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**Intermountain
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Dixie National Forest

Cedar City, Utah

The Dixie National Forest

Managing an Alpine Forest in an Arid Setting

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Wayne K. Hinton

INTRODUCTION

A forest history, it seems, should focus primarily on the background and development of the forest, but it must also concern itself with the character of the society that depends upon the forest, that is to say, the forest must be put into its broader perspective. Since settlement, the areas of the Dixie National Forest have been an important part of southern Utah's regional progress and development. I have, therefore, attempted to understand the interrelationships between the local and regional society and the forest. This work thus looks at the actual functions of the forest during its various stages, i.e., before established forest reserves, the early forest period when grazing, timber and watershed concerns dominated the forest's programs, and the more recent times when recreational and environmental themes have been added to the more traditional concerns.

The Dixie National Forest is an important cultural, social and economic resource. I have attempted to provide an orderly, accurate and readable history showing beginnings, growth, change, landmarks, and depicting the increasing awareness of the forest heritage while catching the flavor of the times. In order to develop an understanding of the cultural heritage, the lifestyle, the economic conditions and the role of the forest in this pattern, it is necessary to deal with the history of early exploration, fur traders, trail blazers, Indians, early towns and settlement patterns, early resource usage, conditions leading to a felt need for forest reserves and regulations, the establishment of the Dixie National Forest, forest boundary additions and deletions, resources, their uses and management, forest personnel and administration and the changing role and relationship of the forest to its clientele. It is my hope the reader will find this a well documented, scholarly history combining interpretation with narration in judicious balance and being suitable in style for both a scholarly and a lay audience.

Chapter 1

ENVIRONMENTAL SETTING OF THE DIXIE NATIONAL FOREST

Although in some locations the Dixie National Forest occupies a zone of transition between two major physiographic provinces—the Colorado Plateau and the Great Basin—it is most identified with and more generally located on the Colorado Plateau, a mountainous area lying south of the Rocky Mountain Province. There are three sections of the Colorado Plateau in Utah, two of these sections—the High Plateaus and the Canyonlands—make up most of the Dixie National Forest.

The High Plateaus section extends southward from Mount Nebo through southern Utah into Arizona. Viewed from the valley floor, the edge of the plateaus seem to be a continuation of the Wasatch Range. John C. Fremont, among others, thought so.[1] But viewed from the air, the plateaus show areas of rolling surface quite in contrast to the sharp ridges of the Wasatch. The length of the High Plateaus is about 200 miles and the width roughly 40 miles.[2] The summit areas reach elevations over 11,000 feet with large areas of gently rolling forest lands existing at the 10,000-foot level and beyond.[3]

The Canyonlands of the Colorado Plateau include beds of sandstones and limestones dipping gently to the north, but forming steep cliffs at the upturned outcroppings to the south. This entire region has been uplifted with few disturbances of the almost horizontal beds, and the streams crossing the surface have eroded deeply creating steep-sided canyons, which follow the meandering pattern established when the streams flowed nearer sea level and cut sideways rather than downwards.[4] Such patterns provide spectacular scenery but have proven difficult terrain for travelers and settlers. The horizontal beds and somewhat even surfaces are broken by uplifted areas and by volcanic ranges all adding to the variety of the scenery.

The Great Basin which to a degree defines the western boundary of the forest was first identified, named and defined by John C. Fremont in 1844. It is not a single gigantic basin but more than 150 desert basins, mostly closed, which are separated from each other by more than 150 discontinuous, subparallel mountain ranges tending roughly northeast-southwest. Within the Basin, erosion and sedimentation have been more rapid than the faulting process, thus the mountains have been lowered and the basins have been filled forming almost level alluvial plains.[5]

John C. Fremont. (State Historical Library, Salt Lake City, Utah.)

The Dixie National Forest, as it now exists, encompasses the major mountain ranges and drainage systems of south central and southwestern Utah. Four mountain systems comprise the Dixie. These mountains all provide the surrounding communities with a watershed, timber, grazing, fuels, mining of various kinds, recreation, trails, scenic attractions, wildlife, etc.

The first of the mountain systems, located south and west of Cedar City and north of St. George, is the rugged Pine Valley Mountains of Washington County. This system makes up the bulk of the Pine Valley Ranger District with offices at St. George. It is also the area through which the Old Spanish Trail passed. These mountains are placed by some in the Basin Range-Colorado Plateau transitional

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[1] John C. Fremont, *Diaries of John C. Fremont: The Daring Adventures of Kit Carson and Fremont,* (Hurst and Company: New York, 1885), May 14, 1844.

[2] Richard Poll, et.al. eds., *Utah's History,* (Brigham Young University Press: Provo, Utah, 1978), p. 12.

[3] U.S. Department of Agriculture Forest Service Map of Dixie National Forest, Pine Valley, Cedar City and Powell Ranger Districts, (U.S. Government Printing Office, 1979).

[4] Arthur F. Bruhn, *Southern Utah's Land of Color,* (Wheelwright Lithographing Company: Salt Lake City, 1952). See also Dixie National Forest Service Historical Documents, located in the Forest Supervisor's Office in Cedar City, vol. III.

[5] Roger B. Morrison, "Quaternary Geology of the Great Basin" in H. E. Wright, Jr., and David G. Frey, eds., *The Quaternary of the United States,* (Princeton University Press: Princeton, N.J., 1965), p. 265 and 267.

zone.[6] This massive volcanic intrusion has produced a range measuring some 20 miles long from southwest to northeast. In many places this range is no more than six miles wide, yet its main crest attains an elevation of about 10,000 feet for nearly 15 miles of its length.[7]

The second range on the forest is a rather flat plateau known as the Markagunt Plateau which is situated just east of Cedar City and comprises the Cedar City Ranger District of Iron, Kane and Garfield Counties with offices in Cedar City. Its summits rise to 11,315 feet.[8] This plateau is the headwaters of two major watershed systems, the Virgin and the Sevier Rivers plus some lesser streams which flow into the Great Basin.

A third range is the Paunsagunt Plateau located west of Bryce Canyon and south of Panguitch in Garfield and Kane Counties. This plateau area is very rough and rather inaccessible. In the nineteenth century it served as a hideout for the Butch Cassidy gang. Adjacent to the Paunsagunt Plateau to the north is the Sevier Plateau with Mount Dutton rising to 11,041 feet in elevation.[9] The Paunsagunt and Sevier Plateaus make up the Powell District of the Dixie National Forest located in Garfield, Piute, and Kane Counties with offices at Panguitch.[10]

The Aquarius Plateau with the Boulder Mountains comprise the final mountain area of the Dixie. It is located generally north of Escalante in Garfield County and south and west of Teasdale in Wayne County. The Escalante and Teasdale Ranger Districts are on this mountain system. The Aquarius was the first Forest Reserve that is now a part of the Dixie National Forest and it is considered the highest timbered plateau in America.[11]

These mountains and plateaus of the Dixie National Forest contain many resources. Coal from the forest lands has a low sulphur content, generally, and a high heat value which makes for an excellent fuel. It, however, has not proven to be well suited for coking in the steel industry.[12] Petroleum, natural gases and other hydrocarbons including oil shale exist on forest lands especially in the Escalante District.[13] Scenic wonders on the forest include old volcano craters, lava beds, spectacular caves, high mountain peaks, waterfalls, multi-colored terrain and vast vistas where one can overlook lakes, forests, and cliffs. The wildlife of the Dixie National Forest include: mule deer, antelope, elk, bear, mountain lions, coyotes, bobcats, wild horses that range onto the Pine Valley District, many smaller types of wildlife such as rabbits, beaver, squirrels, etc., and a wide variety of fowl. There are also many small lakes totaling 5,631 acres of lake surface, and 129 miles of fishing streams within the forest boundaries.[14] There are beautiful mountain meadows watered by springs that flow from ten to one hundred second feet of the purest, clearest, coldest water one could hope to find anywhere. The forest also produces millions of board feet of timber and contains vital watersheds.

Watershed management since the inception of the forest has been one of the major functions of use and management. Much of the flowing water in the southern part of Utah originates on Dixie National Forest lands. Most of this flow runs into one or the other of two major systems—the Sevier and the Virgin. The Sevier flows from the plateaus of the forest northward cutting through the center of the high plateaus in the Sevier River Valley as it makes its way into the Great Basin. The various streams of the Sevier system occupy a graben, a structural valley caused by faulting rather than stream erosion. The Sevier River Valley system divides the region into a series of eastern and western plateau blocks, with those on the east being the larger in summit area. The Sevier River system provides a source of water and a relatively flat valley suitable for settlements based on irrigated agriculture.[15]

On the high plateaus and canyonlands of the Dixie National Forest, mountain grasslands allow for summer grazing of sheep and cattle and the heavier precipitation at the high elevations provides the flowing water for irrigation systems. The topographical configuration has the effect of producing a surprising number of perennial streams and making the forest a major watershed. The high altitude alpine zones of the plateaus which furnish the summer range also results in substantial snowfall during winter storms. Temperatures at the higher elevations which reach well below zero serve to retain the snowpack through brief winter warm spells. The result is usually a good flow of water during the heat of summer months.[16]

The Markagunt Plateau is the major watershed of the forest. Besides the Sevier and the Virgin, the towering ranges of the Markagunt Plateau impounds sufficient moisture to supply Red Creek, Paragonah

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[6] William Lee Stokes, *Subdivisions of the Major Physiographic Provinces of Utah.* (Utah Geology, Vol. 4, no. 1, Salt Lake City), p. 15.

[7] Forest Service Map, Pine Valley, and Cedar City Districts.

[8] *Ibid.*

[9] U.S. Department of Agriculture Forest Service Map of Dixie National Forest, Powell, Escalante and Teasdale Ranger Districts, (U.S. Government Printing Office, 1979).

[10] *Ibid.*

[11] Dixie National Forest Historical Documents, Vol. II.

[12] Poll, pp. 12-14.

[13] Interview with Escalante District Ranger, Douglas Austin, at Escalante District Office October 17, 1984.

[14] Dixie National Forest Historical Documents, Vol. I.

[15] Stokes, p. 18.

[16] Interview with Paul Fullmer, Cedar Ranger District Forestry Technician, October 17, 1984.

Creek, Parowan Creek and Summit Creek all retaining a perennial flow. Braffit Creek at the southwestern end of the Parowan Valley like the perennials empties into the Great Basin, but because of its short reach it is not a perennial stream. There is also the substantial annual flow of Coal Creek, now heavily used in Cedar City, which also originates on the Markagunt Plateau.

The Virgin River is the main drainage artery of the southern region of the Colorado Plateau. The Virgin provides the major source of water for the communties of both eastern and western Washington County.[17] The North Fork of the Virgin heads up a few miles south of Cedar Breaks on the Markagunt Plateau and it drains the very high country to the east and to the west of its southerly course. It is the North Fork of the Virgin that has carved the major canyons of Zion National Park. The East Fork of the Virgin drains Long Valley and meets the North Fork a short distance below the west entrance to Zion National Park. The East Fork has its origins just south of State Highway 20 and it drains the southern portions of Long Valley through which Highway 89 passes.[18]

Further west, the Pine Valley Mountains also provide a southerly flowing watershed. The Santa Clara Creek is formed from tributaries in the Mountain Meadows area of northwestern Washington County and from a number of small streams draining the western slopes of the high Pine Valley Mountains. This stream runs a southerly and southeasterly course, swinging south of St. George to reach the Virgin River just below the city. Although the flow of the Santa Clara varies tremendously with the season, the flow is annual and the stream has played an important role in the area from prehistoric times to the present.[19]

The New Harmony Basin which sits about 15 miles south of Cedar City on the northern side of the Pine Valley Mountains and on the south rim of the Great Basin benefits from a number of small watercourses which combine in this Basin to form Ash Creek, another perennial stream. The flow of Ash Creek after leaving the New Harmony Basin falls rapidly down the Black Ridge Canyon and flows southwest of Toquerville and empties into the inner gorge of the Virgin River.[20]

Another stream of the Colorado drainage, the Paria River, also has its headwaters on the Dixie National Forest in the high country east and north of Bryce Canyon National Park.[21] The Paria remains perennial until it reaches the Cockscomb. Below this point the flow continues only in wet weather. During dry seasons the river seeps into the ground before it reaches the Colorado at Lee's Ferry.

The climate in the area of the Dixie National Forest and the communities near its boundaries varies greatly. The climate of the Great Basin portions can be characterized as an arid, middle latitude desert marked by low rates of precipitation. It is characterized by mild summers and cool winters.

The climate of the Colorado Plateau region can be generally characterized as semi-arid and is marked by a wide variation in precipitation and temperature. In the mountainous areas the mean annual temperature is low and precipitation is high; however, in the Virgin River Basin of the Colorado Plateau the climate is typified by hot summers and mild winters with low rates of precipitation.

Within the Dixie National Forest there are four floral zones influenced by elevation, precipitation and temperature. At the lower elevations of the forest there is the upper Sonoran Zone ranging up to 6,800 feet elevation. There are many shrubs in this zone with the sagebrush (*Artemisia tridentata*) predominating. Blackbrush (*Coleogyne ramosissiam*), rabbitbrush (*Chrysothamnus* sp.) and shadscale (*Atriplex confertifolia*) are also rather common. Greasewood (*Sarcobatus vermiculatus*) is rather common in the more saline low altitude areas. The silviculture at the lower altitudes of the forest include Utah juniper (*Juniperus utahensis*) occurring near the base of the forest with red juniper (*Juniperus scopulorus*) near the upper reaches of the Sonoran Zone. There are also pinyon pines (*Pinus monophylla* and *Pinus edulis*) at the 6,000-foot level and above.

Between 6,800 feet and 8,000 feet, the forest is characterized by the Transition Zone. Here Gambel's oak (*Quercus gambelii*) and western yellow pine (*Pinus ponderosa*) are markers of this habitat. At the upper limits of the Transition Zone, the Douglas fir (*Pseudotsuga taxifolia*) and the white fir (Abies concolor) flourish. Along stream courses or where moisture is plentiful at this elevation the narrowleaf cottonwood (*Populus angustifolia*) and red-barked birch (*Betula fontinalis*) occur. Shrubs in this zone include the antelope brush (*Purshia tridentata*), service berry (*Amelanchier canadensis*), tall sage (Artemisia tridentata), and manzanita (*Arctostaphylos pungens*). Where water is sufficient the chokecerry (*Prunus melanocarpa*) occurs.

The third flora zone is known as the Canadian Zone and it extends from 8,000 to 9,500 feet. Here the aspen (*Populus tremuloides*), the blue spruce (*Picea pungens*), white fir (*Abies concolor*), and Douglas fir (*Pseudotsuga taxifolia*) are the most characteristic trees. In a few places the limber pine (*Pinus flexilis*) grows in this zone. Shrub associations include the snowberry (*Symphoricarpos* sp.) and chokecherry (*Prunus melanocarpa*).

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[17] Wayne H. Hinton, "Soil and Water Conservation in Washington County," (Master of Science, University of Utah, 1961), pp. 57-68.

[18] Forest Service Map (Pine Valley, Cedar City and Powell Districts)

[19] Richard A. Thompson, et.al., *Class I Cultural Resources Inventory for the Cedar City District of the Bureau of Land Management, part 1, Cultural Resource Overview,* (Mesa Corporation: Salt Lake City, 1983), p. 13.

[20] *Ibid.*

[21] Forest Service Map (Powell, Escalante, and Teasdale Ranger Districts).

At the highest elevations occurs the Hudsonian Zone which is 9,500 and above. The Engelmann spruce (*Picea engelmanni*) and the alpine fir (*Abies lasiocarpa*) are the most representative flora of this highest zone; in fact, in the highest, coldest areas of the Hudsonian Zone only these two storm-loving evergreens remain. Where shade and water are sufficient, these two species will also extend down into the Canadian Zone. The aspen (*Populus tremuloides*) extends up into the lower parts of the Hudsonian Zone mixing with the Engelmann spruce and alpine fir. Near the edges of cliffs and on the promontories the bristlecone pine (Pinus aristala) and the limber pine (Pinus flexilis) are found.[22]

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[22] Bruhn. See also Dixie National Forest Historical Documents, Vols. III and V.

