basin ski area has continued development. It includes 640 acres of private land, on which many of the improvements are located. There are two lodges and a condominium development. In the season of 1982-83, there are six chairlifts and potential for several more lifts.

Snowmobiling and cross-country skiing are two of the most rapidly growing forms of recreation on the Boise National Forest. A number of trails have been designated; and, through cooperation with the state and with snowmobile associations, trails are groomed and patrolled. The state has built a parking lot and sanitation facilities at Granite Creek to accommodate winter recreationists.

In December of 1976, the Boise National Forest completed a travel plan for management of off-road vehicles (ORV's). It includes snowmobiles, motorcycles, trail bikes, and other motorized equipment. On about 70 percent of the forest, motorized vehicle traffic is limited to roads and trails. There is no restriction on the remainder of the forest, although operators of vehicles are encouraged to use prudent judgment. Some areas are closed during elk calving season, as are some big-game winter-range areas. Three factors govern management of ORV's: damage to resources such as trails, watershed, and wildlife; annoyance to other people, such as backpackers and campers; and public safety. Thus far, there has been good cooperation between the Boise National Forest and user groups.

Backpacking has increased very rapidly as a form of recreation on the Boise National Forest. A road and trail inventory has been completed, and there is clearly a need for more trails.

Several organizations have camps on the Boise National Forest and on state or private land within the forest boundary. On the Idaho City Ranger District, a state camp, Ee Da How, is on state land within the forest, and there are two church camps on private land: the Latter-day Saints' Pinetop, two miles below Idaho City, and the Church of Christ's Ivydale in Shaw Gulch. There are three camps on the Cascade Ranger District: a Conservative Baptist camp, a regular Baptist camp, and a Christian Church of Southern Idaho camp. For many years there was a Boy Scout Camp on the Cascade Ranger District named for Billy Rice, deceased son of Ben Rice, former supervisor and regional forester. The camp was moved to McCall in 1974.

There are many summer homes on private land within the boundaries of the Boise National Forest, and there are also summer homes on national forest land under special-use permit--usually for a term of twenty years, although some are on a yearly basis. Summer-home use grew gradually after World War II and has increased greatly since 1965. There are approximately 125 summer homes on the Boise National Forest. By area and quantity within ranger districts, they are: Mountain Home Ranger District--Fall Creek, 1; Idaho City Ranger District--Ten Mile, 6; Hunter Creek, 1; Deer Park, 1; Cascade Ranger District--Paradise Valley, 10; Warm Lake, 62; Lowman Ranger District--Wapiti Creek, 19; Long Creek, 9; Kettle Creek, 1; South Fork, Payette River, 1; Lowman, 3; Fivemile, 1; Camp Creek, 1; Emmett Ranger District--Middle Fork, Payette River, 1; Banks, 1; Phillips Creek, 1; Williams Creek, 6.

<sup>1</sup>Letter from Dana Parkinson, 1941, in Boise National Forest History archives.

<sup>2</sup>Lester Gutzman, Salmon National Forest, retired, interview with the author, Salmon, Idaho, October 23, 1969.

<sup>3</sup>William G. Guernsey, interview with the author, Boise, Idaho, December 6, 1974 (transcript in the files of the Boise National Forest), p. 15.

<sup>4</sup>"Mark Looms for Boating on Salmon," Idaho Statesman (Boise), August 10, 1970, p. 16.



## FIRE MANAGEMENT

Since the creation of the Forest Service for the purpose of managing the resources within the nation's forests, the management of fire has been a very important--and a very dramatic--aspect of the foresters' work. Fire is often thought of only in terms of something to be suppressed--a destructive wildfire. However, there are all sorts of fires; and fire can be an important tool for clearing certain types of debris, reducing insect infestations, and improving wildlife habitat. Fire, like water, is neither good nor bad per se. The value or danger depends on degree and circumstances--a beneficial rain or a devastating flood; a destructive, earth-scorching wildfire or a controlled burn that may reduce danger of later fires and improve growing conditions for certain types of plants. Most management techniques are matters of compromise, with some good effects and some bad, and the task of the manager is to determine the purposes to be served by fire management and to balance off the good against the bad and obtain a basically beneficial result.

To the untrained observer, there may seem little difference in fires; but to the trained forester there is a great deal of difference. Fuel types, soil types, humidity, and basic uses of the area (whether primary use is timber, grazing, recreation, and so on) may make a great difference in both the concern for and the manner of fire management. The story of fire management is a bit different for each forest; and certainly the human planning, the interplay of personalities and concepts, will make each forest tell its own story of the history of fires. ". . . all Regions . . . gradually developed their own techniques, their own interpretation of policies, their own interpretation of regulations; and their geography is different, their rainfall is different, the climate is different, the people are different, the soils are different."<sup>1</sup> Certainly the Boise National Forest has its own fire story to tell.

Nature has not changed a great deal over the past centuries, though cycles of dry and wet periods have had their effect on fire in the forests. But human values tend to change far more rapidly than do natural conditions, and the effort to manage forest resources in the public interest is increasingly becoming a struggle to determine where the public interest lies or if there is a definable public interest. In the early days of the nation, before the creation of the Forest Service, timber resources were considered unlimited, forests were often seen only as an impediment to travel or farming, and vast amounts of timber were burned simply to make room for farming. Indians, whose primary concern was the hunting of grazing animals, welcomed fires that removed trees and burned off old grass to attract animals to the new growth. Fires have even been set for pest control--as in 1878, when there was a "plague" of jackrabbits through the lower Boise and Payette river drainages and settlers set fires to drive off the jackrabbits and save their crops.

As the country became increasingly aware of the great value in good stands of timber, fires that destroyed timber were seen as detrimental;

and much effort has been made to suppress such fires. There is also much more awareness of destructive aftereffects of fires, such as increased erosion, the effects of this erosion on stream quality, and the difficulties involved in getting new growth after extremely hot fires. But still another factor has come into the picture of fire management in recent years. An increasing number of people have come to believe that man should not interfere with nature; and they suggest that since fire in the forest is a natural phenomenon, large areas of land should be left with a minimal amount of man's influence--including suppressing lightning fires in these areas. So the story of fire control covers not only the story of fire management on the forest but the entire philosophy of cultural values and the question of what constitutes the public interest. However, for the purposes of this history of a single national forest, it is most important to examine what has been done by those who have devoted their best efforts to managing the forest and giving it the best protection possible with the means at their disposal, and to examine the concepts that have appeared thus far to be in the public interest.

Organized forest-fire control began in Idaho in 1905 with the establishment of the Sawtooth Forest Reserve. As far as is known, the Indians took no part in the suppression of the fires they set or of lightning fires. After the first white settlements in 1862, impromptu fire-control efforts developed. The miners, farmers, and other settlers whose property was threatened by the proximity or approach of a fire took whatever action seemed advisable. The destruction of several mining towns by fire in the 1860's and 1870's indicates the ineffectiveness of the control methods of that time--as well as the general use of wood for construction in such communities.

Slash disposal for fire protection purposes was not practiced in the logging activity of the 1880's and 1890's, thus creating an additional fire hazard. The spread of the Graham fire in 1889 to 4,500 acres was attributed to logging residue; the fire itself was man-caused.

Although clearing of land in the area for farming by burning was not recorded, it was probably practiced to a limited extent. Likewise, burning off of rangelands was occasionally done to improve forage conditions by stimulating the growth of annual plants and succulent shoots on old plants. Lightning fires were left to burn or go out of their own accord, at least in remote reaches of the forested lands where there were few or no human habitation or improvements.

Organizing the personnel into a fire-protection force was a top priority of Supervisor Frank Fenn when the Sawtooth Forest Reserve was created in 1905. At first, the few guards and rangers on the force patrolled and put out the fires they found or that were reported to them. For help, they gathered any available people in the vicinity of the fire--including residents, prospectors, loggers, sheep camp-tenders, and travelers. Back-country fire control required long pack trips, and firefighters furnished their own tools, horses, pack stock, and provi-

sions. In the early days, most fires were fought only by those most directly affected. The rancher, miner, or lumberman fought fires only when they burned on or near his property. Watershed and natural-resource protection were only remote concerns.

The first major fire on the Boise National Forest occurred on the former Payette National Forest in 1908. A fire of unrecorded size on Lightning Creek on the Garden Valley Ranger District required the use of a large crew of local settlers in addition to the Forest Service crew that was available. There were no Forest Service tool caches, so the firefighters had to furnish their own tools, and some men reportedly subsisted on bannock bread fried on their shovels. Newspaper reports on August 12, 1908, stated: "Forest fires are starting up in many places in Peace Valley, originating from campers smudging mosquitoes. In Onion Valley, fires have been burning for several days and yesterday had burned over a space several miles square."

Official cooperation between the state of Idaho and the Forest Service began in 1908. Both the former Payette National Forest crews and Payette Lumber Company crews cooperated to suppress a fire on Dry Buck Mountain. After the fire was controlled, Supervisor Guy Mains and Harry Shellworth, the Payette Lumber Company land agent, discussed the designation of areas of responsibilities, use of state fire wardens, and other concerns. The outcome of these discussions was the organization of the Southern Idaho Timber Protective Association. Mains helped organize the group and was its first president. Prior to SITPA, there had been a few fire wardens appointed in the state--but not enough to be effective. With the establishment of SITPA, fire wardens were removed from political influence, areas of responsibility were spelled out, and further plans were made for cooperative efforts in fire detection, prevention, and suppression. SITPA was reported to be the third such organization in the nation; the first was the Linn County group in Oregon in 1904, and the second the Clearwater Timber Protective Association in north Idaho in 1906.

Two fire lookout stations were established on the Boise National Forest in 1908. One was on Bald Mountain (Thorn Creek Butte) southeast of Idaho City; the second was on Pilot Peak, northeast of Idaho City. The lookouts were eight feet square, more like booths than buildings, and occupied only during daylight hours. Cooking and sleeping were done down near the water supply, often half a mile down the mountain from the lookout. The lookouts at this time were generally assistant rangers (called hobo rangers) who came off their regular work for the duration of the fire season.

At first, communication between these two lookouts and with other lookouts established later on the Boise National Forest was haphazard at best. Telephone lines were built and a few telephones installed. Before an efficient telephone network was established, three of the early Boise National Forest lookout stations (Bald Mountain, Trinity, and Swanholm) used heliographs and Morse code for communication. The helio-

graph used the sun's rays reflected on a mounted mirror to send messages by Morse code. There were some drawbacks in using the heliograph: stations sending and receiving had to be within visible distance, it could not be used on cloudy days, messages could be sent from west to east only in the mornings and from east to west only in the afternoons, and it was difficult to find men for lookout duty who knew Morse code.

Although there was a 200-acre fire in Rabbit Creek in 1910 and the Clear Creek fire, west of Pioneerville, reportedly burned 200 acres a few years later, the years from 1908 to 1919 were light fire years. The extensive fires of 1910 that so overwhelmed the northern part of Idaho did not extend as far south as the Boise National Forest. Their only effect on the forest was the calls for manpower from Region 1. Guy Mains wrote:

The 1910 season, which proved disastrous to other districts, touched us rather lightly. Consequently, our fire hazard was considered small and we were treated accordingly in the subsequent distribution of protection funds. This made it slow and difficult to perfect fire protection plans and organizations on the timbered Forests in the district.

Between Ranger Bill Baker, patrolling his district in 1908 with his teapot for a fire extinguisher, and the airplane patrol we are to have this season, is a considerable advance in the art of fire suppression....If the fire hazard we have had to meet on the central Idaho Forests during the past four years had prevailed the first few years of their administration, we would have little but blackened wastes to supervise now. Such an emergency could not have been met and handled with the small force of men we were allowed and without the system of roads, trails, telephone lines, lookouts, patrols, and equipment we had ready when the need came.

The early Rangers for the most part fought single-handed against heavy odds with poor equipment, and saved the forests they were sent out to guard. Bill Baker and his teapot in 1908, fighting his fire alone in the spruce thickets, is just as much a hero as the Ranger who led 100 men successfully in the fight in the same territory in 1919. Both accomplished their task by giving all that was in them.<sup>2</sup>

The fire of 1910 served as a standard or base in gauging later fires-- and served also as an impetus for development of methods and tools for fire suppression.

Fire guards on Boise National Forest ranger districts during the first decade were seasonal employees who worked on forest improvement projects such as roads, trails, fences, and telephone lines when not busy fighting fire. They were paid \$75 per month, out of which they were expected to furnish their own tools, horses, and pack outfits and a

living for themselves and their families. The pickup laborers used on fires were paid 25 cents per hour. Fire suppression usually consisted of putting a line around the fire and letting the interior burn out by itself, with no mop-up.