Chapter 2

THE PRE-MORMON PERIOD: INDIANS AND EXPLORERS

Undoubtedly the first explorers of Utah's Dixie National Forest area were Indians. Utah's earliest peoples, regrettably, did not read or write. All we know of the pre-historic peoples of Utah is what we can infer from artifacts they left behind—moccasins, food, shelters, etc. Anthropologists and archeologists have ingeniously pieced together from such artifacts a sketch of Utah's preliterate people; obviously enormous gaps remain. We have only vague notions of how people lived here at various periods in preliterate times.

The sequence of adaptive strategies of pre-historic peoples include: (1) Paleoindian—focus on hunting large mammals known as megafauna, possibly to the exclusion of other food resources; (2) Archaic—a 'total' exploitation of an unaltered environment. While it is to be doubted that any people utilize every possible food resource, the point is the utilization of an extremely wide spectrum of resources; (3) Formative—characterized by the propagation of domestic plants, and in many cases, the development of a ceramic technology. Paleoindian or "Big-Game Hunters" appear to have occupied Utah from about 12,500 years ago to possibly as late as 9,000 years ago. Archaic subdivisions include early Archaic 8,000 to 6,700 years before our time, middle archaic 6,700 to 4,700 years ago and late archaic 4,700 to 1,450 years ago. Formative would include the Fremont culture of southern Utah, about 800 A.D. to 1300 A.D., the Western Anasazi 200 A.D. to 1200 A.D. and the Numic period of the Paiute 1300 A.D. to 1850 A.D.[1]

The Paleoindian cultures are characterized by easily recognized chipped stone projectile points from which large flakes have been removed along the point's mid-line. These large flake scars are referred to as flutes and the points as fluted points. There are two primary varieties: the earliest type, the Clovis point and the later type, the Folsom point. In the region of the Dixie National Forest the earliest cultural evidence would point toward Paleoindian finds particularly from three sites in Iron County and from several surface finds in Garfield County near Escalante.[2]

We have no record of the thoughts of the Paleoindians upon their arrival in the area. People who do not live in constructed shelters and have no means of cutting large trees have little interest in forests. Pasturage was of no direct use to these people who had no domesticated animals. Since farming was unknown to them, they did not concern themselves with level land or stream flow. The Paleoindians were hunters. The game they sought was not jackrabbits but big game such as mammoths and giant sloths and later giant bison. These prehistoric creatures are know as megafauna. The ancient inhabitants of Utah hunted them with thrusting spears tipped by beautifully crafted fluted points of the Clovis and Folsom variety.[3]

The next pre-historic stage in Utah is known as archaic. The major sites for the shelter of archaic people were caves and rock shelters. Two archaic sites have been excavated in southern Utah—one the Cowboy Cave in Wayne County and the other Sudden Shelter on the north bank of Ivie Creek on the Fishlake National Forest in Sevier County.

These people too were hunters but there were by this time no giant animals or megafauna. They netted animals, made rabbit snares, hunted ducks, etc. A staple in their diet was salt-tolerant vegetation. Red meat was for these people a luxury. Life was not all hunting and gathering. They made gaming sticks and depicted split-twig animals in pictographs. The fortunes of the archaic peoples were determined by climatic changes. For a rather long period they appear to have lived a rather staid and settled life. In seasonal migrations they sought mountain sheep, deer, rabbits and Indian rice grasses. In the realm of artifacts, the hallmark of the archaic peoples of the Desert Culture was the milling stone and basketry. The basketry of the Desert Archaic was initially twined with coiled techniques introduced later. They also constructed other textiles such as mats, bags, etc. Other artifact items include lanceolate or triangular stemmed and notched projectile points, netting fur cloth, fiber sandals, hide moccasins, atlatls, dart shafts, digging sticks, clubs, bone awls and scapula saws or grass cutters.[4]

The formative adaptive strategy for pre-historic Indians in the area of the Dixie National Forest is represented first by the Anasazi and later the Fremont. Anasazi peoples are those who built the large attractive villages and are known by the Navajo word Anasazi meaning "the Ancient ones." They lived at the same time as the Fremont, but while the Fremont had a patch of corn, beans and squash here and there, the Anasazi became nearly dependent upon agriculture, building impressive systems of dams and canals to water their fields.

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[1] Jesse D. Jennings, "Prehistory of Utah and the Eastern Great Basin," *UUAP* no. 78, Salt Lake City, 1978. See also Richard A. Thompson, et.al.

[2] Gordon N. Keller and John D. Hunt, "Lithic Material From the Escalante Valley," *UUAP* no. 89, pp. 53-59, Salt Lake City, 1967, pp. 56-57.

[3] Melvin C. Aikens, "The Far West" found in Jesse D. Jennings ed., *Ancient Native Americans*, pp. 131-181, San Francisco, 1978, p. 148.

[4] Jennings.

Anasazi Indian Village. (Photos by Anasazi State Park, Boulder, Utah.)

The Anasazi did not move much—their range in Utah was mostly limited to a very narrow region in the southeastern part of the state—especially the canyons along the San Juan River drainage. However, at Boulder, Utah, in Garfield County, an Anasazi Indian site dating from around 1200 A.D. has been excavated and a state park established to interpret the native artifacts and explain the village life. Also within the geographical regions of the Dixie National Forest, there are within Kane and Washington Counties some sites commonly referred to as the Virgin Branch of the Kayenta Anasazi. This is the most westerly variant of the Anasazi pattern. Whereas the cultural development of the Anasazi in Colorado and southeastern Utah has been carefully studied to the point that we know more about them than about any other preliterate southwestern peoples, we still know relatively little of the Virgin Branch of the Kayenta Anasazi.[5]

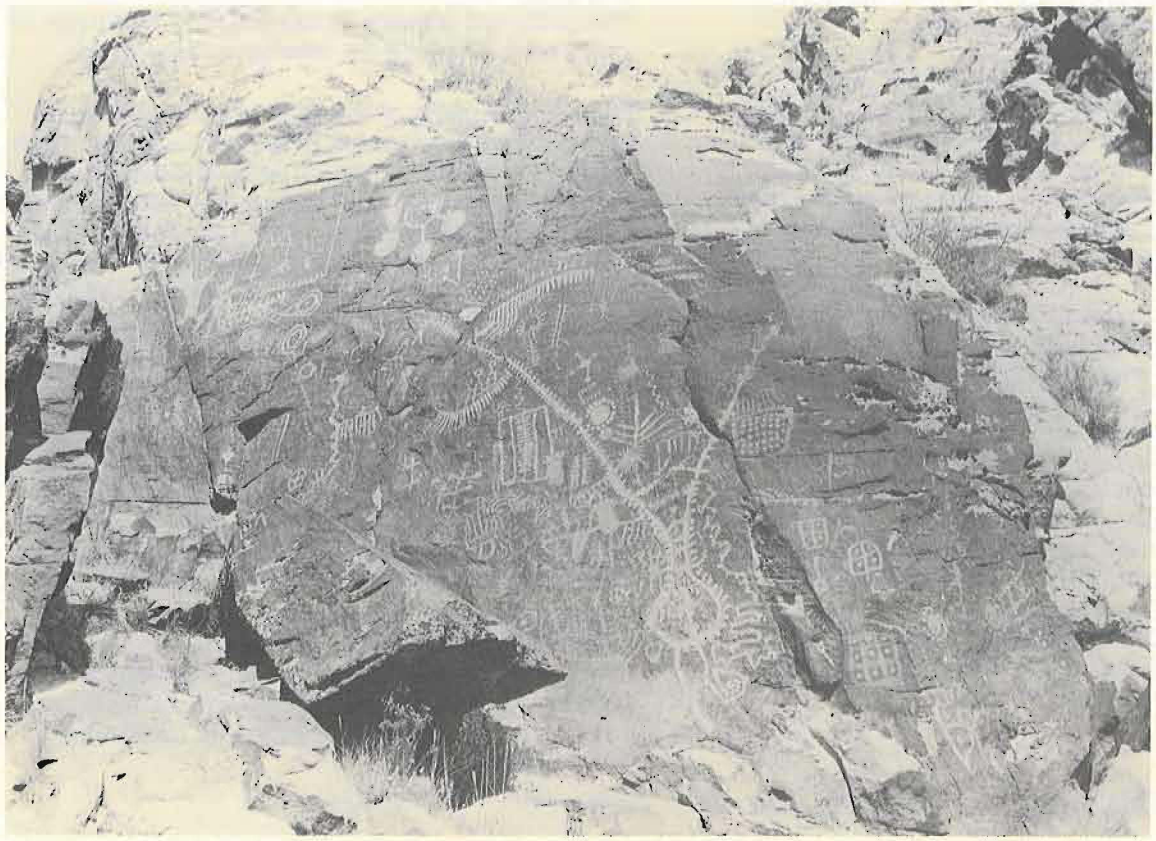
The Fremont Culture was first identified along the Fremont River and takes its name from that fact. This culture included a very large geographical area and a great diversity of life styles. Because their habits and customs were not identical throughout the Mountain West, distinct groups can be identified, including the Uinta Fremont, the Great Salt Lake Fremont, the San Rafael Fremont, the Sevier Fremont, the Parowan Fremont including the Summit Phase 900 to 1050 A.D. and the Paragonah Phase 1050 to 1300 A.D. Some scholars have simply preferred to call those who lived in the Great Basin the Sevier People. The lives of these Fremont people were in some ways very similar to those of the archaic people—enough so that some students of this culture have been tempted to wonder if they are not descendants, who through contact with others picked up enough new habits and tools to make them appear to be a wholly different race.[6]

They continued—like archaic people—to concentrate their numbers in those narrow strips of the Basin and Range and Colorado Plateau valleys where water meets land. But their new technologies where enough in the judgment of many scholars to make them an entirely different people whatever their habitat or ancestry. One technological innovation of the Fremont which obviously served to enhance their diet was the bow and arrow. With this weapon they could shoot a projectile further, harder and more accurately than the archaic peoples could launch a projectile with their atlatl.

The arrival of the distinct groups of Fremont into Utah varies from 400 A.D. with the Great Salt Lake

[5] Thompson, pp. 128-133.

[6] John P. Marwitt, "Median Village and Fremont Cultural Regional Variation." *UUAP*, no. 95. Salt Lake City, 1970. pp. 138-145.



Parowan Gap pictographs. (State Historical Library, Salt Lake City, Utah.)

Fremont to 780 A.D. for the Sevier Fremont and some time around 900 A.D. for the Parowan Fremont. Thus for the Dixie National Forest Area, the Fremont people who painted the haunting heroic-sized pictographs such as those in the Gap near Parowan, began their spread over southern Utah sometime around 800 to 900 A.D.[7]

The caves of the archaic peoples who preceded the Fremont may have been convenient homes as they required a minimum capital investment. It was instant home sweet home. But caves are awkward in that they are not always comfortable or ideally situated. The Fremont people learned to build shelters. Their shelters were typically undergound, with poles and dirt forming a roof. Access was through a hole in the roof. These shelters where easier to heat and much cozier in scale than the caves of the archaic peoples, but more importantly they could be built wherever food and water existed. The Fremont also erected rectangular granaries above ground which were made entirely of adobe or unmortared stone. Often two or three homes and granaries were built close together to make tiny villages.

Somewhere the Fremont had picked up the art of growing maize, or what we call corn, and beans and squash. The corn they raised was a variety of dented corn which was particularly drought resistant and required a relatively short growing season to mature.[8] Though they may not have farmed extensively, there is no doubt that they did supplement their diet with homegrown vegetables.

The Fremont people also made and left pottery. Their pottery was dominated by a simple gray coiled product, adaptable to many uses, such as boiling food, unknown to archaic people whose only vessels where woven baskets. Although simple gray pottery dominated, the Fremont also had painted and corrugated ceramics.

Of the Fremont cultural and religious life we know little. Numerous pictographs are of a distinctive type, with horned triangular shaped human figures, often wearing elaborate necklaces and loin cloths. The human figures are often surrounded by stylized deer, sheep, or other animals. The Fremont also made charming clay figurines carefully molded of unified clay and painted ochre, buff and green. We do not know what the figurines or the pictographs meant to the Fremont people but some think that since both are associated with game and harvest that they may well be magical charms invoking successful hunts and gathering. Fremont decorative arts can also be seen in necklaces, wristlets and pottery designs pressed into wet clay and in later periods painted.

The Fremont people appear to have lived in family groupings or clans and their range of commerce and contact with other people appears to have been considerable. They were not as isolated and provincial as was once assumed. Their culture is now seen as an amalgam of the cultural influences of surrounding peoples. They were eclectic, they drew from all directions for survival skills developed by others in coping with the harsh environment of southern Utah.[9]

However, their skills were not enough to sustain the Fremont from the vagaries of nature, or assimilation, or invasion or whatever caused their abandonment of southern Utah. Sometime around 1300 A.D. the Fremont people passed from the scene, leaving behind their haunting images and artifacts.

The Spanish were the first white explorers of the Dixie National Forest region as they worked out a route from Santa Fe, New Mexico, to California, a part of which became known later as the Old Spanish Trail. As they worked out this trail, they also impacted the lives of the Indians in the region.

The lives of the early numic Indians in southern Utah, as nearly as we can tell, were very stable, compared to ours. Traditional clothing, tools, foodstuffs and housing could continue hundreds of years without significant change or interruption.

Before the coming of the Spanish, the prehistoric Fremont and Anasazi left or were driven from Utah after more than a thousand years of continuous habitation. Perhaps even before they left southern Utah another people was moving in. These people spoke languages of common ancestry which we call Shoshonean. They proceeded to settle in between 1200 and 1300 A.D. to practice a hunting and gathering lifestyle somewhat between that of the Fremont and the archaic peoples.

These were a desert people whose most reliable staple was the pinyon nut available to them in some locations on the Dixie National Forest. They also caught fish and small animals for food, and raised some rare patches of corn. They had the bow and arrow, made good baskets and did a little potting. These people did not commonly have the pit houses of the Fremonts, however, tending to live in temporary brush shelters or wickiups. Usually they lived in small family bands, with little or no tribal organization and they had very little conflict between groups.

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[7] *Ibid.*

[8] David B. Madison, "The Fremont and the Sevier: Defining Prehistoric Agriculturalists North of the Anasazi." *AANT*, Vol. 44, no. 4, pp. 711-722, Washington, D.C., 1979. p. 712.

[9] Marwitt.

Three main groups of Shoshonean peoples settled in Utah—the Gosiutes in the north; the Utes in the central and east-central part of the state peripheral to southern Utah, but they significantly impacted the Dixie country in their nomadic roaming; and the Southern Paiutes who called much of the Dixie National Forest area in the southern part of Utah their home.

These Shoshonean peoples had been in place a few hundred years when another race entirely alien to the Great Basin and Canyonlands, brought changes more swift and devastating than any of these people had known before. The newcomers were pale, armored, mounted intruders from Spain who had moved northward from their established bases in northern Mexico provinces.

Hopes based on early reports of great wealthy cities and abundant gold mines to the north were quashed by Coronado whose expedition found the legendary Seven Cities of Cibola to be impoverished Indian pueblos in New Mexico. However, one of Coronado's scouting parties made its way to the south rim of the Grand Canyon somewhat south of Parashant and Mount Trumbull which were for several years two divisions of the Dixie National Forest that are located near the Grand Canyon in the state of Arizona. Cardenas and the twelve men of his scouting party—thoroughly intimidated by this landscape—retreated quickly to the base camp at the Zuni pueblos.[10] The resulting pessimistic report from Coronado slowed the Spanish northward advance, but did not stop it. In 1609, Santa Fe, the capital city of New Mexico, was founded.[11]

In 1769, Spanish bases were founded in California but these outposts were far beyond the frontiers of Spanish settlement and were weak and vulnerable. They needed a steady source of supply. All known routes crossed perilous deserts through hostile Indian territory. A less hazardous route was needed. In 1776, Franciscan Father Francisco Atanasio Dominguez was appointed to head a party to discover a more feasible overland route from Santa Fe to Monterey. He chose a young priest, known to history as Velez do Escalante, as his traveling companion. Escalante kept a detailed journal of the journey. Because of Escalante's journal and a map made by Don Bernardo Mieray Pacheco, this expedition was the first to open Utah to European consciousness. It is the most spectacular and best recorded Spanish penetration into southern Utah.

Leaving Santa Fe on July 29, 1776, the expedition

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[10] LeRoy R. Hafen and Carl Coke Rister, *Western America: The Exploration, Settlement and Development of the Region Beyond the Mississippi*, (Englewood Cliffs, N.J.: Prentice-Hall second Ed., 1950), p. 18.

[11] *Ibid.*, p. 56.

Father Escalante travels. (State Historical Library, Salt Lake City, Utah.)

of twelve men traveled by horseback over a known route to the Gunnison River. Eventually they made their way into Utah Valley and they proceeded south before eventually abandoning their attempt to reach California. They followed a course through southern Utah that took them just west of present Cedar City, near Kanarraville, to the Ash Creek, and across the Virgin River to the high tablelands of the canyon of the Colorado. This route took them through and near the lands that are now part of the Dixie National Forest. Escalante's daily journal provides the earliest eyewitness descriptions of the physical features, plant and animal life, and the various native people which they encountered. They discovered the Sevier River, the Virgin River, and Ash Creek along with other sites in southern Utah. The map also gave the world its first visual representation of Utah by one who had actually traveled through the country. The expedition returned to Santa Fe by way of the Crossing of the Fathers on the Colorado River (today Padre Bay of Lake Powell) and the Hopi Villages, arriving January 2, 1777, at their home base.[12]

The Spanish explorers also described the Southern Paiutes and the Utes—the most powerful and widespread of the historic Indian peoples in Utah. By 1776, the Utes were dramatically different from their great grandfathers who had lived in Utah when the Spanish first settled Santa Fe. Of all the changes contact with the Spanish had brought, the most powerful came through the adoption and use of the horse. Successful adaptation to the equine culture meant that the range of the normal habitat of the Utes was greatly increased. The horse also affected social organization, for the increased range of the Utes made it desirable to organize into groups larger than the small clan or family with chieftans now presiding over the affairs of the larger group.

The horse also gave the Ute warrior a great psychological and logistical advantage in warfare with no-mounted tribes. Taking advantage of their access to horses, some bands of Utes became a warlike people, raiding neighboring bands and tribes to plunder goods and even kidnap children. They took the children to the closest Spanish settlements and sold as slaves to work in domestic services or mines. In this manner the Utes terrorized their unmounted Utah relatives, the Gosiutes, in the north and the Southern Paiutes in southwestern Utah, pushing them back into marginal lands and occupying the more desirable parts of the territory themselves. Some Utes lived quite sedentary lives, fishing from mountain lakes, raising a little corn, and making crude pottery. As a group, however, the Utes were widely feared and respected.[13]

Just after crossing the Sevier River south and west of present day Levan, the Spanish explorers encountered about twenty members of another tribe of Indians, who were both docile and agreeable. These were Southern Paiutes, a Shoshonean-speaking tribe who had been crowded back by the Utes until their habitats were now mainly on the Virgin and Santa Clara Rivers, the Kaibab Plateau and in the Moapa and Las Vegas valleys of Nevada. Here in their warm and arid climate they led a sedentary life, planting corn and gourds, melons and other crops and watering from nearby streams. They were excellent basketmakers, using intricate techniques to fashion vessels of all sizes and shapes, including even protective hats for the women. They too had the bow and arrow and used flint knives and clubs for hunting, but they were a peaceful and gentle people. Perhaps because of their proximity to the Spanish, suffered considerably from raids by Spanish and Indian slave hunters.[14]

After the exploration of Dominguez and Escalante, there seems to have been almost continuous contact with the Utah Indians by Spanish traders from New Mexico until after the coming of the Mormons to Utah in 1847. The Spanish authorities attempted to regulate such contacts with numerous decrees. These, however, were not effective in keeping the traders out of Utah. The traders sought furs but they also traded for or bought captive natives as slaves from the Indians. As late as the 1850's, companies of Mexican traders continued to frequent the Sevier valley.[15]

Dominguez and Velez found pasture and timber in the remote land of southwestern Utah and more importantly to them—souls to save—but this did not in itself provide sufficient impetus to launch and sustain a new settlement in Utah. By 1777—having found little of the fabled gold and silver in the American southwest—the Spanish crown had little stomach for founding isolated interior colonies. So present day southern Utah, except for an occasional itinerant trader, remained the unchallenged home of the roaming Utes and more sedentary Paiutes. The Dominguez-Escalante expedition, however, was part of a chain of events that would change all this, bringing white men to southern Utah who would crisscross her trails and streams and thereby open this remote and strange land for later settlement.

Also, the route envisioned by the Fathers in 1776 from Santa Fe to California was pushed from the Sevier Valley to southern California in 1830 by a party of Santa Fe traders headed by William Wolfskill. It was still called the Old Spanish Trail when the Mormon pioneers later made the southern and western half of the trail a part of their Mormon corridor to the Pacific.

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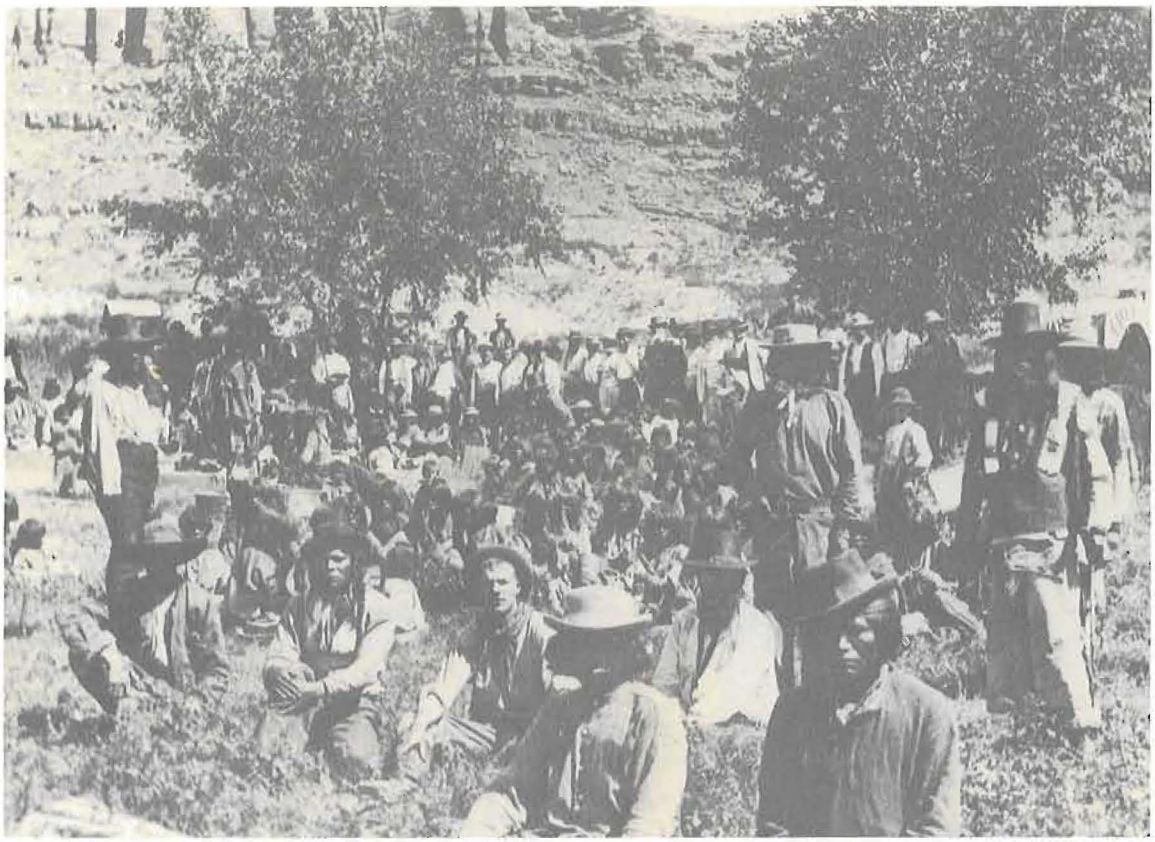
[12] Ted J. Warner, ed. *The Dominguez-Escalante Journal,* Trans:, Fray Angelico Chavez (Provo, Utah: Brigham Young University Press, 1976) is the best account of this significant expedition.

[13] John R. Alley, Jr., "Prelude to Dispossession: The Fur Trade's Significance for the Northern Utes and Southern Paiutes," *Utah Historical Quarterly* Vol. 50, no. 2, 1981, pp. 106, 107.

[14] *Ibid.*

[15] Poll, et.al., p. 359.



Paiute Indians, Virgin River, Southern Utah. (State Historical Library, Salt Lake City, Utah.)

Paiute Indians, Koosharem, Utah. (State Historical Library, Salt Lake City, Utah.)

Paiute Indian. (State Historical Library, Salt Lake City, Utah.)

In the nearly half a century following the 1776 expedition until the coming of the fur traders to Utah, few documents make mention of Utah, even though we know that Spanish traders continued to make their way to Utah. The next major incursion by whites came with the fur trade epic. During the heat of competition for beaver pelts in the later 1820's and early 1830's, southern Utah was explored by fur traders and trappers.

The first into the area of the current Dixie National Forest was among the most famous and respected of all the American trappers, Jedediah S. Smith. The second mountain rendezvous of the fur trappers was held at the southern end of Cache Valley near Hyrum in 1826. As this rendezvous broke up, Smith headed out in search of virgin trapping grounds. On August 16, 1826, accompained by sixteen men, he began a search for beaver streams and for a navigable river to the Pacific. This endeavor took him southward into Utah's present day Dixie country. He became the first American trapper to meet the Paiutes. He reported that they approached him near the Santa Clara River, and brought with them a rabbit "as a token of friendship" and "an ear of corn as an emblem of peace." He also reported that the Paiutes wore deer, antelope, and mountain sheep skins, and a few of them had beaver moccasins; although Smith noted the lack of beaver in the southern Utah area.[16]

Smith followed the Virgin River to the Colorado River and struck across the deserts to the Mojave. He and his party eventually made their way to the San Gabriel mission near Los Angeles. They were greeted with hostility and suspicion by Mexican authorities and ordered to leave by the same route they had come. Evading the order, Smith and his crew moved northward into the San Joaquin Valley, trapping as they went. Leaving his men at the Stanislaus River, Smith and two of his companions (Robert Evans and Silas Gobel) crossed the Sierra Nevada Mountains and the basins and ranges of present-day Nevada on their return trip. After suffering terrible privation they came upon the familiar waters of the Great Salt Lake in the spring of 1827.

He hurried on to the 1827 rendezvous site, on the shores of Bear Lake, near present-day Laketown, where they were greeted with joy by the other mountain men who assumed they had died in the deserts or fallen prey to Indian attack. Shortly after the rendezvous, Smith left again for California taking eighteen men and following the same route as the previous year. This journey was plagued with mishap and calamity. Attacked by Indians on the Mojave, several of the party were killed, Smith barely escaping with his life. In California, Smith decided to travel up into Oregon before returning east to Utah. Near the Umpqua River, the party was attacked again with only Smith and three others escaping. From here they made their way to safety at Fort Vancouver. These two expeditions, which came through southern Utah, are among the most heroic of the explorations of the American West.

Jedediah S. Smith. (State Historical Library, Salt Lake City, Utah.)

[16] Jedediah S. Smith, *The Southwest Expeditions of Jedediah S. Smith; His Personal Account of the Journey to California, 1826-1827*, ed. George R. Brooks. (Glendale: Arthur H. Clark, 1977), pp. 49-63.

A second party of trappers left Santa Fe late in 1826, traveling west along the Gila to the Colorado River. In March, after trapping up the Colorado, they reached the Mojave villages, where a skirmish resulted in some deaths to the Indians. The party then divided into several groups. The group led by James Ohio Pattie crossed the Colorado River to the north side, and although his account of the route is difficult to follow at times, it appears they turned east over the Shivwits Plateau and Mount Trumbull areas and went on east thus having skirted the southern end of the Dixie National Forest area.[17]

A third trapper group led by Thomas "Pegleg" Smith crossed the Colorado to trap on the Virgin River in 1827 and 1828. After a confrontation with Indians, Smith's party continued north and eventually returned to Santa Fe in 1828. He, alone among trappers, secured enough skins to make a cargo from the southern Utah area.[18] Even though southern Utah contained alpine forests as well as arid deserts, it produced little furs, so it was that the fur men considered it barren. The importance of southern Utah to the fur trade epic was almost negligible, but the trappers did help to open the region to later whites. The main significance of these trapper caravans is that they brought the area to the attention of others. These mountain men opened the west and southern Utah to future immigrants. The landscape was projected into the nation's consciousness by the men who came here, named many of the mountains, valleys, and rivers,[19] and then left little remaining evidence of their passage to clutter this previously little known land.

The mountain men played a significant role in blazing western trails. One of the major western routes was the Old Spanish Trail, a trade and caravan route which led northwestward into central Utah from Santa Fe, then southwestward down Salina Canyon, to the Parowan area, past Cedar City to Mountain Meadows and on south and west to the lower Virgin River and Las Vegas Springs and on to Los Angeles. This horse trail was a commercial route which had its birth as a major trail in 1829 and 1830.

In 1829, a Tennessean by the name of Ewing Young departed from Taos, New Mexico, and traveled in a northwesterly direction to the Grand River, crossed to the Green, and eventually followed Jedediah S. Smith's route to California. He returned to Taos in the summer of 1830 and became a business partner with William Wolfskill, a Kentuckian who for several years had engaged in Santa Fe trade between Missouri and Santa Fe. Their plan was to trap in the interior valleys of California. They followed the San Juan, Grand, and Green Rivers to the Colorado then journeyed west to the Sevier River across Clear Creek to the Beaver area and then south to Mountain Meadows and southwest through the Mohave villages and Cajon Pass to Los Angeles.[20]

The Young-Wolfskill party thus blazed the "Old Spanish Trail" which became a regular caravan route for the Missouri-Santa Fe-Los Angeles trade and which passed along the western edge of the Dixie National Forest. This route also provided an alternative southern route for late seasonal travel for those headed to California and diverting southward from the California Trail. Late travelers could pass southward through Utah and pick up the Old Spanish Trail near Beaver and follow it to southern California.

In 1841, the first avowed homeseekers made their way to the Pacific Coast and one company of immigrants followed the southern route through the region of the Dixie National Forest. This was the Workman-Rowland Company which assembled at Santa Fe. Part of its members had recently journeyed to Santa Fe from Missouri over the Santa Fe Trail. Others were American traders who had resided for some years in New Mexico. They set out from the frontier outpost of Abiquiu in September, driving along a flock of sheep to serve as food along the trail. They traveled on horseback and with pack animals, following the well-marked Old Spanish Trail. A two-month journey brought them safely through southern Utah to Cajon Pass and to southern California.[21]

A far different and more significant encounter with the landscape of southern Utah took place in 1844 as John C. Fremont led a band of explorers into the area of the Dixie National Forest. Fremont had made a trip over the Oregon Trail to South Pass in 1842, and in 1843 he again followed that route but diverted to explore the Great Salt Lake. From there he went on to the Dalles in Oregon. In late November 1843, he turned south by way of Klamath and Pyramid Lakes. After recuperating at Sutter's Fort near Sacramento, he moved south through California and followed the Old Spanish Trail eastward from Los Angeles to Utah. He circled and named the Great Basin of Nevada and Utah in the process. The report of his expedition, published as a government document, was to serve as a guide to Oregon and California emigrants. As Mormons were leaving Illinois, they sought an uninhabited place where they could practice their religion unmolested.