A new lookout was built on Pilot Peak in 1913 with an Osborne Fire-Finder (alidade) installed.<sup>3</sup> It was not manned except when the guard was working or traveling nearby. Fires located from Pilot Peak were reported from a telephone booth on More's Creek Summit. In most cases, when a fire occurred, the closest man went to it, and the supervisor's office rarely knew who went where. When additional men were needed, the ranger or guard on the fire would leave it and get help from the nearest settlers, often ten or twenty miles away.

By 1914, the Idaho City ranger had one guard at Hayfork, one lookout, and another guard at Graham, the last completely out of communication. At this time, tools used in firefighting were No. 2 shovels, double-bitted axes, mattocks, and grub hoes. All were heavy and tiring to carry and use. No standard methods of attack or control were practiced. Pickup firefighters were often fed out of the guard's personal supplies. But by 1917 the protection movement was gaining momentum. The heliograph was eased out of use. A guard was stationed at Deer Park. And about this time, alforjas (saddle bags) were modified for use with hand pumps to pack water on mules for firefighting use; they were considered quite satisfactory.

The year 1919 was a bad fire year. Fires on state and private lands outside the national forest threatened the Boise National Forest when the state ran out of money to fight them, and the forest was hard put to protect its own lands. The Thunder Mountain area, not yet included in the national forest and under no management or protection, had many fires going all season. Agents from the General Land Office of the U.S. Department of the Interior were responsible for action in this inaccessible area and, unused to either the work or the terrain, called on the Forest Service for help. When the season was over and the fires out, the General Land Office was only too glad to have the land added to the former Payette National Forest. Congressional appropriations were held up that year, and the forest supervisor paid the fire crews out of his own pocket. Logging slash of the Boise-Payette Lumber Company caught fire and resulted in innumerable spot fires. A 700-acre fire in Meadow Creek nearly cost the life of the ranger: he passed out from smoke inhalation and rolled down the slope nearly into the flames. Ranchers and men from Idaho City and Boise were used to control the fire.

Mabel Wellman Jordan recalls:

The year 1919 was another year of big fires. The Government Land Office, Boise, sent men in groups of 25 to the back country, through Cascade and the South Fork Ranger Station. The

men walked and carried a shovel or a pick. Hank Goul had an old truck and he drove supplies through over an old trail. Also, wagonloads of supplies came every day or so. Supplies would be loaded on pack strings. Anyone with three horses or more got a job packing....Our lookout man, Frank Spencer, was stationed on Blue Point Mountain. He lived in a tent; had no telephone. When he saw a fire, he looked at the map, then he would walk down to the Ranger Station and tell the Ranger where he thought the fire was, so many ridges or creeks over  
 ....<sup>4</sup>

Prior to 1919, the forest had very limited equipment; there was not much organization for fire control, and a typical firefighting force on a district included the ranger, one guard, and one lookout. But the bad fire year of 1919 pointed up the shortcomings of the relatively haphazard fire-control planning and organization. Greater attention was being given to fire control both nationwide and locally, with increased appropriations, development and acquisition of better equipment, and more thorough advance planning and preparation. District fire plans, prepared for the first time in 1920, included provisions for trail maintenance, telephone maintenance, tool caches, securing horses and other transportation, manpower, and ration depots. As a result of the hard year just experienced, the supervisor noted in 1920 that the rangers kept so close to their telephones for fire purposes that they neglected their other work.

During the 1920's and 1930's, fire equipment and procedures were steadily upgraded. Road, trail, and telephone systems were expanded to facilitate travel and communications for fire-protection purposes. Portable telephone sets became available and were carried by key personnel. Until 1921, the Idaho City Ranger District could furnish tools for no more than fifty men, and smokechasers sometimes still had to supply their own tools. Most lookouts had tents but no cabins, and the tents, necessarily near a water supply, were therefore some distance from the mountaintop. The Graham Peak lookout walked seven miles along Horseshoe Creek each day to work. The Trinity Mountain lookout walked back and forth from the Trinity Lakes Guard Station each day. The Freeman Peak and Wilson Peak lookouts were both staffed by the same person.

In 1922, a central fire dispatcher was installed in the Payette National Forest's summer supervisor's office in Cascade, and a full-time dispatcher was assigned to the forest. When Guy Mains was transferred to the Boise National Forest in 1925, he set up the same position there.

The Clarke-McNary Act of 1924 strengthened cooperation between the Forest Service and the states; and in 1925 the SITPA-national forest relationship was strengthened. In addition, the state forestry law, which the supervisor of the former Payette National Forest helped frame, provided for a State Forestry Board empowered to enforce fire regulations and slash-disposal practices on cutover timberlands.

During the 1925 season, 42 acres were burned by 153 fires on the old Boise portion of the forest (compared to 151 acres burned by 58 fires on the same forest area in 1922). A dry-lightning storm on August 19 and 20, 1925, started 60 fires on what was then the Boise National Forest.

In 1926, a regional fire manual was written and distributed. "Seen-area" maps were prepared for the lookouts, several new lookouts were established, and cabins were built for the old ones. Jackson Peak was one of the new ones, and cabins were built on Bald Mountain and Lava Mountain. Fire training was stepped up in 1926; before then it was not standard practice, and training was spotty and sporadic. Finally, in 1929, fire training was organized on a school basis. The same year a Pacific Marine Type M gas-operated pump was first used on fires on the Boise National Forest. Training, with practice on a brush-burning job, was provided to familiarize rangers and guards with its use. Standard smokechaser outfits were made up in 1930, the offspring of the tool cache system that had been established and continued in use throughout the forest. Following the No. 2 shovel came the Koch tool,<sup>5</sup> then the No. 1 shovel, and finally the lightest and most useful of all, the Baby shovel. The Indian backpack pump also came into use about this time. Another early tool valuable in firefighting was the pulaski, a single tool with an axe on one side and a grub hoe on the other, permanently mounted on a double-bitted axe handle.

The 1931 fire season was very severe, and the Quartzburg fire of that year was the worst conflagration in the forest's history. Well over 40,000 acres were destroyed by this fire before a force of 1,000 men finally brought the flames under control. Weather factors that summer created tinderbox conditions on the forest and throughout the state. This lightning-caused blaze swept through the slashings of cutover land so rapidly that men were at times hard pressed to keep out of its path. Two pickup laborers were killed when they disobeyed their foreman's orders, and the flames jumped the road on which they were taking refuge. Starting west of Quartzburg on August 19, 1931, the fire gained a head start because available firefighters were still on the Macks Creek fire, which burned 22,000 acres east and north of Shafer Butte the same year. One retired Forest Service employee recalls returning with a crew to Cascade after putting out a fire on West Mountain, to find nobody at the Forest Service office; they were all down in Garden Valley fighting the Boise Basin fire. All he found was a note with instructions to sit tight and take care of everything until further notice. "We supplied their equipment needs out of Cascade. And we had three other good-size fires break during that time--2 to 3 thousand acres. I only lived about two blocks from the office, and I don't believe I was home more than two or three times in that 3 weeks. We didn't have overtime in those days."<sup>6</sup>

The flames destroyed part of Granite City, most of Quartzburg, and the Gold Hill mine. Placerville was saved only through the determined efforts of the townspeople. Some buildings at the Missouri mine on Big

Muddy Creek, the Charlotte Gulch sawmill, the Golden Age mill on Grimes Creek, and many flumes were destroyed. Placerville and Quartzburg were evacuated; the residents loaded belongings on wagons and moved out, camping in the hills away from the fire, and a baby girl born in the camp was named Smoky.<sup>7</sup>

At the same time as the Quartzburg fire, there were twenty other fires burning south of the South Fork of the Payette River, and another lightning storm started a fire near Centerville that burned 1,500 acres and then combined with the major Quartzburg fire. On August 23, the forest was closed, and Idaho's Governor C. Ben Ross issued a proclamation banning camping and smoking on Protective Association lands.

Incendiarism in the area added to the difficulties. It was suspected that the hard times of the depression period and the absence of active fire control recruiting inspired men in need of employment to create it by keeping fire activity going. Governor Ross declared martial law for a short time in that part of the state. A truckload of suspects was picked up in the fire area and sent to Cascade. Glen Smith recalls being told to hold them and turn them over to the National Guard, who were expected that evening. The dissident firefighters, above forty in number, thought they were being sent to another fire. They arrived at the Cascade Ranger District Office about dark and Smith arranged for them to be unloaded and fed. They could not be allowed to go on into the town, and they were getting rowdy. Smith herded them into a large log building used as a carpenter shop and stationed two men outside the door with pick handles to prevent any attempt to escape. The National Guard arrived the next morning and removed them from the fire area altogether, taking them to Boise.<sup>8</sup>

Many of the fires in the northern part of Boise Basin burned together, and a total of over 60,000 acres of national-forest land burned in August of 1931. Bulldozers were used on these fires--one of the earliest use of 'dozers for fire suppression. Communication consisted of messengers and telephones. Glen Smith recalls that often men and equipment had to be dispatched on the basis of the volume of smoke and the lookout reports. "That was always the curse of the dispatching business. You could never hear back as to what was going on."<sup>9</sup>

One of the results of the disastrous season of 1931 was that fire planning was subsequently done on a project-fire basis. In addition, the CCC labor that became available in 1933 was used to a great extent to improve buildings and trails needed for better fire control. Roads were built in 1933 and 1934 by the CCC to Scott Mountain, Deadwood, Bear Valley Mountain, Whitehawk, and Gold Fork lookouts. Fire protection also benefited indirectly from the campground improvement and construction done by the CCC's during the mid-1930s, since the campgrounds helped to limit man-caused fires. In 1931, 54 percent of the total fires were man-caused; in 1935, 15 percent. In 1931, 83 percent of the camper fires were Class A; 13 percent, Class B; and 4 percent, Class C. In 1935, all camper fires were held to Class A.<sup>10</sup>



The Elk Creek fire of 1934 on the Idaho City Ranger District started in logging slash of the Boise-Payette Lumber Company, though the exact origin and cause were never determined. The first day the fire swept over 10,000 acres, and by the end of the third day it had consumed 17,000 acres. Over 800 firefighters were used to control the fire.

Beginning on July 19, 1935, the Dry Creek fire burned a total of 21,000 acres, of which 5,500 acres were inside the forest boundary. Starting on the cheatgrass slopes outside the forest and fanned by a high wind, the fire quickly reached major size. One CCC enrollee of Camp McConnell in Boise lost his life while trying to outrun the rushing smoke and flames. There were 398 men on the forest portion of the fire. A regional supply depot, including a 200-gallon pumper unit, was located on the forest warehouse lot that year, and a stone-base lookout house was built on Danskin Peak.

About this time the first radios were used experimentally between lookouts. They were heavy and awkward, and it required a pack string to carry one with tools and equipment to set it up. The Forest Service pioneered the development of the two-way radio and had perfected portable two-way radios before World War II, when the Army requisitioned Forest Service radios until they could get them produced elsewhere. As late as the 1950's, the Army and Navy still sent their sets in to be tested at the Forest Service radio laboratory in Beltsville, Maryland.<sup>11</sup>

In 1936, two other experiments in fire control were done on the Boise National Forest. The first was an effort at improved detection by use of a periscope borrowed from the Navy. The test, conducted on Shaffer Butte, was only fairly successful because of limitations in the field of view and awkwardness of movement. The second idea was the synchronized section detection scheme, which was used during the peak fire season. It consisted of a master control azimuth map on which all lookout points were plotted to cover the greatest possible seen-area at any one time. By advance notice, the lookouts were to start at a given time in one of the sectors into which their azimuth had been divided, and then proceed to the next sectors at three-minute intervals.

Fuel-type mapping of the entire forest was done in 1937. Organized on a nationwide basis, the survey endeavored to classify all forest fuels for fire purposes on the basis of rate of spread and resistance to control.

Increased training and improved equipment and procedures were in use by 1939. There were now thirty-two lookout radio sets on the old Boise part of the forest. The CCC had become an effective firefighting force through both intensive training and experience. The "one-lick" or "step-up" system of building fireline was adopted: a crew of men are spaced several feet apart and each man turns a shovelful and moves on, keeping the crew moving while the fireline is rapidly lengthened. This "step-up" method is still used by trained crews.

The Phillips Creek fire of about 1,200 acres was the major fire of 1939. The 1940 and 1941 seasons were fairly easy fire years; the latter season left the Boise National Forest with 131 fires, 37 of which were man-caused. A total of 681 acres of national forest land was burned, with an estimated loss of \$2,258. The former Payette National Forest had its mildest fire season in ten years.

The manpower shortage caused by World War II made itself felt in 1942. It was difficult to find firefighters. A Forest Service employee would drive a car through the streets with a man speaking through a bullhorn asking for firefighters to report to the Forest Service. Many crews were made up of older men, young boys, and often men picked up out of bars. Some Mexican nationals were brought in to fight fires. As clerk, Margaret Bartmess checked in the Mexican nationals as they boarded the fire-bound bus to be sure they had proper boots and clothing. Once she noticed that at least thirteen of the men had boots just alike; and it was discovered that only one of the men had a pair of boots. When he boarded the bus, he passed them out the back window to another in line, and the same pair of boots was checked through again and again.

The driest year for several years, 1942 brought a concentration of lightning in August that resulted in the 1,700-acre Caton Creek fire. The Banks fire occurred in October 1942. Soldiers from Gowen Field were used on both of these major fires.

In addition to the manpower shortage, fire control problems were increased by the Japanese incendiary balloon attack. The balloons were intended to start fires, especially in the heavily forested Northwest; cause destruction; distract United States manpower from the war effort; and undermine the morale of the people. The long-range balloons were made of several layers of rice paper, usually gray, white, or green-blue and were about thirty-three feet in diameter. They were unmanned but contained incendiary devices, and some were very explosive. They floated across the Pacific Ocean on a natural air stream at about 45,000 feet elevation. To counteract the Japanese balloon effort, the Army, Army Air Force, Bureau of Land Management, National Park Service, and Forest Service each sent a representative to work out plans to resist this attack and to keep any news of Japanese balloon landings from reaching the newspapers or other news media. In this way they hoped to keep the Japanese from learning the exact time the balloons arrived, their locality, and their effect. This information would have enabled the Japanese to evaluate the results and possibly to correct their methods. The combined task force in the Boise National Forest area had 270 ground troops, 32 scout aviators, and an agreement with Gowen Field for planes, if needed, plus 30 or 40 paratroopers. The counter-effort against balloon attack was one of the best-kept secrets of World War II. Citizens and newsmen cooperated in keeping reports of balloon sightings from reaching the news. During the spring of 1945, over 1,100 balloons landed in western North America, most of them in Oregon and Idaho.

Eight people were killed; 288 balloons came into the Boise area. Few started fires--partly because they arrived too early in the spring, before the dry season.

The wartime manpower shortage hastened the widespread use of smokejumpers in fire control. Their use was based on the theory that if a fire could be reached quickly, before it spread, fewer men would be required to put it out. As a result of successful experimental jumps made near Winthrop, Washington, in 1939, the Northern and Northwestern regions of the Forest Service each organized a small squad of smokejumpers for the 1940 fire season. The program grew, but wartime manpower and equipment shortages reached a critical stage for the smokejumper program in 1942. The equipment shortage led to experimentation and development of better chutes. The manpower shortage was eased by volunteer conscientious objectors to military service. By 1945, bases were maintained at Missoula, Montana; McCall, Idaho; Twisp, Washington; and Cave Junction, Oregon. Observers for the U.S. Army visited the parachute training camp at Missoula in 1940 and later employed Forest Service techniques and ideas in organizing the first army paratroop training. In 1945, the 555th Battalion of Paratroops (an all-black unit) was trained in timber jumping and firefighting to combat the Japanese balloon fires. Since the balloon menace did not seriously materialize, the 300 paratroopers were used as auxiliary suppression crews on large fires in Regions 1, 4, 5, and 6.<sup>12</sup> Ford Trimotors and Curtis Travelairs were favorite planes for carrying smokejumpers and Forest Service cargo. The Ford Trimotor's high-lift airfoil enabled it to fly at low speeds among high mountain peaks; its stout landing gear allowed it to land on wilderness airstrips too rough for more modern planes.<sup>13</sup>

In 1944, lightning storms between July 19 and August 6 caused approximately sixty fires on the Boise National Forest. Of these, the Lambing Creek, Corral Creek, and Barber Flat fires were the most serious. About 100 black soldiers from Gowen Field were used on the Barber Flat fire. There were also twenty-nine man-caused fires, of which three resulted in convictions. Several man-caused fires occurred as an indirect result of the Anderson Ranch Dam construction. Smokejumpers were used on two fires on the Boise National Forest in 1944. The largest fire of the 1945 season was the Danskin fire of about 13,000 acres. There were over 21,000 acres burned that year in a total of ninety fires, of which twenty-six were man-caused.

Following World War II, more technical innovations were introduced. The use of radio communications between certain lookouts was soon expanded to include all lookouts, later dispatchers, then ranger stations, guard stations, and project camps. Mobile and portable radio sets came into common use. The use of aircraft in transporting smokejumpers was logically expanded to include detection flights. This eventually resulted in certain lookouts being abandoned, as better coverage could be provided at more appropriate times by airplanes. Improved communications, aircraft and helicopter use, and more and better roads all contributed to the elimination of some lookouts over the years.

A bad lightning year in 1946 turned out less disastrously than might have been expected; 191 lightning-caused fires and 36 man-caused fires burned only 2,000 acres. Three more destructive years followed. In 1947, which included the fire on Second Fork (Squaw Creek), over 8,000 acres were burned by 136 fires. In 1948, 11,400 acres were burned by 102 fires. Also in 1948, the Idaho City smokejumper unit was put into operation, with ten jumpers assigned to it.

In 1949, the Cache Creek fire was the major one of 292 that burned a total of 4,887 acres. Comparatively easy fire years followed: 1950, 110 fires burned 145 acres; 1951, 135 fires burned 639 acres; 1952, 133 fires burned 796 acres; 1953, 178 fires burned 971 acres; and 1954, 142 fires burned 299 acres. The Robie Creek fire in 1955 brought an abrupt end to the period of easy years. Robie Creek accounted for 8,310 of the 8,379 acres burned from 98 fires in that year.

Helicopter use in fire control began to come into its own in 1954. No helicopters were under contract to or stationed on the Boise National Forest, but on several occasions a helicopter belonging to the Gem Helicopter Service was pressed into service. Charles Enlow, a retired fire control officer, considers the use of the helicopter one of the greatest improvements in fire control. The helicopter can quickly place men close to the fire and give them an overall view of it while flying in, and the men arrive fresh with complete equipment. This is a great improvement over the days when firefighters had to take precious time walking in, often arriving at the fire scene too tired to even think straight.<sup>14</sup>

The Increased Manning Experiment was initiated in 1955. The Boise National Forest was one of eight in the nation to be involved in this program. Before 1955, fighting fires was considered a part of the job of almost all Forest Service personnel: whenever a fire occurred, everyone worked on it, though there were perhaps only one or two fire specialists on each ranger district. The Increased Manning Experiment stationed specially trained fire crews on each district during fire season. When not engaged in firefighting, the crews worked on trails, roads, and campgrounds. These crews were so successful that fire crews are now an accepted part of fire season in national forests.

Aerial retardants were first used on the Boise National Forest in 1957. A Ford Trimotor was rigged with two 275-gallon tanks and, on a \$3,000 budget, proved effective in spreading liquid borate on several fires. TBM aircraft were used for aerial retardant drops by 1958. The use of large air tankers is an important change in the fire manager's tool bag since the mid-1960's. They have been of tremendous help in holding fires until men can get to the fire and build a control line. Types currently in use within the Forest Service include C-119s, B26s, PB4Y2s, C-54s, DC-6s, DC-7s, and P2Vs. Some of these carry up to 3,000 gallons of retardant, compared to 600 carried by TBMs. Also, the pilots are seasoned professionals in contrast to the adventurous men who flew some of the early air tankers. Fire retardants change from year to year;

among those recently used on the Boise National Forest by drop planes are Chemonics Firetrol 931, a liquid concentrate retardant blended 4:1 with water and called by the nickname "LC," and Phos-Chek, a dry powder chemical mixed with water for use.

In 1959, for the first time, helicopters were assigned to the Garden Valley and Cascade ranger districts during periods of lightning activity. Small bulldozers were used on several fires and found to be extremely effective. The John Deere 440 tractor was able to operate safely on steeper slopes than the larger tractors previously used. The Lucky Peak fire was the major fire of the 1959 season, denuding about 10,000 acres of critical watershed land above Boise. Only about 260 acres of national forest land was burned. Denudation by the fire, followed later by a heavy rainstorm, resulted in damaging floods in and near Boise.

An analysis was made of the lightning concentrations of the 1959 season, including the resulting fires and subsequent action. Information that resulted from this analysis brought out many strong and weak points in the Boise National Forest's fire-control efforts and produced valuable recommendations for improving fire action. One outgrowth was the establishment of a 30-man "hotshot" crew in Boise in 1960.

June of 1960 was the driest June in twenty years. Temperatures in mid-July reached 111° in Boise. The total number of fires that season was exactly the average of the ten previous years, but the area burned was about twelve times the average. The adjacent Thorn Creek and Cold Springs fires totaled about 9,000 acres and destroyed much merchantable timber.

A warm dry May in 1961 resulted in two lightning fires on May 24, an unusually early start for the lightning season. The man-caused 5,000-acre Holbrook Ranch fire occurred on June 25--one of the earliest dates that a fire of this size had ever occurred. The critical conditions of weather, fuel, and topography combined to provide blowup conditions, and the fire raced over 4,000 to 5,000 acres in about 4 1/2 hours. The Vooland Gulch fire, also man-caused, broke out before the Holbrook Ranch fire was out. The Carter Ranch and Blue Bunch Mountain fires were the other major contributors to the 7,684 acres burned in 1961. All but the Carter Ranch fire were man-caused.

Thunderbolt Lookout was rebuilt in 1961 and 1962 with a helicopter instead of pack animals to haul construction materials to the site. Helicopters were also used extensively on the Blue Bunch fire because of the ruggedness and inaccessibility of the fire's location. There was no formal contract for air tankers, but several were available. By the season's end, B-25s, TBMs, a PV-2, and a B-18 were all pressed into service. An air tanker base was set up at Bruce Meadows about midsummer and was improved for use the next year.

Two fires were started by airplane crashes on the Boise National Forest in 1962. A light plane crashed in Range Creek, killing the two

occupants and starting a fire that was controlled by smokejumpers. An Air Force B-47 crashed near Packer John Mountain, killing the three crewmen and scattering flames over several acres. Of the 189 fires in 1962, burning 550 acres, 36 were man-caused. The record of 292 fires in 1949 was broken in 1963 with 292 lightning-caused and 30 man-caused fires. Forest Service personnel also aided on eleven fires outside the protection boundary. Three lightning storms accounted for 213 fires. Over 150,000 acres of BLM grazing land adjacent to the forest burned in 1963. The Shafer Creek fire of 700 acres and the Rock Creek fire of 500 acres were the only major lightning fires.

Another fire-management aid used since about 1968 is the infrared scanner. An airplane can fly over a fire at night, record heat images of the flames and terrain, and have detailed pictures in the hands of a fire boss within two or three hours. This helps remove guesswork when smoke obscures most of the fire area.

The concept of a cooperative fire-control center began to grow in the late 1950's and early 1960's. After extreme fire losses in 1963 and 1964, the BLM also began pushing for such a center. Congress approved, and construction was begun in 1967 on the Boise Interagency Fire Center. This is a cooperative venture of the Forest Service (Department of Agriculture), Bureau of Land Management (Department of the Interior), and Weather Service (Department of Commerce). Other agencies that have joined in more recently are the Bureau of Indian Affairs and the National Park Service. There is some liaison with state firefighting agencies. The original idea was to combine fire control operations for major fires in the western contiguous United States. A fire emergency in Alaska soon extended the field of service to include that state, and recent operations have included fires in Florida and the Lake States. Aid has also been extended to Canada at times. The Boise Interagency Fire Center is the only one of its kind, in which the agencies have united on a national basis. Through this center, 10,000 firefighters and tons of equipment can be moved from fire to fire with precision, without duplication, and with the latest in equipment, training, and "knowhow."