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[17] James Ohio Pattie, *The Personal Narrative of James Ohio Pattie of Kentucky*, Timothy Flint, ed. in Reuben Thwaites, *Early Western Travels, 1748-1846*, (Cleveland: Arthur H. Clark Co., 1905), pp. 131-140.

[18] Sardis W. Templeton, *The Lame Captain: The Life and Adventures of Pegleg Smith, (Los Angeles: Westernlore Press, 1965), pp. 55-58. See also Charles L. Camp, ed. George C. Yount and His Chronicles of the West*, (Denver: Old West Publishing, 1966), p. 235.

[19] Not all the names stuck. Jedediah S. Smith named the Virgin River the "Adams River" in honor of President John Quincy Adams.

[20] Hafen and Rister, p. 220.

[21] *Ibid.*, p. 321.

They studied Fremont's reports and the writings of other western explorers and adventurers. By the time they crossed the Mississippi early in 1846, they had decided to migrate to the country west of the Rocky Mountains. Fremont's report was a factor in the Mormon decision to settle in the Great Basin.

Though Fremont had discovered little that was not known, he earned a rightful place among the great explorers of the American West. He was a careful observer, enormously interested in the plants and animals of the regions he passed through, measuring, mapping, and describing in romantic language our western landscapes. On May 10, 1844, he camped on the Santa Clara Creek. He found the grass good and the water clear. He noted that this country was a vast improvement over the desert they had crossed from Cajon Pass to Utah Hill.[22] On May 11, they experienced the first rain in 27 days.[23] The next day the Pine Valley Mountains showed out on their right "handsomely-high and rugged...and covered with snow...." That night they found an excellent campground on the summit of a ridge at Mountain Meadows. Fremont noted that this campsite formed the dividing line between the Great Basin and the Colorado Plateau. The water which ran south from here went into the Rio Virgin and thence to the Colorado and that running north to the Great Basin. He found the extensive "mountain meadow rich in bunch grass, fresh with numerous streams of clear water all refreshing and delightful to look upon." Fremont noted that annual trade caravans back and forth between California and New Mexico halted and rested here, sometimes for weeks. It was a suitable place for recovery being about a mile high and ten miles long and bordered by grassy hills. At this campsite the Fremont party was joined by hunter, trapper, mountain man Joseph R. Walker, who was a great western trail blazer in his own right. They remained at the Mountain Meadows campsite one day.[24]

On the 13th they resumed their progress in a northwesterly direction descending into a grand valley.[25] On the 14th they sighted what he called the "Wahsatch [sic] Mountains" on their right. This was, of course, the Markagunt Plateau or Cedar Mountain. It was described as being "white with snow."[26] As they traveled north the next several days, they crossed little streams, the country was clear of desert. They met a few mounted Ute Indians and reached the Little Salt Lake near Parowan camping on the north shore of this seven-mile long one-mile wide lake.[27] Their northward course was along the foot of a mountain range which was wooded with pine and cedar. Fremont regarded this as a region of "great pastoral promise, abounding with fine streams, rich bunchgrass, soil that would produce wheat and indigenous flax growing as if it had been sown."[28] On the 20th they met a band of Ute Indians headed by Chief Walker. They were well armed with rifles which Fremont said they knew how to use. Their destination was the Spanish Trail to levy tribute on California caravans. To Fremont they were "robbers of a higher order" than those of the Mohave Desert area who had killed one of his men. These Indians "affected to purchase—taking the horses they liked, and giving something nominal in return."[29] On the 23rd they reached the Sevier River in Millard County well outside the limits of the Dixie National Forest.[30]

In 1853, Fremont returned to southern Utah on an expedition of less historical importance. In an attempt to find a feasible route for a transcontinental railroad, Fremont's party entered Utah from the east by way of the Colorado River. He explored the Fremont River in Wayne County and after a very difficult winter trek reached the Mormon settlement of Parowan having come by way of Fremont Pass. After a few day's rest, he and his companions continued to California over the Old Spanish Trail. He never again returned to Utah.[31]

The second Fremont expedition to southern Utah represented the end of an era. By 1853, the Mormons had themselves explored much of southern Utah and were busy establishing settlements which would irreversibly alter the nature of the landscape and the relationship of man to land in southern Utah.

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[22] John C. Fremont, Diaries of John C. Fremont, *The Daring Adventures of Kit Carson and Fremont,* (Hurst and Company: New York, 1885), May 10, 1844.

[23] *Ibid.*, May 11, 1844.

[24] *Ibid.*, May 12, 1844.

[25] *Ibid.*, May 13, 1844.

[26] *Ibid.*, May 14, 1844.

[27] *Ibid.*, May 17, 1844.

[28] *Ibid.*, May 18, 1844.

[29] *Ibid.*, May 20, 1844.

[30] *Ibid.*, May 23, 1844.

[31] Poll., et.al., p. 79.

Chapter 3

EXPLORATION AND SETTLEMENT: THE MORMON PERIOD

The Mountain Men never intended to stay. They lived almost as comfortably with the environment as the Indians did, but they had trapped the beaver nearly out of existence in the more productive areas by 1835. With the beaver gone the Mountain Men moved elsewhere, leaving the Indians pretty much alone again for almost a decade.

In 1847, the first of a whole new wave of people arrived on the scene—a people not content to accommodate their lives to the land as they found it. They had, within certain limitations, skills and technology to fit the land to their lifestyles. They built dams and ditches, settled towns and cities, and lined the spaces between them with roads. Some came to dig away whole mountains, pocking the hills with mine shafts. Others cut the timber to build their villages, and grazed livestock in the mountains and valleys.

Exploration of southern Utah with a view toward settlement began late in the fall of 1847. Earlier that year, July 24, Brigham Young had arrived in the valley of the Great Salt Lake and pronounced the Great Basin the new home for his Mormon followers. Once having a suitable place to settle, the Mormons began immediately a communal effort to civilize their new homeland. They had moved far beyond the advancing line of settlement of a remote land hundreds of miles in any direction from the nearest major population centers. The land was unknown and its soils undried. Could large numbers of people survive here?

It was essential to Brigham Young that the net of Mormon influence in the West be cast wide. Many more immigrants were expected and a degree of self-sufficiency was necessary. No sooner had the pioneer company arrived in the Salt Lake Valley than Brigham Young dispatched exploring parties to identify and claim further oases for Mormon occupation.

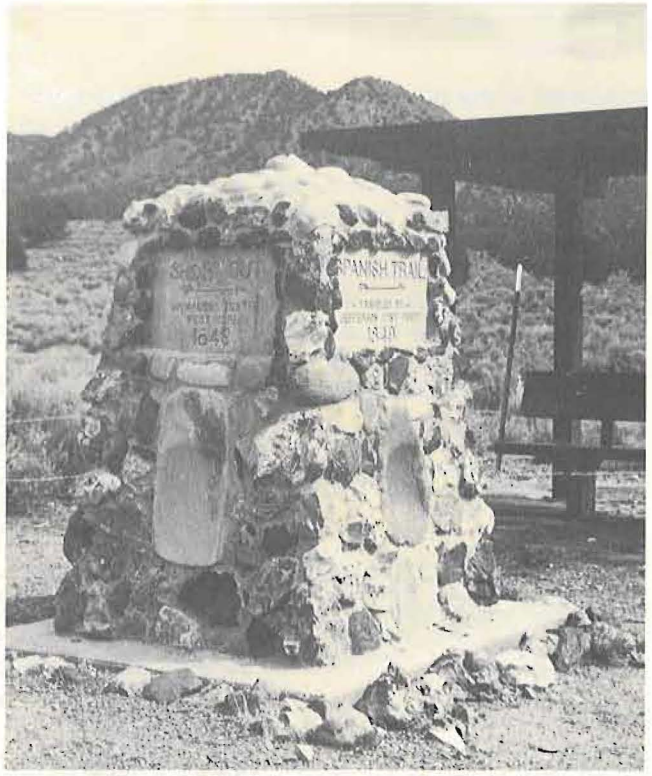
Important in the future settlement of southern Utah was the fact that Jefferson Hunt, Senior Mormon officer of the Mormon Battalion, had led a small group of Battalion members who had been mustered out at San Diego northward through southern Utah in the summer of 1847. Because of his knowledge of the route, Captain Hunt was assigned to lead a small party in the fall of 1847 southward through Utah to the Pacific Coast to secure provisions and livestock, and to carry instructions to other Mormon Battalion members still in California.[1]

[1] Journal History of the Church of Jesus Christ of Latter-day Saints, November 13, 1847, located in the L.D.S. Historians Office, Salt Lake City. Hereinafter cited as Journal History of the Church.

Brigham Young. (State Historical Library, Salt Lake City, Utah.)

Jefferson Hunt. (State Historical Library, Salt Lake City, Utah.)

Hunt's party followed approximately the route of U.S. Highway 15 from Salt Lake City to Little Salt Lake, in present Iron County, where they picked up the Old Spanish Trail and followed it to the coast. When he returned in the spring of 1848, Jefferson Hunt carried impressions of the settlement potential of southern Utah. Brigham Young visited him at his home in Provo in September 1848 to converse about the southern country. Hunt had noted flowing water, presence of minerals and features of the terrain and reported this information to Brigham Young.[2] This report encouraged Brigham Young to send an exploring party southward from Salt Lake under direction of Parley P. Pratt in the fall of 1849.



Jefferson Hunt Memorial Spanish Trail Monument, 1849. (Dixie N.F. photo.)

In the interval between Hunt's report and the sending out of the Pratt expedition, the announcement of the discovery of gold in California had led to a gold rush. In 1849, hundreds of emigrants poured into the Salt Lake Valley on their way to the gold fields. Some arrived too late to make the trip westward across the Sierra Nevadas. Because of his three previous trips over the southern route, Jefferson Hunt was hired to pilot many emigrants with 125 wagons and 1,000 cattle to California by way of the southern route. The anxious argonauts of the Sand Walking Company caused Hunt no end of trouble even threatening his life. These dissensions caused a split in the company. At Mountain Meadows near the rim of the Great Basin, most of the party left Hunt for a supposed cutoff. A few wagons stayed with Hunt and he safely piloted them through to California. The supposed cutoff took the Sand Walkers through Death Valley where they suffered much hardship and thirteen deaths.[3]

It was November 25, 1849, when the Mormon exploring party of fifty men under Parley P. Pratt left Salt Lake to explore the south and to ascertain its possibilities for sustaining settlement. The expedition arrived in the Little Salt Lake Valley December 21, 1849. The party divided with some remaining behind at Red Creek (now Paragonah) to guard recuperating livestock. Twenty men on horseback were to push the exploration southward. Those remaining behind moved their camp southward to Center Creek (now Parowan) and while waiting explored in the region. Some went up Parowan Canyon where they discovered accessible timber, plaster of paris (gypsum) and water lime (limestone).

Between January 2 and 6, 1850, a party of ten of those encamped at Parowan Creek explored west of Little Salt Lake where they found Indian pictographs. A few miles west of the present site of Cedar City they came upon "a range of hills filled with iron ore of the richest quality...."[4]

The twenty men who went southward reached the rim of the Great Basin on December 26. By January 1, 1850, they had continued down to the confluence of the Virgin with the Santa Clara. They followed north up the Santa Clara to the new wagon road made by Jefferson Hunt that fall and followed it via the Mountain Meadows to the Old Spanish Trail. As they followed the Old Spanish Trail eastward, they also discovered the iron ore in the same range that the other explorers had found a day or two previously. They arrived back at the base camp January 8, 1850.[5]

The information brought back in Pratt's report to Mormon officials in Salt Lake was encouraging and the early settlement of southern Utah was decided upon. During the summer of 1850 plans were laid for colonizing the newly created county to the south known as Iron County. Parowan was a called mission to open up new territory for the special purpose of iron mining and manufacturing. The colonists were called, instructed in what to bring and the mission departure date set for December so the company could arrive at the site, build mills, a meeting house, construct homes, build irrigation works, and begin preparing land before time for spring planting.

The 167 colonists departed from Salt Lake City on December 7, 1850, under the leadership of

[2] Journal History of the Church, September 17, 1849

[3] William Lewis Manly, *Death Valley in '49* (W. Hebbert: New York and Santa Barbara, 1929), pp. 201-203.

[4] Report of Southern Exploring Expedition submitted to the Legislative Council of Deseret by Parley P. Pratt, February 9, 1850, located in Church Historian's Office.

[5] *Ibid.*

George A. Smith and arrived on January 13, 1851. They immediately set about exploring the surrounding country. One party explored Parowan Canyon,

George A. Smith. (State Historical Library, Salt Lake City, Utah.)

another Summit Canyon, another the Little Salt Lake, and a fourth party went up Red Creek. A fifth party of twenty men under George A. Smith went south to the region of Cedar Valley and west to Iron Springs. On the way, this group met Jefferson Hunt returning from California. He returned with them to Parowan, staying four days, just long enough to be elected representative from Iron County to the Territorial Legislature.[6]

Having explored the area, the settlers now set about building a combined town and fort. They made roads to the mountains for timber, cleared land for cultivation, dug irrigation ditches, set up mills, etc. On January 28 crews began hewing logs for a meeting house. That same day George A. Smith wrote to Washington, D.C. asking for a post office for the new town.[7]

During the next few months a school was organized, and a site for an iron works scouted. Little Salt Lake City or Parowan had been transformed from a solitary stretch of salt grass and sagebrush, disturbed only by occasional travelers on the Old Spanish Trail and wandering groups of Indians into a village surrounded by fields of wheat, homes, a church, school, and political organization. The first settle-

[6] Journal History of the Church, January 17, 1851.

[7] Journal History of the Church, January 28, 1851.

Iron mine coke ovens. (S.U.S.C. Special Collections.)

ment in southern Utah had been successfully planted.

By May 1851, coal was discovered in Cedar Canyon. In the fall, after the crops were in, a group of settlers moved from Parowan to Cedar City arriving on November 11, 1851. Their purpose was iron mining and manufacturing. At first the iron industry showed promise. Their small blast furnance turned out some quantity of iron in 1852. Flooding and Indian problems stopped production in 1853, but in 1854, a new furnace and six coke ovens were put into production. The next year eleven tons of iron were produced and the operation seemed well on the road to success. Then a plethora of problems descended—drought, famine, flood, and finally the dislocation caused by the Utah War of 1857 and 1858.[8] By October 1858, the resolve of the workers had been tested to the limit.

Utah Iron & Coal Co. (S.U.S.C. Special Collections.)

The Utah War left a legacy of great tragedy and burden that was an additional setback to the Iron Mission. In the fall of 1857, an emigrant company known as the Fancher party began traveling through Utah along the southern route to California. This was a time of extreme tension, the Mormons fearing that the federal army on the plains intended to destroy them. Moreover, the Utah settlements were under strict military orders not to trade with passing emigrant companies. They were saving food for whatever dislocation a shooting war might cause. This circumstance added to the distrust Mormons had of any strangers among them. The Mormons stayed aloof and refused to sell food to emigrant trains.

This attitude angered the emigrants, and part of the Fancher party, calling themselves the Missouri Wildcats, began to boast of participating in the persecutions of the Mormons in the midwest. Some threatened that once they arrived in California they would lead an army back to Utah crushing the Mormons in a pincer movement. The violence of acts against the Mormons in Missouri and Illinois lent credibility to these threats. In addition both Mormons and Indians reported the poisoning of springs, wells, and meat by the emigrants.