Some statistics published in 1969 indicate the improvements in fire control through the years. Over the previous sixty years, the average size of a forest wildfire occurring within the national forest protection boundary steadily decreased. In the decade from 1910 through 1919, the average fire burned 231 acres before being controlled; in the decade ending in 1969, the average fire burned only 14 acres. This reduction resulted from the increased efficiency of firefighting crews and from improvements in attack and support equipment both in the air and on the ground.<sup>15</sup>

Prescribed burning, aside from burning logging slash, has been used on the Boise National Forest for sagebrush control. Prescribed burning is also useful to reduce fire fuels in the forest and thus prevent rampant wildfires.

Many fires are beneficial. The Boise National Forest has not yet reached the point of allowing wildfire to burn. There must first be a detailed management plan determining where fire could be beneficial without doing serious harm to other values in the forest. There is a Natural Fire Management Plan for the Sawtooth Wilderness and some adjacent lands that includes a portion of the Boise National Forest. Under this plan, natural (lightning) fires may be permitted to burn as long as specific conditions or prescriptions are met.

<sup>1</sup>K. D. Flock, interview with the author, Boise, Idaho, May 12, 1975 (transcript in the files of the Boise National Forest), p. 3.

<sup>2</sup>Guy B. Mains, "From Teapot to Airplane," Alumni Bulletin (April 1921), pp. 13-14.

<sup>3</sup>An alidade is a flat, circular mapping instrument installed in lookout stations, by which a person can measure bearings to fires in a manner similar to compass readings, to determine the location and size of a fire.

<sup>4</sup>Old Timer News (June 1973), 11/2: 28.

<sup>5</sup>A Koch tool is a three-piece tool that can be taken apart for packing. It consists of a handle on which could be mounted a grub hoe on one end or a shovel on the other.

<sup>6</sup>Smith, interview, pp. 22-23.

<sup>7</sup>Berry, interview, p. 41.

<sup>8</sup>Smith, interview, pp. 23-24.

<sup>9</sup>Ibid., p. 15.

<sup>10</sup>Present classifications of forest fires by size are: Class A, 0 to 1/4 acres; Class B, 1/4 acre to 9 acres; Class C, 10 to 99 acres; Class D, 100 to 299 acres; Class E, 300 to 999 acres; Class F, 1,000 to 4,999 acres; Class G, over 5,000 acres. Classes A, B, and C are considered small fires. The term "project fire" is used for fires over 300 acres.

<sup>11</sup>Smith, interview, pp. 17-18.

<sup>12</sup>History of Smokejumping (Missoula, Montana: Northern Region, Forest Service, U.S. Department of Agriculture, 1974).

<sup>13</sup>Randle M. Hurst, The Smokejumpers (Caldwell, Idaho: Caxton Printers, Ltd., 1966), pp. 27-34.

<sup>14</sup>Charles Enlow, interview with the author, Boise, Idaho, September 12, 1975 (transcript in the files of the Boise National Forest), p. 11.

<sup>15</sup>National Forests Fire Report (Washington, D.C.: Forest Service, U.S. Department of Agriculture, 1969).



## IMPROVEMENTS AND ENGINEERING

When the Sawtooth Forest Reserve was established in 1905--and even later, when it was divided to form the former Payette and Boise National Forests--the first "improvements" or man-made alterations available to Forest Service personnel were whatever had been abandoned by earlier miners and trappers. The wagon roads and trails in existence were used for travel, and abandoned cabins and shacks were used as ranger stations and guard stations. Fortunately, many of the first rangers had homes or farms of their own.

Except when fire-control duties took priority, early rangers and guards spent much of their time on construction and maintenance of trails and stations. Spending was limited to \$300 per building. By 1907, more than forty sites had been located and surveyed for ranger stations. One of the first of these to be built was the Crawford Ranger Station, which consisted of a two-room cabin, horse pasture, and chickenhouse. In 1908, a two-room cabin was built at Garden Valley and a four-room frame house was built at the Ola Ranger Station (near Ola Summit). Abandoned cabins at Stolle Meadows and in Peace Valley were repaired and used, and a cabin was built and apple orchard planted at Third Fork. The Bear Valley Ranger Station was built at Big Meadows about 1909. It consisted of a cabin, barn, and pasture fence. A cabin was built at the Deadwood Ranger Station in 1910 and at Gallagher in 1911. About this time, the \$300 limit per building was raised to \$650. In 1917, District Ranger Elmer Ross used his own money to buy the land for the Idaho City Ranger Station and donated it to the Boise National Forest. He also put his own money into the first building.

Because the years from 1908 to 1919 were light fire years, forest personnel had additional time for construction and maintenance. The first telephone-line construction began on the former Payette National Forest in 1908 with the purchase of a private line from Crawford to Knox. The line was then connected with Van Wyck, Thunder City, Smith's Ferry, High Valley, Ola, Sweet, and Emmett. The Forest Service operated a "central" switchboard at Crawford (near present Cascade) for many years, until private use of the line became too much of a burden for the Forest Service. In 1910, the former Payette National Forest bought the telephone lines from Thunder City to Roosevelt (built in 1903) and Garden Valley to Peace Valley for \$100. The lines were then moved to connect Knox, Stolle Meadows, Blue Point, Deadwood, and Bear Valley. A line was also built from Third Fork to Mill Creek. Costs of phone-line construction were from \$40 to \$60 per mile, and the cost of cutting and peeling poles was 30 cents apiece.

Leo Fest, a retired ranger, tells of repairing phone lines in the early 1920's between Third Fork Ranger Station and Cascade:

I finally got the line pulled together and I was working on it. I had fastened the come-alongs on one line at one end of

it, and had the other in my hand ready to fasten, when somebody decided to ring. They put four long rings through, and didn't want to let loose of that line because I knew I'd have to go back down the hill a hundred yards or so to get it back.<sup>1</sup>

Later, when Fest was ranger at Cottonwood (1927-1937), the only phone line out from Atlanta and from Smith's Prairie came through Cottonwood Ranger Station and then went over Bald Mountain to Idaho City. The line had to be maintained by the ranger in the winter. Fest said:

I made two very difficult trips over Bald Mountain to Idaho City in the middle of winter to repair that telephone line.... I used snowshoes....We had an old cabin up on top of Bald Mountain in which we kept a little bit of grub stored, down in a pit in the ground, under the floor....I picked up a neighbor and he went with me....We were just out overnight. One day up and one day back. One time the line was about four inches in diameter, with snow and ice. That was probably what broke the line.<sup>2</sup>

Glen Smith considers the old "tree-to-tree" phone lines the best telephone system the forest ever had.

As long as the wire was together, you could talk on it, even though it was down on the ground....We had a switchboard in Cascade, just in the office, or a box with a series of bells and a spring in between so you could see which one was vibrating if you didn't get there in time to hear it. And we could talk pretty well around the Forest....The first work in the spring when the ranger would move out onto his district and his seasonal men would come on was to start working the trails and the telephone lines. Cut the logs out of the trail and work the telephone lines as they went. Their first job was to get the telephone lines talking.<sup>3</sup>

For about ten years, beginning in 1911, the rangers on the former Payette National Forest spent their winters constructing a road up the South Fork of the Payette River. After the field season was completed, rangers were brought in from several districts to spend the winter working on the road. The road work was done with teams of horses, plows, scrapers, handtools, and hand labor. The handtools consisted of shovels, crowbars, picks, mattocks, sledge hammers, and hand-operated drill

rods.<sup>4</sup> This was one of the earliest roads constructed by the Forest Service in the Intermountain Region. It was a very low-standard road, only wide enough to accommodate passenger cars and light trucks--really just a shelf above the river. Hay, grain, and vegetables were raised at the Garden Valley and Gallagher ranger stations to supply the rangers on the road crew. One winter the crew had a tent camp on Timber Point. After work one night, the crew returned to their camp to find that a snowslide had wiped out the camp and the blacksmith shop, which had been used to sharpen hand steel. Both camp and shop had been carried by the slide into the South Fork several hundred feet below.<sup>5</sup>

Leo Fest recalls working on the South Fork road in 1918 or 1919. He and George Fisher maintained the road from Banks to Garden Valley and into Placerville that year. One ton of hay for their four head of horses cost \$53 shipped from Emmett to Banks on the railroad, while hay was selling down in the valley for \$7 or \$8 a ton.<sup>6</sup> During and after World War I, the Deadwood bridge was built and the road extended to Lowman, then to Bear Valley, Landmark, Yellow Pine, and Stanley.

In 1915, the Oregon Short Line Railroad was completed from Nampa to McCall. Prior to that, all administrative travel from Emmett to Long Valley was by horse or wagon. Five years later, in 1922, the wagon road from Horseshoe Bend to Banks and Smith's Ferry was located high above the Payette River. It was a very narrow road with a few turnouts for traffic to pass. At Smith's Ferry, the road crossed the river to Round Valley summit and went on through Round Valley and Cascade and on to McCall. In the summer when the roads were maintained and dry, it took from six to seven hours in a Model T Ford to travel from Emmett to Cascade, a distance of about seventy-five miles. The route was closed during the winter.<sup>7</sup>

George Kreizenbeck, retired Forest Service engineer, started his Forest Service career in 1922 on the former Payette Forest. He recalls that there were few roads or trails in the forest at that time. The roads that did exist were low-standard, from ten to twelve feet wide. Most of the trails were ways that had been blazed by shepherders, camp tenders, and prospectors. The Clear Creek-Stanley road was already in existence, running from Lowman up Clear Creek, over Clear Creek summit through Bear Valley to Fir Creek summit, down to Stanley, and on to Salmon City. The drainage structures were made of native timber and all the wet sections were covered with corduroy made of native poles.<sup>8</sup>

One of Kreizenbeck's first tasks under Supervisor Guy Mains was to go to the railroad at Banks, unload an Army 10-ton Holt crawler tractor, and take it to the Bear Valley Ranger District where he was to construct roads and bridges. The tractor was Army surplus and entirely enclosed with half-inch armor plate, as the War Department had used this type of tractor in World War I to pull machine guns. Up to that time, all forest road equipment on the old Payette had been horse-drawn. Kreizenbeck drove the tractor to Garden Valley Ranger Station, picked up a wagon loaded with operating supplies (gas, oil, grease, and a little food),

and headed for Bear Valley via Lowman and Clear Creek and over Clear Creek summit. The trip took three days.

Between August and October of that year, a twenty-five-man road crew built a road from the Clear Creek junction to Deer Creek pass and three major bridges (one at Bear Valley Creek and two on Elk Creek). In addition to the Holt tractor, six teams of horses were used. The horse teams were used to do the grading work, pulling plows and scrapers. The tractor was used to do the right-of-way clearing, skid bridge timbers, and pull the road grader. As the tractor had no dozer blade or other front-end attachments, it could only be used for towing from a rear-end drawbar. It was the first tractor owned by the Intermountain Region of the Forest Service.

The bridges were built of native timber. The abutments and piers were made of native piling, and the decking was of round poles. The tops and bottoms of the poles were hewed with an adze to make the tops level and provide a smooth road surface. The bridge crew lived in tent camps and the men furnished their own bedding. They slept on the ground, with pine boughs as mattresses.<sup>9</sup>

Kreizenbeck recalls that in 1923 the former Payette National Forest had two Army surplus trucks, a White and an International, with solid rubber tires. Whenever there was a wet spot with a slight upgrade, tire chains were necessary to keep the tires from sliding. The trucks, whose open cabs had let-down tops and no windshields, were cumbersome.<sup>10</sup>

The years from 1925 until about 1937 were years of rapid development of facilities. Cost restrictions had been raised to \$2,500 per building, and in those years over forty buildings were either rebuilt or replaced. During the same time, over 400 miles of trails were constructed or rebuilt and 400 miles of telephone line were strung. In 1925, plants were set up at Garden Valley and Crawford to creosote telephone poles for the expanded telephone system.

There was no through road from Cascade via Warm Lake, Pen Basin, and Deadwood to Bear Valley until 1925. The section from the Deadwood mine to Pen Basin was constructed with cooperative funds provided by the Deadwood Mining Company and matching funds from the federal government.<sup>11</sup> In 1925, the former Payette National Forest, in cooperation with the private Yellow Pine Syndicate, constructed a road from Knox down the South Fork of the Salmon River, and it was continued in 1928 up the East Fork of the South Fork. The forest and the syndicate shared the work and costs on a 50-50 basis. A double shift was used in the work on the Knox-South Fork road, believed to be the first double-shift road construction in the Forest Service's Intermountain Region. Two carbide floodlamps and twelve Coleman lanterns were used on the night shift. Much of the road work in the next decade was done by Civilian Conservation Corps workers and is discussed in the section on the CCC.

The former Payette National Forest received a crawler tractor with a front-end dozer blade made by Best--one of the first tractors equipped

with a bulldozer--in 1928. It was a boon to road construction. Two years later, the forest received two more tractors, a Caterpillar 30 and a Caterpillar 15, both equipped with hydraulic angle dozers. They were a big improvement over the 1928 dozer with its square blade and lack of downward pressure. Later the forest also received a one-ton dumptruck with a dump body that had to be raised with a hand crank. At the same time, a small cletrac tractor and motor grader joined the collection of equipment. The grader, similar in design to those made now, was powered by a Fordson tractor, with crawler tracks mounted under a grader frame. Although these units were used to do road maintenance work, they were not very satisfactory machines.<sup>12</sup>

During World War II, in the interests of the war emergency, the roads from Cascade to the Stibnite and Deadwood mines were kept open year-round by Forest Service crews and equipment. Snow was removed and road surfaces were maintained continually to facilitate transportation of vital minerals from these mines. The winter season of road maintenance lasted for approximately four months each year, with a maximum of five crews of from five to ten men each. The equipment consisted of road graders and tractors with graders. Soot was sometimes spread on the snow to hasten melting. There was no new construction during the war, but plans made during it called for 2,306 man-years of work for the first year after the war at an estimated cost of \$4,824,939.

When the former Boise National Forest was combined with the former Payette National Forest in 1944, the position of forest engineer was established on the new Boise National Forest. Before that time, all engineering had been done by men sent out from the regional office. This was the first time that a single national forest had established the position. George Kreizenbeck, at first equipment operator on the former Payette and later regional superintendent of construction, was assigned to the new position. He was the sum total of the engineering department on the Boise National Forest for several years thereafter.

After the war was over, the forest engaged in a large program of road construction, building, and bridge replacement for timber access. Before this time, all the roads were built to a low standard that would not accommodate the heavy modern trucks necessary to remove timber from the forest to the sawmills. Most of the sawmills were located outside the forest, and much of the timber had to be trucked more than one hundred miles over mountain roads.

All the bridges built in the earlier years were made of native untreated timbers that had a life expectancy of ten to fifteen years. Between 1945 and 1965, over 200 bridges on the Boise National Forest were replaced. Some of these were major trail bridges located in the Primitive Area. Materials were either air dropped or flown to the nearest landing field and then packed in to the bridge site.

In 1950, the Boise National Forest began an extensive road-survey program and an overall road system was planned. The forest also insti-

tuted a policy of requiring timber purchasers to do road construction work as part of their timber-sale contracts. A staff of professional engineers was needed to handle the construction surveys, building and road designs, and construction supervision. The first timber-purchaser-constructed road on the Boise National Forest was a small project on the road up Second Fork Creek. The work required some improvement of the existing road and approximately one mile of new construction. Carlock Brothers of Ola was the timber purchaser.<sup>13</sup>

During 1951, a survey was made for a twenty-four-mile section of road through the Deadwood River canyon from the mouth of the Deadwood River on the South Fork of the Payette River to Deadwood Dam. The Deadwood is a very deep canyon with cataracts, falls, and steep slopes. Because of the danger of possible damage to the whole river system, this road was never built. A later survey, in 1957, resulted in construction of seven miles of road up toward Deadwood from the South Fork to the first crossing of the river, including a bridge across the river. Most of this road was built on the mountainside, staying out of the bottom of the canyon.<sup>14</sup> The remaining section has been resurveyed several times but never built. Over \$100,000 was spent in 1964 and 1965 on stabilization of the existing road.

State Highway 21 from Boise to Stanley is a Forest Highway route for most of its length. It was completed to highway standards in 1975, although it had been opened as a through route in 1965. However, some type of construction on this road has been going on since the early 1920's. The highway was one of the dreams of Emil Grandjean when he was supervisor of the Boise National Forest between 1907 and 1920. The portion from Boise to Idaho City--a gravel road by 1925--followed the route of the Intermountain Railway. This portion was paved by 1942, and work progressed slowly to Lowman and up the South Fork of the Payette River. National forest highway funds, public-land funds, federal-aid primary funds, state funds, and emergency relief funds have been used. The Army Corps of Engineers paid for the steel cantilever bridge over Mores Creek (which cost \$1 million) and the relocation of the route from Lucky Peak to Robie Creek as part of the project costs associated with construction of Lucky Peak dam and reservoir. Highway 21 reduces by one hundred miles the travel distance between Boise and Stanley and is one of the most scenic roads in Idaho.

The 1944 Boise National Forest engineering force of one had been expanded to eighteen by 1960. At that point, consulting engineering firms were then contracted with for about two years to help the forest's engineering department catch up on the backlog of road surveying generated by stepped-up timber-purchaser road construction.

To facilitate management and administration during the period from 1944 to 1960, the Boise National Forest constructed seven new three-bedroom homes, remodeled twenty-two homes, constructed or remodeled twelve mess-halls, and constructed fifteen bunkhouses. During the period from 1958 to 1966, over forty buildings were moved from one site to

another on the Boise National Forest. Recent construction has included three project camps, Diamond Bar, Rocky Bar, and Deadwood Reservoir. These are work camps built to handle mobile units and are used mostly for timber sale and engineering crews.

Lucky Peak Nursery was expanded in 1975 with addition of a new cold-storage facility and expansion and remodeling of the parking facility. The Idaho City Ranger District moved into a new office in 1975. The Forest Supervisor and the Mountain Home Ranger District both moved into new offices in 1982. The buildings were not built or owned by the Forest Service but are operated on a lease basis.

Between 1976 and 1982, water systems were improved at thirteen sites on the forest. A new forest warehouse, vehicle shop, radio shop, and fire-dispatch facility, all under one roof, went into operation in 1979.

The Forest Service has entered into cooperative agreements with Boise, Elmore, and Valley counties for solid waste disposal facilities, which serve nearby communities as well as the forest. Garbage is now hauled greater distances from the Forest Service campgrounds, as these new facilities replace numerous smaller dumps scattered through the forest. In addition, a new sewer system has been installed at Garden Valley Work Center.

Engineering statistics for the Boise National Forest up to August 1982 include 253 bridges; 5,910 miles of existing road; 798 miles of existing trails; 20 landing strips; 20 heliports; and 80 helispots.<sup>15</sup>

- <sup>1</sup>Fest, interview, pp. 23-24.
- <sup>2</sup>Ibid., pp. 24-25.
- <sup>3</sup>Smith, interview, pp. 15-16.
- <sup>4</sup>Kreizenbeck statement, p. 14.
- <sup>5</sup>Ibid., p. 7.
- <sup>6</sup>Fest, interview, pp. 35-36.
- <sup>7</sup>Kreizenbeck statement, pp. 4-5.
- <sup>8</sup>Ibid., pp. 12-13.
- <sup>9</sup>Ibid., pp. 5-6.
- <sup>10</sup>Ibid., p. 14.
- <sup>11</sup>Ibid., p. 7.
- <sup>12</sup>Ibid., pp. 14-15.
- <sup>13</sup>Ibid., pp. 21-22.
- <sup>14</sup>Flock, interview, pp. 8-10.
- <sup>15</sup>Information provided by Jerry Knaebel, engineering branch chief, Boise National Forest.



## CONCLUSION

This short history covers just over seventy-five years, in which the Boise National Forest has developed from the very small and experimental efforts that marked the beginning of the United States's efforts to conserve and perpetuate our natural resources to the highly organized agency that the Forest Service is now. In general, these years have been a period in which the nation became aware that natural resources are not without limit. Much of the story, especially in the early years, is the story of farsighted people who, with dedication, skill, and courage, gave of their best to establish sound methods of resource management. For the most part, they loved that portion of the good earth that was entrusted to their care and they were devoted to the country of which it is a part. The forest stands today, in most instances, in better condition than it was when given to their care. It is in itself a monument to their dedication.

Their guiding principles have been the greatest good for the greatest number--multiple use, the democratic ideal of considering the needs of all people, and sustained yield--so that renewable resources can be used and reused and ever remain as a heritage for future generations. They have served their country well.

It is hoped that this history will preserve information about the Boise National Forest and increase the appreciation of all who read it. The devotion, hard work, and good research that have been done in the past can give us much-needed guidance in the future as our forests play an ever increasing role in making America a good land in which to live.



## APPENDICES



## APPENDIX 1: SUPERVISORS AND HEADQUARTERS LOCATIONS

Because the Payette and Boise national forests were combined into one--the Boise National Forest--in 1944, the following list includes the supervisors on the former Payette as well as the Boise National Forest. From 1905 to 1907, Major Frank A. Fenn was forest supervisor of the Sawtooth, Payette, and Weiser forest reserves, which makes him the first supervisor over what became the Payette and Boise national forests.

### Boise National Forest

1907-1920: Emil Grandjean  
1920-1922: Walter Campbell  
1922-1925: E. C. Shepard  
1925-1940: Guy B. Mains  
1940-1944: Frank Moore

### Former Payette National Forest

1908-1920: Guy B. Mains  
1920-1924: Frank S. Moore  
1924-1925: Guy B. Mains  
1925-1938: Wm. B. Rice  
1938-1940: J. O. Stewart  
1940-1944: Tom Van Meter

### Combined Boise National Forest

1944-1946: Tom Van Meter  
1946-1951: James Farrell  
1951-1954: William G. Guernsey  
1954-1958: K. D. Flock  
1958-1971: Howard E. Ahlskog  
1971-1979: Edward C. Maw  
1979- : John J. Lavin

The headquarters of the Boise National Forest has had several locations within the city of Boise. The first supervisor's office consisted of two rooms in the Idaho Building at Eighth and Bannock streets. In 1925, the offices moved to the Grunbaum Building, also on Eighth Street, where they occupied two rooms and a storeroom over a candy store. In 1929 the office moved yet again in the same neighborhood, this time to six rooms over a drugstore in the Fidelity Building at Eighth and Idaho streets.

In October 1934, the forest headquarters took over the old U.S. Assay Office--constructed in 1870 and a Registered National Historic Landmark--at 210 Main Street. Twenty-nine years later, the supervisor's office proper moved to the Belcher Building at 413 West Idaho Street, although the Forest Service continued to use the Assay Office. In 1973, the Boise National Forest finally had a building all its own, at 1075 Park Boulevard; but it outgrew those quarters in less than a decade and in March of 1982 moved to a new building at 1750 Front Street.

## APPENDIX 2: EARLY MINING METHODS AND TERMS

Placer: a water-borne deposit of gravel or sand containing heavy ore minerals such as gold, which have been eroded from veins, deposited on or near bedrock, and concentrated as small particles that can be washed out.

Placer mining: mining of placer deposits by washing, dredging, or other hydraulic methods. Among the processes used in placer mining are:

panning. The early prospector started with a pick, a shovel, and a gold pan. He partially filled the pan with gravel, added water, and shook the pan with a circular motion that separated the heavier gold from the gravel. As he poured off the water and dirt, the gold remained in the bottom of the pan. A prospector would pan his way along a likely stream; if he found good "pay dirt," he turned to methods that would speed up production.

rocker. A rocker is shaped like a baby's cradle, with the footboard removed and the bottom made of a piece of sheet iron full of holes. Gravel is thrown on this sheet, water poured in, and the whole apparatus rocked to wash the finer sand through the holes. The gold is caught on cleats fastened to the bottom of the rocker. Rockers were used for high-grade gravel (that is, gravel with a considerable amount of gold in it); to break up clay or cemented gravel; and in places where there was insufficient water to run a sluice. Gravel rich in fine gold that might wash through a sluice was often processed in rockers.

sluice box or long tom. A trough ten to twelve feet long and about a foot square at the ends. Sluice boxes were sometimes placed end to end in strings. Gravel is dumped into the troughs and a current of water from a ditch is run into them. The heavy gold particles sink to the bottom, where they are collected behind wooden cleats or riffles. Sluices need an abundance of water at a high enough level to run through the sluice. Ditches, some of them eight to ten miles long, were often dug to bring water to the ground to be sluiced. Shoveling gravel into a sluice was usually done only where the gravel was fairly rich. Otherwise, giants were used. Sluices were considerably more efficient than rockers in their ability to process more gravel and less rich gravels.

hydraulic mining. Hydraulic mining can be used only in areas with extensive deep gravels and access to much water that are mountainous enough to give the water enough fall to develop high pressure. Water carried by ditches or wooden flumes fell through iron pipes and at the bottom was shot through a nozzle with force enough to wash away high bars of dirt and gravel to bedrock. Thus loosened, the gravel was run through lines of sluices to separate and catch the gold. This method of mining was sometimes referred to as mining with a giant. Hydraulic mining was developed in the United States and is used in many parts of the world.<sup>1</sup>

hydraulic elevator: The hydraulic elevator preceded the dredge and was used in the Boise National Forest area in the 1880's. Water from a high ditch is brought down through a pipe to the gravel bed and then lifted by the venturi principle--through a constricted pipe

where the high pressure of the water increases the velocity while lowering the pressure. The water pulls gravel through a side entrance at the bottom of the pipe and up to a level where it can be run through a sluice. This method made it possible to lift bottom gravels to a sufficient height to be run through a sluice. Hydraulic elevators were used in this area as late as the 1930's.<sup>2</sup>

dredge: A power-driven chain of buckets on a barge revolves to bring up placer material from the streambed. On the barge, the gold is separated from the other material and the waste returned to the stream. Dredges were used in flat bottoms that could not be sluiced.