The tensions created by the situation were made worse by the delicate relationship between the Indians and the Mormons in southern Utah. The Indians knew that there was tension between the Mormons and other whites or "Mericats," as they called them. The Mormons were anxious to placate the Indians, hoping they would be allies if a shooting war came. Moreover, they were fearful of retribution by Indians on Mormon settlements if the Mormons were not cooperative, as the Indians outnumbered the whites in parts of southern Utah.

The Fancher Company made it past Cedar City and camped at Mountain Meadows, then a lush and pleasant rest stop for California-bound travelers. The difficult Mojave Desert lay ahead of them, but when they sought provisions at nearby towns the settlers refused to sell to them. Indians had been threatening to attack the company and local Mormons stirred them up further against the emigrants.

When the situation began to reach crisis proportions, local church and militia leaders sent James Haslam as a special rider to Brigham Young in Salt Lake City for instructions. Haslam left Sunday evening, September 6. Monday morning the Indians attacked, laying siege to the encampment. Before the messenger returned, the local Mormon church and militia leaders decided to join with the Indians to assure that the Fancher party would not reach California. Promising protection, they disarmed the emigrants. Then at a given signal, Indians and whites fell upon the Fancher party killing all but seventeen small children from the company of 140 persons. The messenger arrived back on September 13, two days after the massacre, with instructions from Brigham Young to protect the wagon train.

This incident which took place at a site ~~which~~ that is now on the edge of Dixie National Forest was reported to Brigham Young as an Indian depredation. It was later before he began to learn of white Mormon complicity in the massacre. Fearing that all Mormons would be blamed for an isolated incident with terrible reprisals on the Church, Young did not investigate the matter aggressively. He took the view that it was not known nor could not be ascertained what had happened, since many conflicting reports had been received. If white men had participated, they did so upon their own responsibility, without the knowledge of the Church membership

[8] The Utah War consisted of the sending of federal troops by President James Buchanan in 1857 to put down a supposed rebellion in Utah and to replace Brigham Young with Alfred E. Cummings of the state of Georgia as Utah Territoral Governor.

or the leaders of the Church. Only the new governor, Alfred Cumming, was authorized to investigate the matter, and Young at the time urged him to do so. Cumming refused, on the grounds that the general amnesty granted by President Buchanan at the end of the Utah War would apply to any whites who might have been involved. As further evidence was brought to light, southern Utah Mormons who were involved began to flee. Two, Isaac C. Haight and John D. Lee, were excommunicated for their participation and others were relieved of their church positions. Eventually John D. Lee was arrested. His first trial resulted in a mistrial. A second trial convicted him and he was sentenced to death. In March 1877, he was taken to the massacre site at Mountain Meadows and executed by a firing squad.[9]

The massacre continues to receive attention and discussion, partly because of the many abiguities involved. This was a most complicated affair. Interest had been sustained by the fact that Mormons were involved. To practicing Mormons, it was a matter of grave concern and anguish. It is the one incident in the long history of Mormons, with their persecutions and tribulation, which gives credence to the charge of their detractors that the early Mormons were a vengeful and violent people. More than anything the tragedy at Mountain Meadows was a bizarre aberation. It was utterly inconsistent with Mormon teachings. It happened because in the heat of the moment and with pressures tightening in upon them from many directions a few men panicked, disregarding accepted Mormon procedures for arriving at collective decisions. If leaders came to misguided conclusions, how could they have gotten the rank and file militia numbering fifty-four men to assent to such a scheme? Peer pressure, the recent inflamatory teaching of the reformation, and obedience to authority seem to be the most compelling answers. The Mountain Meadows Massacre did happen. It was a grevious trial for faithful Mormons. It was made more painful because the act went so utterly against every principle of their faith. Today on the boundary of the Dixie National Forest at Mountain Meadows, a monument is maintained to remind everyone, non-Mormon and Mormon, of this great tragedy and to help us all to remember and to learn.[10]

To a constant stream of natural calamities hindering their iron work, there was added the great human calamity of the Mountain Meadows Massacre. It may well be that many could no longer live near the scene of such a tragedy. The records show that the population of Cedar City declined drastically in 1858, and the iron making effort was abandoned

Isaac C. Haight. (State Historical Library, Salt Lake City, Utah.)

John D. Lee. (State Historical Library, Salt Lake City, Utah.)

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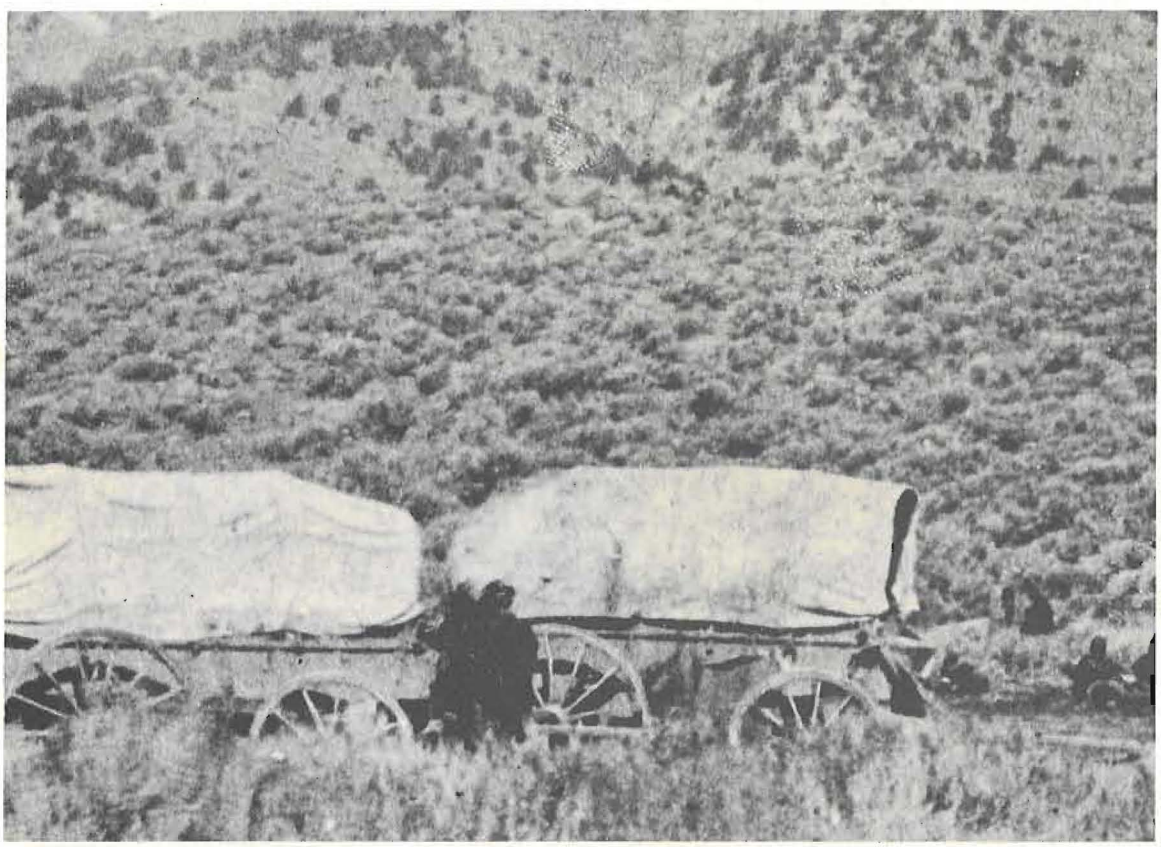
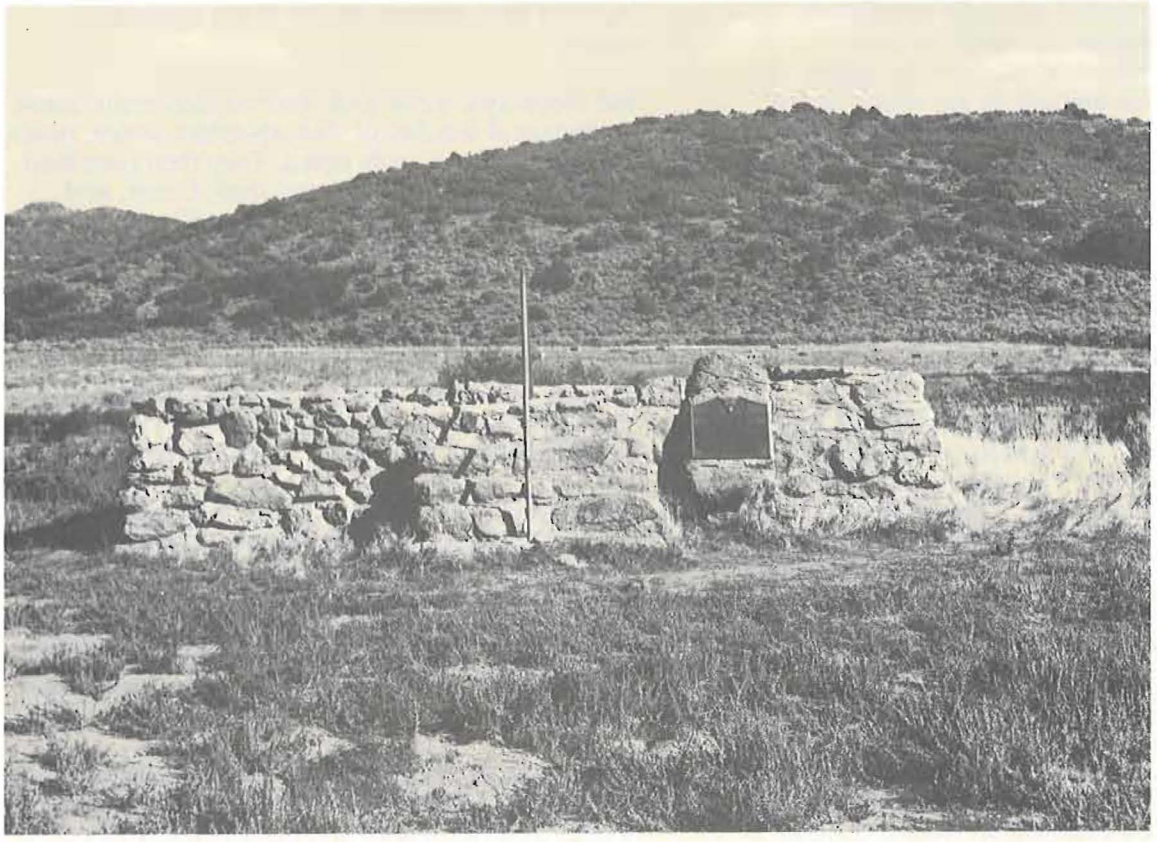
[9] For the best history on the Mountain Meadows Massacre, see Juanita Brooks, *Mountain Meadows Massacre*, (Stanford: Stanford University Press, 1950).

[10] Forest Service Historical Document, Vol. II.



Mountain Meadows. The day of John D. Lee's execution. (State Historical Library, Salt Lake City, Utah.)

Mountain Meadows. John D. Lee sitting on coffin before being executed. (State Historical Library, Salt Lake City, Utah.)



Mountain Meadows Monument plaque. (Dixie N.F. photo.)

that October.[11] There were sporadic attempts to revive iron manufacturing in southern Utah throughout the century, but not until the capital of giant companies was brought to the region in the twentieth century did Iron County produce significant amounts of iron ore.

The Iron Mission represented the first attempt to impose anything other than an agriculture settlement in Utah. With the passage of the iron industry, the settlers turned to agriculture and livestock raising which was soon to become the economic foundation of most southern Utah communities.

In the fall of 1851, another party of colonists was sent southward under the leadership of John D. Lee to establish a mission to the Indians on the Virgin River and Santa Clara Creek. They arrived at Parowan on November 4, 1851, and because of the nature of their calling, there was soon another round of exploration by Mormons of southern Utah.[12]

Lee set out from Parowan on January 27, 1852, leading a party of 12 men for purposes of exploring the Virgin River region. They returned to Parowan February 18, 1852.[13] He reported that in February trees were putting forth green foliage and there was abundant water and bloom indicating the soil was rich. He speculated that the Virgin River basin might be a suitable location for raising cotton, grapes, figs, etc.[14]

In early June of 1852, the old Indian Chief, Quinnarrah (Kanarrah) requested that the Parowan residents send a party to Panguitch Lake to visit the Indians gathered there. John D. Lee, J. C. L. Smith, John Steele, and three others made the trip eighteen miles up Parowan Canyon to the top of Cedar Mountain and then descended nine miles eastward. There they met the Indians and explored the region around Panguitch Lake, gathering much information about the country on the headwaters of the Sevier River. What they saw excited their curiosity, and upon returning from this three-day trip, they organized a party to explore the region more fully and to go even further eastward beyond the mountains.[15]

This second party of mountain explorers included: J. C. L. Smith, John D. Lee, John Dart, Soloman Chamberlain, Priddy Meeks, and F. T. Whitney. They left Parowan June 12, 1852, going north through the Red Creek (Paragonah) area, up the Little Creek Canyon and east into Panguitch Valley. They considered this valley suitable for a settlement of 50 to 100 families who could engage in lumbering from the excellent timber in the mountains nearby.

Two more days travel took them to Mammoth Creek, a tributary of the Sevier. The abundant timber, grass, and water were all duly noted. They then bent their course to Asay Creek, passed Duck Creek, and passed over a ridge into Strawberry Creek. Here they reported traveling three days among timber of the best quality clear of underbrush. They descended into Swain's Creek which they reported being about ten feet wide and one foot deep. The route then took them to the headwaters of Long Valley Canyon. Here they reported there were many "handsome places for settlement in the narrow but fertile bottom of the stream," (Long Valley).

They found it necessary to leave the stream on account of driftwood and narrowness of passage. They diverted south over Harris Mountain Pass arriving on the Virgin Bottoms near Canebeds. Indians then guided them to the Virgin River, Laverkin Creek, Ash Creek junction areas. They arrived back at Parowan after a journey of 336 miles which took them twelve days.[16]

Because of his assignment to the Indians and as a result of explorations, John D. Lee led several others in the fall of 1852 to locate a settlement on the Ash Creek about fifteen miles south of Cedar City at a place called Harmony. This site, originally an Indian farm and mission, was abandoned in 1862 because of rain and flooding. In conjunction with reporting his new settlement, Lee also wrote Brigham Young suggesting the sending of colonists to the Rio Virgin Country[17].

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[11] Leonard J. Arrington, *Great Basin Kingdom: Economic History of the Latter-Day Saints, 1830-1900*, (University of Nebraska Press: Lincoln, 1958), pp. 122-127.

[12] *Deseret News*, April 3, 1852.

[13] *Ibid.*

[14] *Ibid.*

[15] *Ibid.*, August 7, 1852. Also see "Journal of Priddy Meeks," *Utah Historical Quarterly*, Vol. X, 1942, p. 187.

[16] *Ibid.* See also Dixie National Forest Service Historical Documents, Vol. II.

[17] Journal History of the Church, March 6, 1853.

Brigham Young travels to southern Utah. (Brigham Young in center with top hat.) (State Historical Library, Salt Lake City, Utah.)