Quartz mining: Following discovery of placers, gold was often found in veins and ledges and was removed by quartz or "hard rock" mining. Treatment of the ore required great investment and heavy machinery to reduce the ore to a fine powder. Various hard-rock mining methods were used in the area of the Boise National Forest.

arrastra: This primitive mill was used in many places in the Boise National Forest. One visitor to the Rocky Bar area in 1864 reported over eighty in operation there. Arrastras were usually built of native materials. An arrastra is a crude drag-stone mill, simple in construction, patterned after a type introduced into the mines of northern Mexico in the middle of the sixteenth century.<sup>3</sup> It could be constructed in several ways: a circular trench paved with flat stones or, in some instances, using near-surface bedrock as floor, and many other ingenious methods of creating a tub-like circle in which ore could be crushed by drag-stones. The center is built up to hold a revolving spindle or shaft; from this shaft horizontal arms extend, to which can be attached the drag-stones (which are often convenient boulders). These boulders are dragged around in the tub and crush the ore by a grinding action. The drag-stone was fashioned in many ways, depending upon the ingenuity of the miner and the availability of materials. The arrastra is used as a fine grinder and is fed with material seldom above three-fourths of an inch in diameter. Horses or water power may be used to move the weights. Later the ore is washed and panned. It is a slow process and was used only if the ore was rich.

Chilian mill: This is similar to the arrastra, but the circular trough is made of metal, with about three wheels several feet high that grind the ore. There were Chilian mills at Rocky Bar.

stamp mill: The stamp is an ore-crushing hammer. Early-day stamps weighed only 800 pounds, but later ones were as heavy as 1,250 pounds for each stamp. There are usually five stamps in a battery. The ore is placed in a heavy cast-iron or steel mortar. Each stamp has a cam that raises the stamp and lets it drop, working the ore fine enough to wash through a screen. The gold is then separated from the powdered rock, usually amalgamated by a mercury process, and converted into bricks.

ball mill: Iron balls are put into a large cylinder with the ore and the cylinder is rolled until the balls grind the ore.

rod mill: A process similar to that of the ball mill. Steel rods are placed in the cylinder containing the ore.

<sup>1</sup>Rodman W. Paul, Mining Frontiers of the Far West, 1848-80 (New York: Holt, Rinehart, and Winston, 1963), pp. 29-30, 90-92.

<sup>2</sup>Robert L. Romig, interview with the author, Boise, Idaho, September, 1976.

<sup>3</sup>Romig, "South Boise Quartz Mines," p. 10.



### APPENDIX 3: TOWNS AND MINING CAMPS

The following is a partial list of towns and mining camps in and near the Boise National Forest during the mining boom or before 1900. Some were post offices for a time, and some still exist.<sup>1</sup>

- ALPHA. South of Cascade. Post office 1818-1954.
- ALTURAS CITY. Small mining settlement at mouth of Yuba River during gold-mining era.
- ATLANTA CITY. Middle Fork of the Boise River. Post office 1867. Name changed to Atlanta in 1870.
- BANNER. On Banner Creek, tributary of Crooked River. Post office 1878-1913. Silver mine located here in 1864.
- BEAVER CITY. Boise Basin.
- BOISE CITY. Post office 1864. Name changed in 1896 to Boise. Headquarters for Boise National Forest and Boise Ranger District.
- BOSTON. Boise Basin; early mining camp at junction of Granite Creek and Grimes Creek.
- BOULDER. Between Idaho City and Graham. Post office 1890-1895.
- BROWNSTOWN. Mining camp up the Little Queens River.
- BUENA VISTA BAR. Across Elk Creek from Idaho City. Early mining camp.
- CENTER. Near Cascade. Post office 1889-1910.
- CENTERVILLE (or Centreville). Boise Basin. Post office 1864-1952.
- CHINA BASIN. North side of the Boise River in the Atlanta area. A camp of Chinese placer miners.
- CRAWFORD. Near Cascade-Warm Lake Road turnoff. Post office 1890-; moved to Cascade, 1915.
- DEADWOOD CITY. In Deadwood Basin. About 1867.
- ECHO. Near Little Camas Reservoir. Post office 1898-1903.
- EMMETT. On the Payette River west of the Boise National Forest. Headquarters for the Emmett Ranger District. Post office 1885-. Earlier Emmettville, post office 1868-1885. Still earlier, Martinsville, post office 1864-1870.
- ESMERALDA. Near Feather River. Post office 1864. Replaced by Rocky Bar in 1864.
- ETHEL'S. On the South Fork of the Boise River near Pine. Post office 1880-1882.
- EUREKA. Mining town near Banner, 1864.
- FORREST CITY. Below "rocky cut" on the old Silver Mountain Road at the head of Pike's Fork.
- GRAHAM (also known as Silver Mountain). On the North Fork of the Boise River, twelve miles upstream from Deer Park. Post office 1890-1892.
- GRANITE CREEK (or Granite City). On Granite Creek, one mile west of Placerville.
- HAPPY CAMP. On Feather River two miles below the confluence of Bear Creek and Elk Creek. An early South Boise camp.
- HIGHLAND. Between Boise and Idaho City. Post office 1898-1907.
- HORSESHOE BEND. On the Payette River. Post office 1864-. Earlier Warrinerville, post office 1863.

- IDAHO CITY. In Boise Basin. Post office 1864-. Earlier names: Moore's Creek, More's Creek, Bannack City, West Bannack. Headquarters for Idaho City Ranger District.
- JERUSALEM. Northeast of Horseshoe Bend. Post office 1885-1888.
- JUNCTION BAR. Up Feather River from Featherville. Earlier than Featherville.
- LITTLE CAMAS. Near Dixie and Little Camas Reservoir. Post office 1899-1912.
- MARSH. On the Payette River. Post office 1889-1906. Later replaced by Montour.
- MARTINSVILLE. Later Emmetsville, later Emmett. Post office 1864-1870.
- MARYSVILLE. Established in 1864, five or six miles from Rocky Bar near the South Fork of the Boise River near the main road to Boise City.
- MAYFIELD. South of the national forest boundary, between Boise and Mountain Home. Post office 1887-1945.
- MOORSTOWN. Early mining camp below Idaho City, on Mores Creek.
- MOUNTAIN HOME. South of the national forest boundary, headquarters of Mountain Home Ranger District. There was a stage station at the place where the Silver City-Rocky Bar and Boise-Utah roads crossed, called Rattlesnake Station for its location on Rattlesnake Creek. The name was later changed to Mountain Home because it was at the foot of the mountains and was a "home station"--that is, a station at the end of a day's drive. When the OSL railroad was built through that area in 1883, a townsite was laid out and took the name of the post office farther north. Post office 1876-.
- NEAL. On Black's Creek, near Three Point Mountain. Post office 1880-1899.
- NEW CENTERVILLE. Near Centerville, Boise Basin.
- OLA. Squaw Valley, just west of national-forest boundary. Post office 1882-. Successor to Upper Squaw Creek.
- PINE (or Pine Grove). Between Dixie and Featherville; thrived around 1888. Now under waters of Anderson Ranch Dam reservoir. A few buildings were moved upstream. Others were moved to higher ground near the Franklin Mine.
- PINE GROVE. Boise Basin, on Pine Creek near mouth of Steamboat Gulch. A very large camp was located here in the 1860's.
- PIONEERVILLE. Boise Basin. Post office 1864-1943. In early years, also called Hog'em and New Dublin.
- PLACERVILLE. Boise Basin. Post office 1863-1967.
- POMONA. Mining camp between Idaho City and Centerville.
- QUARTZBURG. Boise Basin, on Granite Creek. Post office 1874-1942.
- RED WARRIOR. Near Rocky Bar. Post office (Warrior) 1889-1890.
- ROCKY BAR. On Bear Creek near Feather River. Post Office 1868-1964.
- ROSEBERRY. Near Donnelly. Post office 1891-1943.
- SHAFER. South of Horseshoe Bend. Post office 1882-1888.
- SQUAW CREEK. Post office 1870. Name changed to Marsh in 1889.
- SWEET. On Squaw Creek. Post office 1885-1967.
- TWIN SPRINGS. Middle Fork of the Boise River. Post office 1898-1953.
- UPPER SQUAW CREEK. Post office 1875-1877.
- VAN WYCK. West of Cascade, now under waters of Cascade Reservoir. Post office 1888-1917.

YUBA CITY. On old road from Rocky Bar to Atlanta in 1860's.

Towns and settlements in the vicinity of the Boise National Forest more recent than 1900 (some no longer exist):

- ANDERSON RANCH DAM. Elmore County. Post office 1942-1950.  
 ARLING. North of Cascade. Post office 1915-1941.  
 ARROWROCK. On the Boise River, Boise County. Post office 1911-1917.  
 BANKS. North of Horseshoe Bend. Post office 1914-.  
 BARBER. On the Boise River east of Boise. Post office 1909.  
 BELVIDERE. South of Cascade.  
 BIG BEND. On Grimes Creek, south of Centerville.  
 BIG EDDY. On the North Fork of the Payette River, between Banks and Smith's Ferry.  
 BROWNLEE. Boise County, near Sweet. Post office 1909-1912.  
 CABARTON. South of Cascade, near Alpha. Post office 1919-1936. In 1935 the buildings were moved to MacGregor, where the Boise Payette Company had acquired new lands.  
 CASCADE. North Fork of the Payette River. Headquarters for Cascade Ranger District. Post office 1915-.  
 CROUCH. On the Middle Fork of the Payette River. Post office 1936-1966.  
 CUMBUX. On Cottonwood Creek at former Cottonwood Ranger Station. Post office 1918-1919.  
 DEADWOOD. Deadwood Basin. Post office 1944-1948.  
 DUNNIGAN. Between Boise and Idaho City, near Dunnigan Creek. Post office 1901-1902. Also known as Dunton and Dunnigan's Half-Way House.  
 ELDORADO. Boise County. Post office 1905-1914.  
 EVANS. South Fork of the Boise River, Elmore County. Post office 1906-1907.  
 FEATHERVILLE. Junction of Feather River and the South Fork of the Boise River. Post office 1906-1928.  
 FERN. North Fork of the Payette River. Post office 1902-1910. Name changed to Smith's Ferry.  
 GARDENA. On the Payette River between Horseshoe Bend and Banks. Post office 1915-.  
 GRIMES PASS. Between Grimes Creek and the South Fork of the Payette River. Post office 1913-1942. Earlier known as Grimpass.  
 GROSS. On Squaw Creek, above Ola. Post office 1906-1932.  
 HIGH VALLEY. Near Smith's Ferry. Post office 1913-1917.  
 HOLCOMB. On Grimes Creek.  
 KNOX. Near Warm Lake. Post office 1904-1908.  
 LENOX. South Fork of the Boise River, Elmore County. Post office 1906-1924.  
 LOWMAN. South Fork of the Payette River. Headquarters for Lowman Ranger District. Post office 1903-1966.  
 MONTOUR. Earlier Squaw Creek and Marsh. Post office 1912-.  
 NETTIE. South Fork of the Boise River, near Pine, Elmore County. Post office 1906-1908.  
 NORTON. Middle Fork of the Boise River. Post office 1909.

PINEHURST. Boise County. Post office 1903-1918.  
PRAIRIE. On Smith's Prairie near the South Fork of the Boise River.  
Post office 1909-1954.  
SMITHS FERRY. North Fork of the Payette River. Post office 1916. Was  
earlier called Fern, 1902-1910.  
STIBNITE. East Fork of the South Fork of the Salmon River. Post office  
1929-1957.  
STIERMAN. Near junction of Grimes Creek and Mores Creek.  
THUNDER (or Thunder City). South of Cascade. Post office 1904-1916.  
TIMOTHY. North of Cascade.  
TRINITY. Elmore County. Post office 1904-1909.  
WARM LAKE. Valley County. Post office 1940-1960.  
YELLOW PINE. East Fork of the South Fork of the Salmon River. Post  
office 1906-.

1. Frank R. Schell, Ghost Towns and Live Ones: A Chronology of the Post Office Department in Idaho 1861-1973 (Twin Falls, 1973).

#### APPENDIX 4: CHANGES IN MANAGEMENT THROUGH LEGISLATION

1891: Creative Act. Creates the national-forest system by authorizing the President of the United States to establish forest reserves, comprising forest and rangelands in the public domain.

1897: Organic Administrative Act. Provides for the protection and management of the forest reserves within the Department of the Interior. Grants the right of entry to persons for prospecting, locating, and developing mineral resources, in accordance with provisions of United States mining laws. Authorizes the sale of dead, matured, or large-growth trees, at not less than appraised value.

1905: Transfer Act. Transfers the forest reserves from the Department of the Interior to the Department of Agriculture.

1911: Weeks Law. Authorizes purchase of lands to be administered as national forest lands for timber production and regulation of flow of navigable streams.

1924: Clarke-McNary Act. Establishes the basis for cooperation by the Forest Service with state foresters in fire prevention and suppression and in procurement, production, and distribution of forest-tree seeds and plans for reforestation and afforestation purposes. Authorizes aid to farmers in forestry activities.

1928: McSweeney-McNary Act. Authorizes basic forestry research, providing for cooperation with others, and established Forest Service regional forest experiment stations for conducting fire, silvicultural, and other forest-management investigations.

1930: Knutson-Vandenberg Act. Requires purchasers of national-forest timber to deposit money (in addition to timber stumpage payments) to cover the cost to the United States of replanting harvested areas and removing undesirable trees from the areas.

1937: Bankhead-Jones Farm Tenant Act. Establishes 3.8 million acres of national grasslands and authorizes other land-conservation and land-utilization activities in management of acquired lands.

1947: Forest Pest Control Act. Authorizes the Secretary of Agriculture to cooperate with others in conducting surveys on forest lands to detect and appraise forest insect pests and tree diseases and to determine control measures (control measures applied to non-federal lands were to be financed cooperatively).

1955: Agricultural Experiment Stations Act. Consolidates authorizations for appropriations of federal funds to support agricultural experiment stations in states and territories and provides for regional projects.

1955: Surface Right Determination Act: Provides, in regard to mining, that except as needed for development of the mine, the vegetative surface resources of public lands are to be managed by the federal agency under whose jurisdiction the mine was located.

1960: Multiple Use-Sustained Yield Act: Re-emphasizes the basic concept that the national forests are to be administered for outdoor recreation, watershed, range, timber, and wildlife and fish purposes. Reaffirms the right to develop mineral resources.

1962: Cooperative Forestry Research Act (McIntire-Stennis): Makes funds available to states on a matching basis to help carry out research at land-grant institutions and state-supported forestry schools.

1964: Wilderness Act. Establishes the National Wilderness Preservation System. The nucleus of the system in 1964 was the ten million acres of wilderness that had been so designated by the Forest Service since 1924, when the nation's first wilderness was established in New Mexico. Provides for study of additional areas for inclusion in the wilderness system.

"...Except as otherwise provided...wilderness areas shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use.

"...there shall be no commercial enterprise and no permanent road [except for administrative purposes]...no temporary road, no use of motor vehicles, motorized equipment or motorboats, no landing of aircraft, no other form of mechanical transport, and no structure or installation within any such area.

"...the use of aircraft or motorboats, where these uses have already become established, may be permitted to continue subject to such restrictions as the Secretary of Agriculture deems desirable....Measures may be taken as necessary in the control of fires, insects, and diseases....[After 1983, minerals in designated lands are withdrawn from all forms of appropriation.]" (U.S. Code, Title 16, Sec. 1133.)

[A paradox is developing concerning wilderness. Historically, Americans reached wilderness areas by developing and maintaining trails or wagon roads. Under the present interpretation of the Wilderness Act, the increasing ability of Americans to enjoy wilderness is being sharply limited by lack of access as once-maintained trails become impassable and management policies do not provide for maintaining them. It is entirely possible that the Wilderness Act will have to be radically amended in order for it to serve its original intent.]

1965: Land and Water Conservation Fund Act. Authorizes the charging of fees on federal recreation areas. Golden Eagle Passports, for sale for \$10 annually, admit the purchaser, family, or carload to all federal recreation areas at which entrance fees are charged, supervised

by the National Park Service, Bureau of Land Management, Bureau of Reclamation, Forest Service, U.S. Army Corps of Engineers, Bureau of Sport Fisheries and Wildlife, and Tennessee Valley Authority. Money received is used to provide further outdoor recreational demands. Fees are charged only at areas that have recreational facilities or services provided at federal expense.

This law expired in the spring of 1970 and was later extended. The present campground fee system on the Boise National Forest is based on the Special Recreation Use Fee which is used to help maintain the campgrounds, improvements such as trails, and any special services provided by the Forest Service at these sites. Of a total of ninety-seven camp and picnic sites on the Boise National Forest, twenty-four campgrounds charge a fee of \$2 per night (1976).

1968: National Trails Systems Act. Establishes a national system of recreation and scenic trails and designated Appalachian and Pacific Crest trails as initial components in the system. Provides for studies leading to establishment of other national recreation and national scenic trails.

1968: Wild and Scenic Rivers Act. Designates certain rivers as having outstanding scenic, geologic, recreation, cultural, or other attributes meriting the retention of each river in a free-flowing condition, through protected corridors. Initial components designated were: Feather (California); Rogue (Oregon); Clearwater, Middle Fork (Idaho); Salmon, Middle Fork (Idaho); Rio Grande (New Mexico); St. Croix (Minnesota and Wisconsin); Wolf (Wisconsin); and Eleven Point (Missouri).

The Middle Fork of the Salmon River and adjacent lands are classified as a "Wild River" area except for the Dagger Falls roadhead area, which is classified as a "Scenic River" area. This short scenic-river section extends from Dagger Creek to about one-half mile below Dagger Falls and is thus classified because it is accessible by road, while the remainder of the Middle Fork conforms to the definition for a Wild River: free of impoundment and generally inaccessible except by trail, with watersheds or shorelines essentially primitive.

The Middle Fork flows through the Boise, Challis, Payette, and Salmon national forests. The Wild River boundary encloses approximately 32,000 acres. The Middle Fork begins with the confluence of Marsh and Bear Valley creeks, 20 miles northwest of Stanley, and flows approximately 104 miles to the main Salmon River. The lower 80 miles of the Middle Fork flow through the Idaho Primitive Area. That lower portion is subject to the provisions of both the Wild and Scenic Rivers Act and the law and regulations governing primitive areas. In case of conflict, the more restrictive provisions apply.

1969: National Environmental Protection Act. Declares it to be a national policy to encourage harmony between man and his environment and establishes a Council on Environmental Quality. Requires all federal



agencies to prepare a report on the environmental impact of planned programs or actions by the agency and to suggest alternative actions. This act and the Multiple Use-Sustained Yield Act direct planning and decision-making in the Forest Service today.

1970: Youth Conservation Corps Act. Provides for the summer employment of youth aged 15 through 18 and the establishment of regional corps centers. The youth were to be employed in conserving, developing, preserving, and maintaining public lands administered by the Interior and Agriculture departments.

1972: Public Land Law Review Commission released a report on its five-year study of several thousand laws dealing with public lands. This was the first such comprehensive review in over a century. Recommendations included:

- the maintenance or enhancement of the environment on and adjacent to public lands through statutory guidelines and restrictions insuring pollution control measures;

- payments by the federal government to the states in which public lands are located, in lieu of taxes;

- repeal of the Homestead Act and Desert Land Act, with such agricultural lands to be sold to the highest bidder;

- grazing continued with policies flexible enough to attain maximum efficiency in the use of the forage and to support regional economic growth; grazing fees to adhere to a fair market value;

- some classes of public land to be excluded from future mineral development;

- existing federal systems for exploration, development, and production of mineral resources on public lands modified;

- patent fees increased and royalties paid to the United States on all minerals produced and marketed from public lands.

1972: The Sawtooth Wilderness Area was created by Congress, replacing the Sawtooth Primitive Area. The Sawtooth National Recreation Area was established under the same law. The NRA includes the wilderness geographically but embraces more territory than the wilderness. The Sawtooth NRA was established basically for its outdoor recreation values, to be protected and enhanced for its scenic, historic, pastoral, natural, and fish and wildlife values. The Sawtooth NRA is administered by the Forest Service and is a subunit of the Sawtooth National Forest, under the direction of the Superintendent of the Sawtooth NRA.

The Sawtooth Wilderness is more restrictive in its regulations of the kind and type of activity that can take place within its boundaries. Although the wilderness is also governed by the NRA regulations, whichever regulation is the more restrictive (the Wilderness Act of 1964 or the NRA regulations) is applied to the Sawtooth Wilderness Area.

1973: Endangered Species Act of 1973. Directs all federal agencies to give priority to improving habitat of threatened or endangered wildlife, fish, and plants.

1973: Forestry Incentives Act. Shares the cost of tree planting and forest management with small landowners. The federal share of these costs ranges from 50 to 75 percent, distributed through Agricultural Stabilization and Conservation Committees. Landowner has to have a forest management plan for his property, prepared through the state forester's office.

1974: Forest and Rangeland Renewable Resources Planning Act. A planning and budgetary procedures act that requires the Forest Service to prepare long-range programs for the national forest system for forty years in ten-year stages. It includes administration, roads and trails, research, and cooperative programs. A report from the Secretary of Agriculture must give an assessment of present and anticipated supply and demand needs, an inventory of present and potential resource opportunities, and an annual progress report.

1974: Woodsy Owl Campaign. Authorizes the Secretary of Agriculture to license the manufacture and distribution of Woodsy Owl merchandise and to collect royalty fees for such licensed use, and to protect unauthorized use of the anti-pollution symbol.

1976: National Forest Management Act. Expands and refines the planning aspects of the Renewable Resources Planning Act (1974). Codifies Forest Service policy that timber sales be limited to the yearly allowable cut (at least over a ten-year average); mandates reforestation on a current basis.

1978: Cooperative Forestry Assistance Act. Provides statutory authority for cooperation with state and private foresters and provides funding for states with approved programs.

1978: Forest and Rangeland Renewable Resources Research Act. Broadens provisions for comprehensive research programs well beyond those of the McSweeney-McNary Act (1928).

1980: Central Idaho Wilderness Act. Designates certain public lands in central Idaho as the River of No Return Wilderness and a segment of the Salmon River as a component of the National Wild and Scenic Rivers System.

## APPENDIX 5: DAMS AND RESERVOIRS

There are several dams and reservoirs within or contiguous with the Boise National Forest. They are mentioned here not in order of importance, but chronologically as they were developed. One of the earliest, Arrowrock, and the most remote, Deadwood, are discussed in more detail. Most of the water that irrigates the Boise and Payette valleys' agricultural lands originates on the Boise National Forest. Wise management of the forest is vitally important to the economy of southwest Idaho. In turn, large irrigation reservoirs within the Boise National Forest have a significant impact on the management of the forest.

Little Camas Dam. Little Camas is an earthfill dam completed in 1912. It was built and is owned by the Mountain Home Irrigation District. It has a storage capacity of 22,500 acre feet, with 1,455 surface acres. Water from this reservoir goes through several tunnels and drops into Long Tom Reservoir and ultimately into irrigation canals around Mountain Home. Little Camas is heavily used for early-summer fishing and winter ice fishing.

Arrowrock Dam. A Bureau of Reclamation project completed in 1915, Arrowrock Reservoir was formed by the building of the Arrowrock concrete-arch dam and spillway across the Boise River about twenty miles above the city of Boise. Its primary purposes are irrigation and flood control. A large part of the irrigation in Boise Valley was developed from Arrowrock waters. Arrowrock was part of the second project in the nation under the Reclamation Act of 1902.