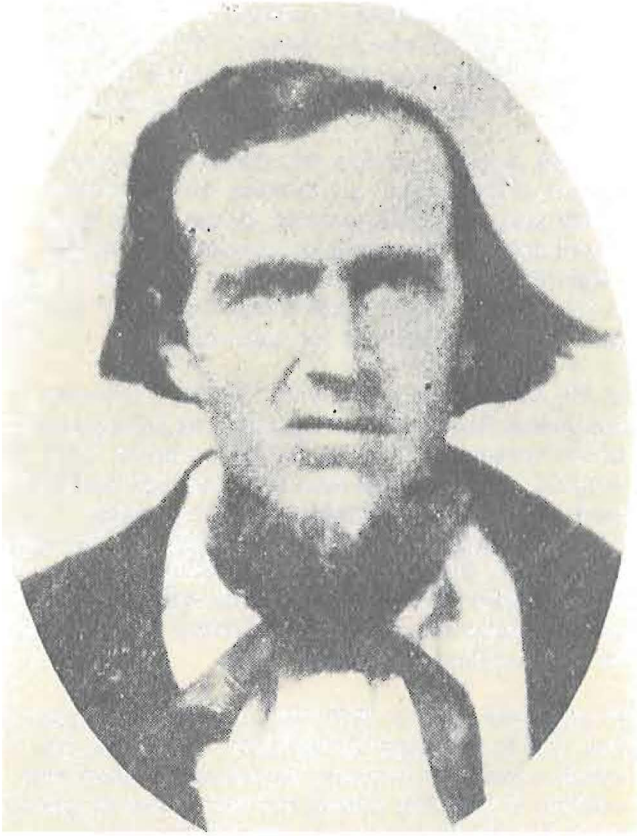
At the October Conference of the Mormon Church in 1853, a group of fifty families were called as additional missionaries to work among the Indians of southern Utah and to strengthen the southern Utah Mission. These missionary families under the leadership of Rufus C. Allen arrived May 16, 1854, and found that some Paiute Indians were already attending school at Harmony. Three days later Brigham Young visited Harmony and inquired about the possibility of a wagon road to the Virgin.

A few days later some missionaries led by Rufus Allen went south beyond the Black Ridge to work among the Virgin River Indians.[18] They met with Chief Toquer at the present site of Toquerville and then pushed on to the Virgin, past present Washington and St. George to Santa Clara. Jacob Hamblin and William Henefer stayed there until July.

During the summer of 1854, some of the Harmony settlers found a better location a few miles further up Ash Creek and moved there; they called the new location New Harmony. In the meantime, the missionaries in the Virgin and Santa Clara Valleys found their remoteness very inconvenient and so on December 1, 1854, Jacob Hamblin, Thales Haskell, Ira Hatch, Samuel Knight, and A. P. Hardy established the nucleus of a permanent colony, Santa Clara. In 1855, they constructed the first dam on the creek.[19]

Mrs. Nancy Hardy, an immigrant from the southern states, was residing in Parowan in 1855. She gave Gus Hardy a quart of cotton seed she had brought from her southern home. She had heard of the warm "Dixie" climate in the Virgin Basin and instructed Hardy to try these seeds. He planted them and raised the first cotton in Utah's Dixie in the summer 1855. It was corded, spun, and woven into cloth by the women at the mission and some of the cloth was sent to Salt Lake City where it aroused great interest. This was the beginning of the more serious consideration of a Cotton Mission and further settlement of Utah's Dixie along the Virgin River. A cotton product from Dixie would answer a need by supplying the Mormons with cotton cloth at a time when it was awkward and nearly impracticable to import cotton.

In the spring of 1856, 28 families totaling 160 persons, most of them converts from the southern states who were experienced cotton farmers, were called to go to the Virgin River to undertake cotton culture on a larger scale. They arrived at the site of Washington on May 5, 1857, and immediately set about diverting water for irrigation, clearing land, plowing and planting. The crop, however, was a disappointment, and some



Jacob Hamblin. (State Historical Library, Salt Lake City, Utah.)

Thales Haskell. (State Historical Library, Salt Lake City, Utah)

[18] Journal History of the Church.

[19] Andrew Karl Larson, *I Was Called to Dixie*, (Deseret News Press: Salt Lake City, 1961), p. 38.

becoming discouraged, scattered to other locations.[20] Nevertheless, in January 1857, a small company of reinforcements was fitted out in Salt Lake City and arrived at Washington in early February.

In 1858, with the advice and consent of Isaac C. Haight of Cedar City, six families moved down Ash Creek and settled Toquerville. At the same time Nephi Johnson, a young missionary among the Virgin River Indians, was called by Brigham Young to explore the Virgin River further upstream and to hunt for suitable places for settlement.

In the fall of 1858, Indians led Johnson over the Hurricane Fault, and he commenced an exploration of the upper Virgin River. On December 6, 1858, he began building a road over the fault and wagons were taken over this route which was called "Johnson Twist" to Virgin on December 20. In the fall of 1860, Philip Klingingsmith led five other families from Iron County over the Johnson Twist road to settle a spot between Grafton and Rockville which he called Adventure.[21]

In May and June of 1861, Brigham Young made his first visit to the Dixie Settlements. It was this trip which convinced Brigham Young of the need and wisdom of pushing further the settlement of Utah's Dixie. During that summer plans were laid for a more extensive colonization. At General Conference on October 6, 1861, an additional 300 families were called to reinforce the Dixie Cotton Mission and to accelerate the cotton industry.[22]

These colonists went out from Salt Lake in November with apostles George A. Smith, Erastus Snow, and Orson Pratt as leaders. At the end of the month the party split, some deciding to follow Orson Pratt east up the Virgin, and the majority going downstream to settle St. George in early December of 1861. Other settlements quickly sprang up along the length of the Virgin River wherever water could be diverted for irrigation. In the fall of 1862, another 250 men were called to go south to further reinforce the Cotton Mission.[23]

In the meantime, additional settlements were being established in the northwestern part of Washington County. In the summer of 1855, Isaac Riddle was searching for a stray cow; unexpectedly he road upon a beautiful grassy valley surrounded by timbered mountains. This was the Mormon discovery of Pine Valley.[24] That fall, Riddle, John Blackburn, and Robert Richey went to Salt Lake and brought back a sawmill which they proceeded

George A. Smith. (State Historical Library, Salt Lake City, Utah.)

Orson Pratt. (State Historical Library, Salt Lake City, Utah.)

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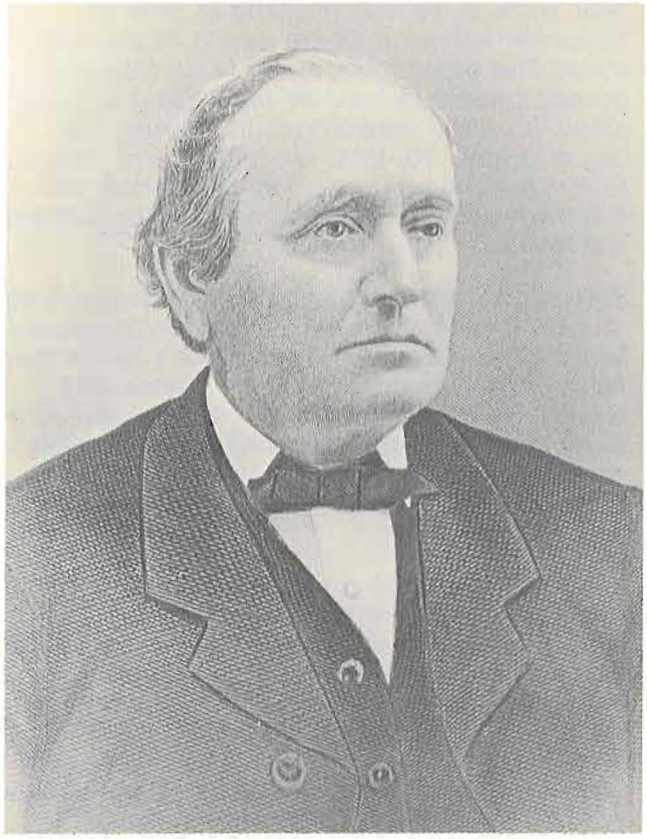
[20] Andrew Love Neff, *History of Utah,* (Deseret News: Salt Lake City, 1940), p. 291.

[21] Larson, p. 97.

[22] *Ibid.,* pp. 101-102.

[23] Charles L. Walker Journal, (Utah State Historical Society, Salt Lake City, Utah).

[24] Washington County Daughters of the Utah Pioneers, *Under Dixie Sun,* (Garfield County News, Panguitch, 1950), p. 180.



Erastus Snow. (State Historical Library, Salt Lake City, Utah.)

to set up on Spring Branch Creek in Pine Valley.[25] In 1859, because of undesirable living conditions at Washington due to heat, drought, bad water, and malaria, several residents left and joined the original settlers who had gone to Pine Valley to saw lumber in the fall of 1855 and the spring of 1856. Of the 300 families called to St. George in 1861, thirty families eventually moved to Pine Valley.[26] The major occupation and function of this community was to furnish lumber for building the new communities in the Cotton Mission.[27]

North of Pine Valley was located the little town of Pinto. In 1855, John Pato, Thales Haskell, and Benjamin Knell settled on a creek which they at first called Pato Creek. They soon changed the name to Pinto Creek and the town was then called Pinto after the creek.[28]

Hebron, named after Hebron of old in the Bible, was established as a cow town. In response to a call by President Snow, John and William Pulsipher gathered the surplus cattle and horses in Dixie and

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[25] *Ibid.*, p. 181.

[26] *Ibid.*, pp. 183-184.

[27] *Deseret News*, May 12, 1863.

[28] Orson W. Huntsman, "History of Shoal Creek, Hebron and Enterprise." (Unpublished, 1929) found in Forest Service Historical Documents, Vol. II.

Hebron. (Dixie N.F. photo.)

in the early spring of 1862, they started north looking for a suitable cattle range. They located a spot on Santa Clara Creek now known as Chadburn's Ranch and built a log cabin and moved their families by wagon the twenty-four miles from St. George. Soon, however, the grass began to diminish under the pressure of the rather large herd of cattle. They sought and found a better herd ground about a day's journey to the north on the banks of Shoal Creek. Up and down the creek the grass was heavy and stood four to eight feet high. They built a small ranch house which they called a fort. That winter and during the summer of 1864, other families arrived to assist. Soon twenty families lived on the banks of the creek. They built homes of pine and cedar lumber and some of stone. In the fall of 1867, the land was divided among the residents by drawing lots, land was fenced, and irrigation ditches dug. In 1868, President Snow and County Surveyor, George A. Burgess surveyed the townsite and named the new community Hebron.[29]

The communities of Pine Valley, Pinto, and Hebron gained markets for their lumber and cattle with the opening of a mining camp fifty miles to the west in 1869 at Pioche, Nevada, and in 1875, the boom town of Silver Reef was opened in Washington County. Unfortunately, the boom days of these mining towns were short-lived.

Enormous effort was required to successfully occupy Iron County and the Virgin River Basin. Perseverance, industry, sacrifice, frugality, and brotherhood were essential ingredients; and from this came remarkable achievements. In spite of failure to achieve all the goals of settlement, the settlers in Iron and Washington Counties had been successful in establishing homes, farms, towns, and a unique lifestyle. Limited resources of timber, level land, and, even more important, water effectively prevented these villages from supporting more than a limited number of inhabitants. The settlements occupied the best sites, but even then the resource base was limited in these marginal locations. The settlers in the extreme south had to contend with a harsh geography and an isolation, but they persevered and ultimately these villages became more stable and secure.

Just as the settlement of Iron County had provided a stepping stone to the exploration and settlement of the Virgin River Valley, so in turn, the latter served in opening up Kane County. In the fall of 1858, missionaries under Jacob Hamblin's leadership were instructed to go to the southeast to visit the Moquis Indians and to explore for friendship and settlement.

Hamblin left Santa Clara on October 28, 1858, with a party of twelve men. They crossed the Arizona Strip via Pipe Springs. Their visit to the Moquis was brief, some of the men returning as early as November with some others staying on into the winter. This expedition revealed to the Mormons the general topography between the Virgin and the Colorado. A second expedition to the Moquis was begun October 20, 1859, and in the fall of 1860, a third expedition was undertaken. The result was that friendship was cultivated between the Mormons and Moquis.[30]

Several other trips to the Moquis by different routes resulted in detailed knowledge of northern Arizona and southern Utah. Stockmen began to graze their herds of cattle and sheep on this Arizona strip country. By 1863, W. B. Maxwell had established a ranch at Short Creek. Soon after James M. Whitmore located ranches at Pipe Springs and Moccasin, and Ezra Strong of Rockville settled on Kanab Creek.

In the spring of 1864, several ranches were established in the mountains and two new settlements were started, one at Kanab, where a small fort was built, and another fort housing eight families was built as Berryville (now Glendale) in the north end of Long Valley. During the fall, Priddy Meek located in the south end of Long Valley. He was joined in the spring of 1865 by several settlers from the Virgin River settlements, who brought livestock for the range and nursery stock for orchards. They called the new community Winsor (now Mt. Carmel).[31]

In the meantime, several years had elapsed since John D. Lee and his associates had called attention to the fertile lands near the mouths of some of the bigger streams that flow down the east slope of the Markagunt Plateau. In 1864, a sturdy band of farmers and stockmen from Parowan and Beaver, under the leadership of Bishop Jens Neilson, explored lower Bear Valley—which they erroneously thought to be the Sevier Valley and then made their way eastward through the Sand Peak Pass; and on April 17, 1964, made camp thus settling Panguitch at the mouth of a "beautiful, big stream" (Panguitch Creek).[32]

The time following the settlement of Kane County and Panguitch in Garfield County was marked by Indian troubles with Paiutes, Navajos, and Utes. These events were sometimes called the Navajo Raids by southern Utah settlers. Actually these raids were part of a broader confrontation known as the Black Hawk War, which broke out in the Sevier Valley in 1865. Southern Utahns called them the Navajo Raids because the Navajos would cross the Colorado, scatter into small bands, make swift raids on Mormon settlements, gather up horses, cattle

[29] *Ibid.*

[30] Kane County Daughters of Utah Pioneers, *History of Kane County* (Utah Printing Company: Salt Lake City, 1960), p. 2.

[31] *Ibid.*, p. 263.

[32] Dixie National Forest Historical Documents, Vol. IV.

and sheep, and flee back across the river with their ill gotten gain before they could be overtaken.[33]

The Black Hawk War was the inevitable result of culture clash. As whites were moving into Utah from the northeast, the Navajo were gradually expanding into the area from northern New Mexico and Arizona. The Navajo had come to the old southwest from Canada, probably about the time the Spanish first appeared. They were primarily shepherds and farmers, bringing with them a rich, complicated cultural heritage and lifestyle which has persisted in spite of removals and deprivations of many kinds. The Navajo had been forcibly removed from their tribal grounds to Fort Sumner, New Mexico in 1863, but they returned and commenced raiding into Kane, Washington, Iron, and Garfield Counties of southern Utah. In 1884, they were again put on reservations, this time in northern Arizona and southeastern Utah.

The Navajo and the Ute and Paiute of Utah, of course, had met many whites before the Mormon settlement, but only transients such as Spanish traders, fur trappers, and westbound emigrants. They had little or no idea of the magnitude of the migration of the Mormons and the implications of this white settlement for themselves.

The fact of the matter was that the oases in Utah were pretty much taken up by one tribe or another. The Indians did not generally inhabit the mountains or the deserts when given a choice, but rather chose lowlands where water and land combined to produce heavy grasses and abundant game—precisely the areas the white settlers quickly spotted as ideal for the plow.

Mormons were profoundly schizophrenic in their attitudes towards the Indians. On the one hand the *Book of Mormon* spoke of a group of once-enlightened people of Israelitish descent who had through sin fallen into degradation, becoming wild and undisciplined. The book promised them a special destiny. Through conversion to Mormonism, they were to become again a powerful people and fulfill a special role at the time of Christ's second coming. Mormons assumed that all Indians were descendants of these "Lamanites," as they were called in the *Book of Mormon*, and made extraordinary efforts to befriend and convert them. The first major mission effort of the Mormons was a mission to the Indians undertaken in 1830 in Missouri. Brigham Young welcomed the opportunity for missionary work among the Indians of the Great Basin after 1847. He advised Jacob Hamblin, one of his principal missionaries working with the Indians of southern Utah to "continue the conciliatory policy towards the Indians which I have ever commended and seek by works of righteousness to obtain their love and confidence."[34]

Yet on the other hand Mormons heard tales of atrocities Indians had committed, saw them kill other Indians for theft, were repelled by the squalor of some tribes, and suffered a good deal of theft and inconvenience from their own contacts with Indians. So the widespread animosity of frontiersmen towards Indians was shared by Mormons but was tempered among them by their teachings and beliefs.

The Mormons vacillated between two approaches to the Indians in Utah. One possible approach was removal of the Indians, and Brigham Young proposed this in a letter to John M. Bernhisel, the Mormon representative in Washington, D.C. in 1850. More typical, however, was the effort to teach Indians "to walk the white man's trail." This was given concrete expression in efforts to found Indian farms. Such farms were established in several localities near southwestern Utah Mormon towns, but the settlers had little or no success recruiting Indian labor to run them and did not spend time to adequately care for them by themselves. After efforts to secure federal funds to support the program failed, these farms were given up.

Another effort to assist in assimilation took the form of Indian "Missions"—or colonies founded near substantial Indian populations mainly with the aim of converting the Indians and teaching them to farm and live in settled communities. Most Mormon colonies were charged with this responsibility, but particular missions were launched such as Santa Clara and Harmony in southern Utah. For the most part, the settlers in southern Utah and the Indians fraternized, aiding each other during hard times. Perhaps part of this success came from the fact that southern settlement was partly conceived with a mission purpose.

As the Mormons moved out of the Salt Lake Valley to settle fertile oases, they moved into territories long occupied by groups of Indians. Upon settlement, the Mormons began immediately to plow and to fence the land. They did not offer to pay for the land, claiming that it, like all land, belonged to God. Nevertheless, Mormons worked to maintain harmonious relations with Indians.

The first outburst of violence to disrupt peaceful coexistence was known as the Walker War of 1853-54. In July of 1853, word reached the southern settlements of the Walker War. The main effect was only that the iron work was suspended and the colonists were instructed to devote their energies to the erection of extensive fortifications.[35]

A more serious outbreak came in 1865. In that year,

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[33] Angus M. Woodbury, *A History of Southern Utah and Its National Parks*, (Utah State Historical Society: Salt Lake City, 1950), p. 152.

[34] Pearson H. Corbett, *Jacob Hamblin the Peacemaker*, (Deseret Book: Salt Lake City, 1952), p. 199.

[35] Arrington, pp. 124-125.

the federal government established the Uintah-Ouray Reservation to settle Utes on lands reserved to them where they would be separated from whites and could live according to their own customs and traditions. Southern Paiutes were invited to settle on the Ute reservation, but distrusting their traditional enemies, they refused to do so. As a consequence, over a period of time, Southern Paiutes were moved onto marginal lands others did not want or they attached themselves to local towns. Eventually, tracts have been assigned to groups of Southern Paiutes. Black Hawk, a young Ute, also refused to be settled on the newly created reservation. He attracted a following of two or three hundred militants to his point of view.

Black Hawk. (State Historical Library, Salt Lake City, Utah.)

The Black Hawk War had grave consequences as some southern Utah settlers lost their lives and small villages were abandoned during the defensive "forting up" process. The war consisted mainly of a series of raids extending over several years with attacks being made on settlements from Sanpete Valley southwards. The raids caused the temporary abandonment of at least twenty-five towns and the deaths of about seventy white settlers including Dr. James M. Whitmore and his hired man Robert McIntyre, killed in January, 1866, and Robert Berry, his wife Isabella Hales Berry and Robert's brother Joseph. These were all residents of Washington and Kane Counties killed before the May 22, 1866 order from the First Presidency to abandon the small outlying settlements and migrate to places that could be more easily defended.[36]

Petitions went out to federal officials for aid, but they refused it. The defense of southern Utah fell entirely upon the Mormon militias. After four years of intermittent hostility and tension, Black Hawk and some of his followers suddenly appeared at Sunday Services in Fillmore and sued for peace. During the time of the raids the pioneers gradually learned that if they stayed inside during a raid and did not pursue the Indians into the mountains few would be harmed. Hunger and privation among the Indians during the hostilities caused much greater suffering among the Indians than the whites. Despite talk of peace and Black Hawk's death from tuberculosis in 1870, some sporadic raids continued until 1873.

In southern Utah as elsewhere in America when the clash of cultures came, neither side would readily concede. The Mormons may have hoped to be benevolent and less destructive than other frontiersmen, but ultimately their plows and fences and livestock were just as destructive to Indian culture as they had been on other frontiers.

As a result of the raids in southern Utah, an order to concentrate settlers in larger towns, with outlying ranches and villages being temporarily abandoned, was implemented. In June of 1866, Long Valley was abandoned, Kanab and Panguitch met a similar fate.

Out of the Mormon militia expeditions, new potential settlement sites were explored and identified for future reference. Captain James Andrus of St. George led a party up the Paria through the hills southeast of the Aquarius Plateau and on August 29, 1866, they came upon a valley where they found wild potatoes growing, hence they called it Potato Valley (today Escalante). They climbed the plateau (Aquarius) and traveled to the northwest corner, descending the Sevier River and following it to Circleville in Piute County. The Andrus militia group were pathbreakers to this point. From here they returned by way of Bear Valley to Parowan and Cedar City and to Dixie.[37]

Continuing Indian raids exacted a particularly heavy toll in livestock in 1869 with perhaps as many as 1,200 head of cattle and horses lost. Resettlement was not attempted until peace was concluded. In 1870, a semblance of peace came. Brigham Young was now much interested in resettlement. On April 16, 1870, he sent fifty-two people under the leadership of Levi Stewart to begin resettlement of Kanab.[38] He also promised that he would visit the site in the fall and asked for a more direct route to Kanab from the north than the long roundabout approach through the Dixie settlements and the

[36] Larson, p. 533.
[37] Woodbury, p. 142.
[38] Kane County History, pp. 17 and 18.

Arizona Strip country. Stewart sent out two exploring parties, the second of which found a new road from the head of the Sevier River through upper Kanab and Johnson Wash.[39]

With the end of the Navajo Raids, other places that were abandoned in 1866 were reoccupied and within a few years further expansion filled most of the remaining area suitable for settlement or ranching. In Long Valley, Berryville (Glendale) and Winsor (Mt. Carmel) were revived in 1871.[40] Johnson was settled in the spring of 1871 by five Johnson brothers.[41] In 1872, Graham, on the headwaters on Kanab Creek (Upper Kanab), was reoccupied and the settlers began to engage in dairying and lumbering.[42] Panguitch in Garfield County was resettled in 1871 under George W. Sevy and counted seventy-five families the next year. Joel H. Johnson and George D. Wilson established a sawmill in 1871 near Hillsdale and were soon joined by about twenty additional families. Cattlemen located further up the Sevier, where Meltor Hatch founded the village of Hatch that bears his name.[43]

The United Order was organized at Mt. Carmel, March 20, 1874. One summer was enough of the Order for many of the 109 enrollees. Bishop Bryant Jolley and his numerous relatives formed the major core of dissenters. To avoid contention, those who wished to continue with the Order sold their holdings and moved in a body two miles above Mt. Carmel where they settled the town of Orderville, under the leadership of Howard O. Spencer. Title to all land was vested in the group.[44]

Attention was then focused on the upper Paria. The first settlers, David O. Littlefield and Orley D. Bliss, located near the present site of Cannonville the day before Christmas 1874. The next day eight other families arrived and built log houses at a place they called Clifton, and began farming along the Paria and on the Henrieville Creek. Ebenezer Bryce, from Pine Valley, settled a site further upstream, a mile or so east of the present site of Tropic near the mouth of Bryce Canyon. Bryce used the now famous canyon as a cattle range, thus giving his name to the canyon.[45]

Further east in Garfield County, Potato Valley discovered by James Andrus in 1866 was attracting attention. In 1871, the valley was visited again, this time by Jacob Hamblin who had been employed by Major John Wesley Powell to take supplies to the

[39] *Ibid.*, p. 18

[40] *Ibid.*, pp. 265, 369.

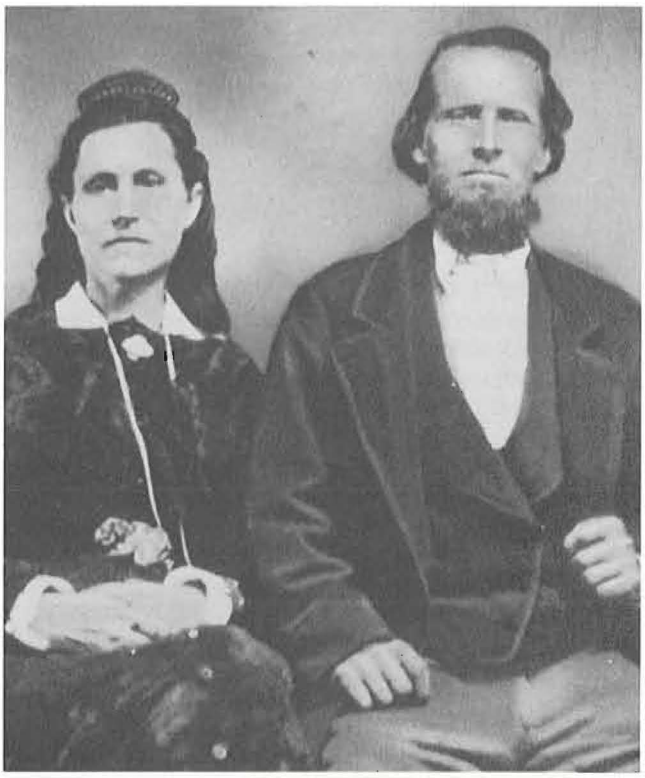
[41] *Ibid.*, p. 409.

[42] *Ibid.*, p. 405.

[43] Woodbury, pp. 181, 182.

[44] Kane County History, p. 271.

[45] Woodbury, p. 181.



Mr. and Mrs. Ebenezer Bryce. (Bryce Canyon N.P.)

Dirty Devil for Powell's scientific exploration and map-making expedition. However, Hamblin missed the mouth of the Dirty Devil. He mistook the Esclanate River for the Dirty Devil and followed the Escalante for fifty miles. Actually the Dirty Devil was forty miles to the north.

In May of 1872, Powell's expedition to explore the Colorado and its tributaries below the Green River was in the area making topographical maps and naming physical features. They named the Aquarius Plateau (Boulder Mountain), Kaiparowitz Plateau (Fifty-Mile Mountain), Escalante River, Pleasant Creek and called the Escalante Mountain above the Pink Cliffs, the Table Cliff Plateau (Barney Top).[46]

From Potato Valley, A. H. Thompson, of the Powell Expedition, chose a route along the base of the Aquarius Plateau, across the main spur of the Waterpocket Fold to the Henry Mountains and to the mouth of the Dirty Devil. Here they had cached a boat the previous year. Four of the nine men in the party took the boat down the river to the mouth of the Paria where they explored a few days before returning to Kanab.[47]

Thompson and the remainder of the party retraced their route to Potato Valley. As they were mapping the valley, they met four Mormons from Panguitch

[46] Nethella Griffin Woolsey, *The Escalante Story: 1875-1964,* (Art City Publishing: Springville, 1964), pp. 11-22.

[47] *Ibid.*

who were thinking of establishing a settlement in the valley. Thompson advised them to call the proposed community Escalante in honor of Father Escalante even though the Escalante expedition had not passed through or explored in this region.

However, the Panguitch Mormons went away with the erroneous impression that Escalante had explored this area.[48]

Early in 1873, Brigham Young called a group of men from Utah and Sanpete Counties to explore the country southeast of the Sevier Valley and to make peace with the Indians of the region. They explored and named Grass Valley and went south to camp on a stream they called Coyote Creek. They also crossed over Boulder Mountain and noted the big pine forests, abundant game and grassy meadows. In the spring of 1875, several men from Panguitch desiring to live in a milder climate arrived in Potato Valley as the first settlers and established Escalante. They were delighted by the expanse of grassy country which seemed so well suited for grazing livestock.[49]

A year later Widtsoe, about 28 miles from Escalante at an elevation of 7,623 feet, was settled and named for John A. Widtsoe, a Mormon official and a president of the Utah Agricultural College.[50]

Cannon, a Mormon Apostle who had taken a special interest in their affairs. Other settlers moved to Henrieville Creek and named their town Henrieville (both town and creek being named for James Henrie, President of the Panguitch stake).[51]

In 1886, Seth Johnson and a few others located on Yellow Creek in Kane County about three miles southwest of Cannonville and named their settlement Georgetown, also in honor of George Q. Cannon. In 1890, two Ahlstrom brothers built homes on the present site of Tropic and began an ambitious attempt to divert water from the East Fork of the Sevier River into Paria Creek. In 1891, the townsite of Tropic was laid out in anticipation of the coming water. On May 23, 1892, water was turned into the canal.[52] To the northeast Boulder was settled in 1889 by settlers attracted by the green meadows.[53]

Wayne County was not organized and recognized as a separate county until 1892, but settlement of

[48] *Ibid.*, p. 25

[49] *Ibid.*, p. 31.

[50] Work Progress Administration Writer's Program, *Utah: A Guide to the State;* (Hastings House: New York, 1941), p. 339.

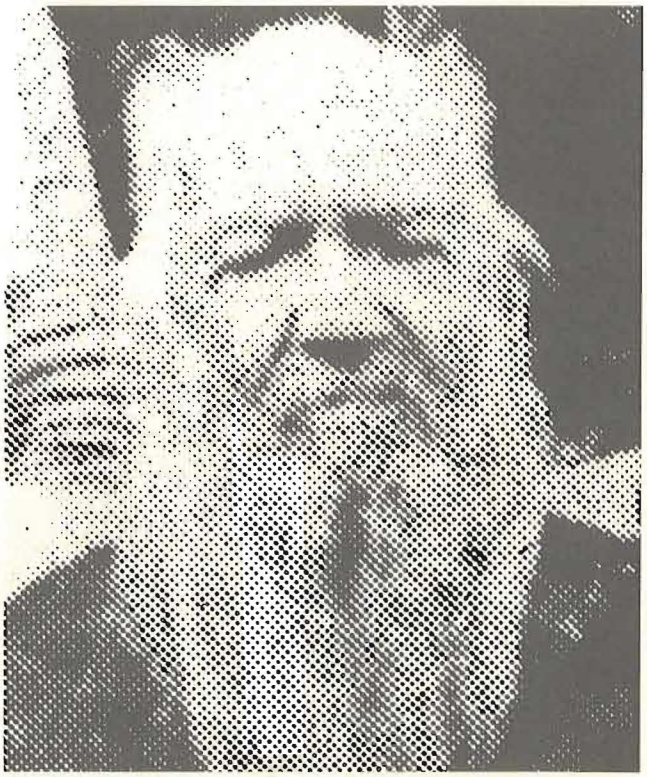
[51] Woodbury, p. 182.

[52] *Ibid.*

[53] *Deseret News,* June 7, 1965.

Town of Widtsoe, 1921. (Dixie N.F. photo.)

George Q. Cannon. (State Historical Library, Salt Lake City, Utah.)



James Henrie. (Photo by Urcil Henrie, Panguitch, Utah.)

the communities of the county that bordered the Dixie National Forest began in the 1870's and accelerated in the 1880's. In 1875, A. K. Thurber, President of the Sevier stake, brought a large herd of L.D.S. cattle to run in the vicinity of present day Bicknell.[54] The new and growing community was at first called Thruber. George Brinkerhoff filled an L.D.S. mission to the Eastern States. There he met a Dr. Bicknell who was willing to finance a library for the settlement if the town were named in his honor. The change the name required town residents' signatures on a petition. Enough had signed in order for the change to take place in 1916. Nearby Teasdale was settled in 1879 and was named for a Mormon Apostle.[55] Grover was first settled in 1880 and was known as Carcass until 1894 when the first post office was established. The name was changed to honor President Grover Cleveland.[56]

In the years from 1851 to the 1890's, most of the towns in southern Utah in the vicinity of the Dixie National Forest were settled. Most were quiet little towns emphasizing agriculture and stock raising. Wide streets with ditches running on both sides were common, the water being used for culinary as well as irrigation purposes until well into the twentieth century. Lombardy poplars stood in stately rows, breaking the horizontal line of the valley floor. The layout and even the names of the streets were pretty much the same in most towns. Houses were adobe or stone, with many pioneer log houses still in use as outbuildings. Most towns had a canyon nearby which was the source of water and timber and a favorite place for summer outings and picnics. The Mormon meeting house was the center of town physically, and the center of the town's social life, serving as schoolhouse, dance hall, public forum, and church. In most instances it was nearby forest resources which attracted settlers in the first place and which made the continuance of these towns in Utah's harsh southern lands possible.