In order to carry out the initial construction, several incidental features were developed. The Arrowrock Railroad, a standard-gauge road seventeen miles long connecting Barberton (the nearest point on the Oregon Short Line Railroad) with Arrowrock, was completed in November of 1911. All equipment, material, and supplies for the work at Arrowrock were transported over this railroad. The Boise power plant was built at the Diversion Dam about fifteen miles below Arrowrock to furnish electric power for the operation of construction equipment at Arrowrock. This plant was completed in May 1912. A telephone system was built between Boise and Arrowrock in 1911. A wagon road was built around the reservoir above the flow line to replace that portion of the old road up the river that would be flooded by the reservoir. A sawmill was located on Cottonwood Creek, about seventeen miles above Arrowrock, where most of the lumber used for the work was obtained. This sawmill cut over seven million feet of lumber, all within easy reach of the mill. The mill was then dismantled.

A construction camp was built at Arrowrock with accommodations for about 1,000 men. A diversion works with a capacity of 20,000 cubic feet per second was built to take the river out of its old channel and around the work during construction. These diversions were put into service in July of 1912 and were in use until December of 1914. A sand-cement plant with a capacity of about 2,000 barrels per day was operated for

about three years to furnish the sand-cement used in the construction of the dam.

As the Boise River had been used to float logs to the Barber Mill, a log conveyor was built to take logs out of the reservoir and over the dam and place them in the river below. The arrangement did not prove satisfactory.

The dam construction and related work used the latest in mechanical equipment, including Atlantic steam shovels, and also horse teams, hand-work, and drilling and blasting. At the time of completion, this 350-foot-high dam was the highest dam of any kind in the world. By 1929, the Bureau of Reclamation estimated that 7,000 to 8,000 acre-feet of silt had been deposited in the reservoir despite annual cleaning and sluicing. In 1937, the dam was raised five feet and repaired.

At present, Arrowrock Reservoir has less recreation use than some other reservoirs because of the fluctuation and drawdown necessary to maintain levels in Anderson Ranch and Lucky Peak reservoirs. It has a storage capacity of 286,600 acre feet, with 3,100 surface acres.<sup>1</sup>

Deadwood Dam. This concrete-arch dam, a Bureau of Reclamation project, was completed in 1931 with a storage capacity of 164,000 acre feet covering 3,055 surface acres. It is located on Deadwood River, a tributary of the South Fork of the Payette River, about twenty-five miles by direct line southeasterly from Cascade. The site is twenty-five miles above the confluence of Deadwood River and the South Fork of the Payette River and ninety stream miles above Black Canyon Dam. The purpose of this dam is to supplement late-season flows in the Payette River for use at Black Canyon powerplant, for irrigation in Emmett, Payette, and Montour valleys, and for flood control. With a maximum height above bedrock of 170 feet and a crest length of 710 feet, the reservoir extends 3 1/2 miles upstream.

Deadwood Dam, at 5,340 feet elevation, is in a very remote area of the Boise National Forest and presented unusual problems in construction and transportation. The construction firms were Utah Construction Company and Morrison-Knudsen. The basin was thickly timbered with lodgepole pine that had to be cleared for the future reservoir area. Holmberg and Norman held the clearing contract. A mechanical saw was tried but proved unsatisfactory, and the trees were felled by hand. The dam-site is located sixty-five miles by road from Cascade, the nearest railroad point. The long stretch of mountain road, crossing three summits and usually closed by snow for seven months of the year, made delivery of materials and supplies a major problem. One thousand tons of freight were delivered to the dam-site during the fall of 1929, costing from \$9.50 to \$19 per ton for hauling. That year, snow closed the road to Cascade on December 8. The caterpillar and snowplow were driven across the summits two or three times, but the road closed completely December 18. Men were shipped out by team and on foot, the last forty walking thirty miles through snow to a point where they were met by a Morrison-

Knudsen four-horse team with sleds. Among those walking out were R. J. Newell, Boise Project superintendent, and Frank Crow, superintendent of construction. Six men remained on the job, taking care of the layout and cutting timber.

An intermittent communication service between Boise and Deadwood was maintained by means of a plane that delivered men and supplies to a small runway that was kept shoveled off at the Deadwood site. Round trips from Boise were made in about two hours. In the spring of 1930, when it was time to return to the job, weather prevented flights from Boise, so personnel were taken in from Cascade. On April 29, the shuttle began. The plane was an open-cockpit Eagle Rock plane that could carry the pilot and two passengers. The first flight took in Superintendent Newell and his big dog. (The dog did not appreciate the ride in the open plane.) After another trip to bring in Newell's wife and daughter, the plane continued its shuttle for several days, bringing in Swedish loggers to clear the trees. Some workers went in by dogsled.

Concrete pouring began June 3, 1930, and was completed November 7, 1930. Concrete was carried across the canyon to the west wing by cableway and then transported to place in cars on a pole trestle built directly over the line of the wing. On June 21, the head tower of the cableway collapsed, dropping the main cable, bucket, hopper, chute, and concrete. No one was hurt. During the three or four weeks it took to make repairs, concrete was dumped directly into the mixer through a metal-lined chute into bottom-dump cars operated on a trestle and dumped into place through wooden chutes. Expertise gained here was put to good use when these same two companies later built Boulder Dam.

The reservoir was filled in 1931. Waters in the reservoir covered some mining claims, the old Beaver Creek Ranger Station, cattle association buildings and fences, and the old mining town of Bummer. The Bureau of Reclamation settled the mining claims, replaced the Forest Service improvements, and built a telephone line along the flow line road from the permanent camp at the dam to an intersection of the line at the head of the reservoir. The Bureau of Reclamation gave the Garden Valley Cattle Association a cabin used during construction to replace their inundated buildings.<sup>2</sup>

Deadwood Reservoir provides high-quality recreation, but use is held down by its remoteness.

Cascade Dam. Cascade Dam is a Bureau of Reclamation project completed in 1948. It is a multipurpose earthfill dam used for irrigation and flood control, with a storage capacity of 703,200 acre feet, covering 28,300 surface acres. Cascade Reservoir has tremendous recreational use and is a popular ice-fishing reservoir.

Anderson Ranch Dam. Anderson Ranch Dam, another Bureau of Reclamation project, was completed in 1950, at which time it was the largest earthfill dam in the world. It was built for power, flood control, and

irrigation and has a storage capacity of 423,200 acre feet, covering 4,740 surface acres.

Lucky Peak Dam. Lucky Peak Dam was completed in 1955 by the U.S. Army Corps of Engineers with the primary purpose of flood control and secondary purpose of irrigation. It is an earthfill dam with storage capacity of 308,200 acre-feet, covering 2,850 surface acres. Lucky Peak is the only Corps of Engineers dam in the Boise National Forest area. However, by agreement with the Corps of Engineers, it is administered by the Bureau of Reclamation. Lucky Peak has the highest recreational use of any reservoir in the Boise National Forest area because of its proximity to population centers: the city of Boise and the Boise Valley. When Lucky Peak reservoir is full, water is backed up against Arrowrock Dam to a depth of ninety-five feet.

Sage Hen Dam. Sage Hen is owned and built by the Squaw Creek Irrigation Company, assisted in design by the Soil Conservation Service. It was completed in 1967 with a storage capacity of 4,000 acre feet, covering 216 surface acres. Its purpose is irrigation, but it is also popular for summer camping.

There are other reservoirs, not on the Boise National Forest, that impound waters entering or leaving the forest. Black Canyon Dam, completed in 1924 by the Bureau of Reclamation, impounds the Payette River southwest of the Boise National Forest for purposes of power and irrigation. This reservoir exhibits tremendous sediment accumulation that has greatly reduced its capacity. The sediment is from many sources, including natural erosion, past dredging, highway projects, and logging. North of the Boise National Forest, Payette Lake, a natural lake, was raised ten feet by a dam completed in 1944 owned by the Lake Reservoir Company. It impounds the North Fork of the Payette River.

There have been two dams proposed in the Boise National Forest area. Twin Springs, on the Middle Fork of the Boise River below Sheep Creek, was proposed by the Corps of Engineers for flood control and power. A Garden Valley dam has been proposed that would impound water of the Middle and South forks of the Payette River and would flood Garden Valley. Both dams would have severe impact on the resources and management of the Boise National Forest.<sup>3</sup>

<sup>1</sup>Annual Project History of Boise Project, Idaho, for 1915" (type-written report, U.S. Bureau of Reclamation, Boise, Idaho).

<sup>2</sup>Annual Project History of Boise Project, Idaho, for 1929, 1930, 1931" (unpublished typewritten report, U.S. Bureau of Reclamation, Boise, Idaho); Helen M. Newell, interview with the author, Boise, Idaho, March 19, 1976, and diaries of her father, R. J. Newell, Boise Project Superintendent, U.S. Bureau of Reclamation, 1926-1930.

<sup>3</sup>Information provided by John Kincheloe, Boise National Forest staff.

## APPENDIX 6: GRAVES IN THE BOISE NATIONAL FOREST

There are several community cemeteries within the boundaries of the Boise National Forest, near early mining settlements such as Rocky Bar, Placerville, Centerville, and Idaho City. A few of these are still used for burials. Brief notice is made here of some of the graves that are scattered throughout the forest. Most of them predate the time when improved transportation made it practical to transport the dead to a common burying place.

Records of the Idaho Genealogical Society list the following isolated graves:

--At Grimes Pass Summit is the marked grave of George D. Grimes, who was reportedly killed by Indians in 1862 at the time his party discovered gold in Boise Basin. There are three or four other unidentified graves on this summit (T8N, R5E).

--There are six marked graves on the old Casner Ranch, Thorn Creek, near Highway 21 to Idaho City (T5N, R4&5E): William Hill Casner, 1827-1922; his wife, Elizabeth R. Casner, 1851-1930; their children, Nettie, 1870-1924, Virginia D., 1878-1899, and William Hill Casner Jr., died 1902; and John Woods, miner from Belfast, Ireland, 1834-1910.

--The Gardner family cemetery is on Clear Creek, tributary to Grimes Creek (T5N, R4E). There are fifteen marked graves.

--The Getty family cemetery is three miles up Robie Creek from Highway 21 toward Idaho City (T4N, R4E) and has six graves: William Getty, 1826-1895; his wife, Sara E. Getty, 1832-1908; and their children, James F., 1852-1916, Charles W., 1858-1925, Elmer C., 1866-1940, and Lewis A., 1868-1938.<sup>1</sup>

Walt Berry, retired ranger, describes the following locations of graves on the Boise National Forest:

--Four graves at the Dunnigan Ranch on Dunnigan Creek, tributary to Mores Creek (T4N, R5E).

--A trapper named Taylor is buried about a mile up the trail from Deer Park, on the North Fork of the Boise River (T7N, R9E). He died there while trapping during the winter.

--One grave with a stone at the head of a branch of Clear Creek (tributary to Mores Creek) where the road goes over to Daggett Creek (T5N, R4E).

--Four graves at Graham (T7N, R10E).

--A man named Coulter is buried on Coulter Summit between Grimes Creek and Clear Creek (T8N, R6E).

--One grave near the mouth of Sheep Creek on the Middle Fork of the Boise River (T4N, R7E).

--A man named Vaughn is buried alongside the present road up the Middle Fork of the Boise River, close to Vaughn Creek (T5N, R7E).<sup>2</sup>

Charles Enlow describes the following grave locations:

--One grave six miles above Grandjean at Elk Meadow near Meadow Creek (T9N, R11E).



--One grave on the ridge three or four miles southeast of Jackson Peak Lookout (T9N, R9E). The name is Spanish, possibly a sheepherder.

--One grave near the head of Jackson Creek, below Jackson Peak, near the forks of the Graham-Jackson Creek roads (T8N, R9E).

--One grave on the Payette River, about seven miles above Lowman below Fence Creek (T9N, R8E) is of John J. Jackson, Indian scout, born in Gottland, Sweden, 1845-1932.

Ted Cox, ranger on the Mountain Home District, reports the following grave locations:

--Three marked graves near Dog Creek Campground, along the South Fork of the Boise River, about three miles north of Pine on the west side of the river (T2N, R10E).

--One grave on the South Fork of the Boise River off the road near Granite Creek (T1N, R8E).

Gene Brock, Lowman District ranger, reports the following grave locations:

--General Zumwalt is reportedly buried at Graham (T7N, R10E).

--Grave sites at Banner (T8N, R8E).

--An old Chinese burial place on West Fork where it comes into Beaver Creek (T7N, R7E).

Val Simpson, Cascade District ranger, reports that the grave of Billy Kline is at Warm Lake.

<sup>1</sup>Records on file in the Idaho State Historical Society's Genealogical Library, Boise, Idaho.

<sup>2</sup>Berry, interview, pp. 22-25.

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