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[54] Wayne County Daughters of Utah Pioneers, *Rainbow View: A History of Wayne County,* (Art City Publishing: Springville, 3rd. ed., 1977), p. 12.

[55] *Ibid.*, p. 19.

[56] *Ibid.*, p. 267, 271.

Chapter 4
FRONTIER FOREST USAGE

The pioneer settlers in southern Utah found that they had settled in out of the way areas with no harbors, few roads and trails, no navigable rivers and no railroads. Their remoteness added to their self-sufficiency. These Mormon pioneers, however, believed strongly that the "earth is the Lord's and the fullness thereof" and that they were His select stewards for who God would temper the elements.[1]

Due to the arid nature of the country, communities were located in festal oases and river valleys. The first great need was to harness the streams flowing from the nearby mountains. An early accomplishment for settlers in any given community was to draw for town lots and farms and to then set up irrigation companies. The most valuable natural resource was water. In the settlement period the communities were characterized by an economy based on small self-sufficient farms irrigated by waters from the streams. These towns were usually small and the population relatively homogeneous.

During the first year of settlement crops would typically be planted and harvested from the farms, fuel and timber would be located in nearby canyons, sawmills and grist mills would be set up and the surrounding mountains explored. The settlers noted the grasslands, put livestock on the mountains, concerned themselves about snowfall, predatory animals, built trails and roads, and began lumbering and mining. Sawmills were established, converting the yellow pine and fir into building boards, shingles, and mine props. Eventually, ranch homes for use in the summer months were rather widely established in the mountains of southern Utah. Log houses in town were common in the early period, though most were intended by the builders to be temporary shelters until more substantial homes could be built. Frame structures were less common than in many other areas largely because of the relative scarcity of readily attainable timber.[2]

The day after settlement at Parowan, an exploration company reported finding fine sawtimber about six miles up Center Creek.[3] A road was built, and on January 27 a work detail hauled 26 loads of

[1] Arrington, p. 26.

[2] Dixie National Forest Historical Documents, Vol. II.

[3] Journal History of the Church, January 14, 1851.

Hauling ash logs from Harmony to Cedar City. (Dixie N.F. photo.)

timber from Parowan Canyon. This pine timber was suitable for building, but a harder wood was needed for making and repairing tools. So in the winter of 1851, men were sent to Ash Creek from Parowan and Cedar City to secure ash lumber.[4]

When Harmony was settled in 1852, six teams were put into constant use in hauling pine logs from the Parowan and Cedar City Canyons to Harmony while the Harmony area supplied ash for Cedar City and Parowan. Before the end of 1852, the work teams had hauled 51 loads of lumber from Parowan.[5]

This timber came from unregulated government lands. It was considered to be so vital to the general welfare of the settlers that the local citizens decided to regulate the timber and lumber industry themselves. Regulated cutting began on February 23, 1856, when John D. Lee moved in a Washington County Commission meeting to grant the timber of Kanarrah Creek Canyon to E. H. Groves and Henry Barney for the benefit of the inhabitants of Fort Harmony. Control of the timber in Spring Creek Canyon was similarly granted to William Young for the benefit of the people, and that of Camp Creek Canyon to Henry Barney and Isaac Riddle.[6] Likewise the waters of Kanarrah, Spring Creek, and Big Spring located northeast of Harmony were granted to Peter Shrutz for purposes of powering mills when these waters were not needed for irrigation. Shurtz was authorized to take water out and to bring it back after usage in a good substantial ditch which would not waste water.[7]

On September 1, 1856, the county extended the privilege of controlling timber in Pine Valley Canyon and water for milling purposes to C. W. Dalton and Company. The principals in this company included C. W. Dalton, L. W. Roundy, John Blackburn, and Robert Richey. It was also ordered that a county road be established from Santa Clara to the Pine Valley mill by the most practical route.[8]

For the first 40 years of Pine Valley's history, lumbering was a major source of income. Men often worked in the mills to secure the lumber for their homes and buildings. During the winter men went into the hills and logged, making "slides" in the snow to slide the logs to the foot of the mountain from where they were hauled to the mill sites. Sawing of the logs was usually done in the summer months.[9] In addition to the sawmills there were also shingle and lath mills put into operation.[10]

Skidding logs. (Dixie N.F. photos.)

President Erastus Snow was anxious to have the lumber business increase and meet the needs of the Dixie settlers. He, therefore, asked Robert Gardner, who had experience lumbering at Mill Creek in Salt Lake City, to come to Pine Valley and take charge of lumbering.[11] Gardner found Pine Valley to be a delightful place abounding in large pines of easy access. The hills in almost every direction were covered with pines and cedars and in some places there were groves down to the level land

[4] Dixie National Forest Historical Documents, Vol. I.

[5] Woodbury, p. 23.

[6] Washington County Court Record Book A, February 23, 1856.

[7] *Ibid.*, April 14, 1856.

[8] *Ibid.*, September 1, 1856.

[9] *Under Dixie Sun*, p. 191.

[10] *Ibid.*, p. 192.

[11] *Under Dixie Sun*, p. 185.

where teams could pass through them without obstruction.[12]

James B. Bracken, Sr., Charles Pulsipher, and John Alger were called to set up a shingle mill in the gulch below Pine Valley, and in 1863, the County Court appointed Jacob Hamblin, Robert Lloyd, and Robert Gardner to apportion the timber. At the height of the lumber industry at Pine Valley, seven mills were operating simultaneously in the valley. These were moved from place to place as the readily available timber was cut over.[13] The first four of these mills all used the old up and down saws known as "muleys."[14] The first circular saw was set up by Robert Gardner, his son William, and son-in-law Pleas Bradford.[15] Robert and William Gardner also introduced the first mill operated by steam power. It was called the "White Elephant" and had the unheard-of force of 40 horsepower. This steam powered mill was also moved around from site to site and changed hands often. In 1877, it was placed far up Left Hand Fork where it remained for several years until its use was discontinued.[16]

As more mills were established, turning out thousands of board feet of lumber, the population of Pine Valley increased to a high of about 600.[17] In the first years, the Pine Valley lumber went into construction of homes, outbuildings, and fences in the towns of the Dixie Mission. At times the Pine Valley mills could not supply the local needs. In 1861, proprietors W. R. Slade, Isaac C. Riddle, Samuel Leavitt, and J. R. Stoddard admitted that their mill needed repairs and a greatly increased sawing capacity and agreed to work to those ends. To meet current demands they were willing to concede that other individuals could erect mills and use the waters of Santa Clara Creek having equal privilege to both the water and timber.[18] With this concession the County Court decided that others who desired could erect mills upon the waters of the Santa Clara but their usage could not conflict with the water rights of the original mill.[19]

Lorenzo Brown and Ebenezer Bryce applied for Pine Valley milling rights in January 1863 and with approval bought out the Thomas Forsyth claim. They found the "mill a nice affair if it would ever run. It is to run by belts altogether but they all slip and cannot start the saw." The new lumber men soon found the local demand had resulted in depletion of much of the Pine Valley timber. They could

[12] *Ibid.*, p. 186.

[13] *Ibid.*, p. 191.

[14] *Ibid.*, p. 188.

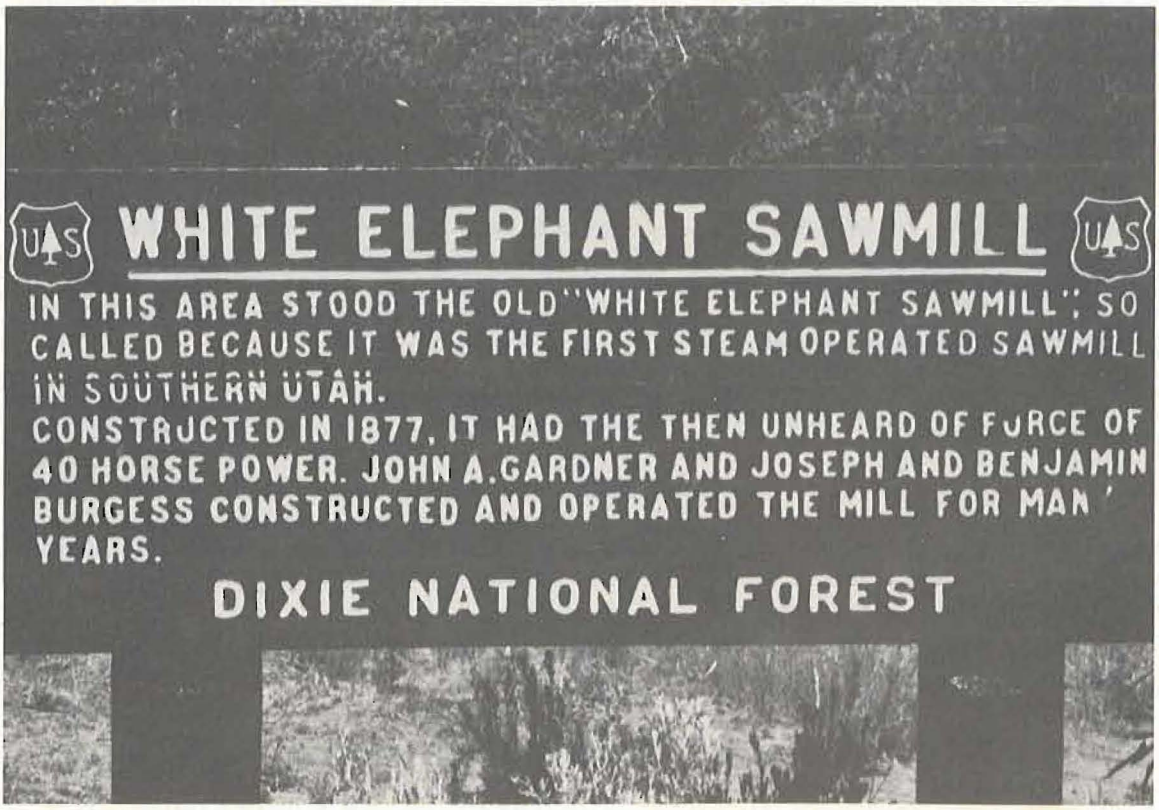
[15] *Ibid.*

[16] *Ibid.*, p. 192.

[17] *Ibid.*, p. 189.

[18] Washington County Court Records Book A, December 2, 1861.

[19] *Ibid.*, December 3, 1861.



White Elephant Mill location in Pine Valley. (Dixie N.F. photo.)

not find the timber to meet their expectations in Grass Valley,[20] so they began spying out timber in other locations.[21] They found the timber up Forsyth Canyon was all cut.[22] There was no prospect for logs up Lower Canyon,[23] but they did find suitable places to obtain logs up Main Canyon.[24]

When Thomas Forsyth sold his Pine Valley mill, he petitioned for timber and water for a mill on the south Ash Creek. A conflicting petition was received of A. M. Harmon, W. H. Branch, and F. B. Woolley in the same area. The court at first decided to solve the conflict by having selectmen locate two mill sites and to grant to Forsyth his choice of mill and to Harmon, Branch, and Woolley the choice of timber. After more consideration they decided to appoint Bishop R. Covington and Joshua L. Willis to divide the timber and to locate a road to the proposed mill sites.[25] Forsyth set up a mill with a muley saw on Ash Creek which cost him $4,000 and was considered rather elaborate for the time.[26] However, a fortune was made in the good years when the mills ran at capacity.[27]

In 1865, Lorenzo Brown was the biggest tithe payer in Pine Valley.[28] He was sawing 3,364 feet a week, and could have sawed more had logs been more plentiful.[29] Others coveted his success. Upon complaints from prospective competitors, discussions involving President Erastus Snow and Apostles George A. Smith and Wilford Woodruff resulted in a decision that Brown could have only the timber that which he could saw "within reason." After ~~he had cut what was "in reason"~~ he could have no more.[30] A greater blow to his productivity came when the court through Judge McCulloch informed him that the timber grants in Pine Valley had all been set aside and timber was thrown open to the public.[31] This resulted in fierce competition and a decline in profits.

The opening of the mines at Pioche, Nevada did revitalize the timber business for a time. For example, Benjamin Brown took out a contract to haul logs from Pine Valley to Clover Valley. He could deliver up to 300,000 feet at $9.00 a thousand.[32] A rather major slump, however, hit the Pine Valley mills in the 1880's. It was accompanied by a general exodus of about 25 families.

The industry had been sustained into the 1880's by the timber demands for building the St. George Temple. Pine Valley, because of prior cutting of large trees, could not alone supply these needs. A new source of giant timber was sought and discovered on Mt. Trumbull and a mill was moved there from Pine Valley.[33] A slight boost was also given by the supplying of the pines up Left Hand Fork in Pine Valley Canyon for the building of the Salt Lake Tabernacle organ.[34] But when the Silver Reef closed in 1891, the timber business of Pine Valley was nearly done in. By the end of 1896, it was considered a dead industry.[35]

In the absence of good roads and freighting capability, each area came to develop a local lumber industry. The first sawmill in the Panguitch Valley was the Jim Dickinson mill set up near the mouth of Panguitch Creek in 1874. A second mill was established the next year near the mouth of Butler Creek by George W. Sevy. In the next quarter of a century, other mills were set up at Mammoth Creek, Hillsdale, Smith Canyon, Dave's Hollow, Williams Bottom, Flake Bottom, Little Creek, Clear Creek, and Sanford Canyon.[36]

During the pioneer period, small sawmills had operated in virtually all the principal timber areas at one time or another. These had all been relatively small operations and had cut principally for local consumption. For the proprietors of these mills and for the local residents who needed the timber products for their building needs, the pioneer timber industry conducted on the mountainous forest was of major importance.

The first pioneers brought livestock, principally milk cows and work stock. Very early they noted the mountainous grasslands. As the pioneer lumber industry decreased, and sometimes much earlier, some men saw a new vision of wealth in the livestock industry.

The beginnings of Utah's cattle industry was the arrival of the first company of Mormon pioneers into the Salt Lake Valley in July of 1847. They brought 2,213 oxen and 887 cows.[37] Southern Utah's cattle industry began with the settlement of Parowan in January of 1851. The settlers brought with them 368 oxen, 100 horses, 12 mules, and 146 cows.[38]

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[20] Lorenzo Brown Diary, January 6, 1863.

[21] *Ibid.*, March 7, 1863.

[22] *Ibid.*, March 10, 1863.

[23] *Ibid.*, April 8, 1863.

[24] *Ibid.*, April 6, 1863.

[25] Washington County Court Record Book A, March 1863.

[26] Brown Diary, July 4, 1864.

[27] *Under Dixie Sun*, p. 189.

[28] Brown Diary, March 24, 1866.

[29] *Ibid.*, April 6, 1867.

[30] *Ibid.*, January 24, 1864.

[31] *Ibid.*, January 16, 1868.

[32] *Ibid.*, February 21, 1870.

[33] *Under Dixie Sun*, p. 191.

[34] *Ibid.*, p. 195.

[35] *Ibid.*, p. 191.

[36] Dixie National Forest Historical Documents, Vol. I, report dated March 4, 1949.

[37] J. Cecil Alter, *Utah The Storied Domain, A Documentary History of Utah's Eventful Career*, (Chicago and New York, 6 vols., 1932), Vol. i, p. 82.

[38] Journal History of the Church, January 13, 1851.

George A. Smith reported that on September 5, 1852, there was a herd of about 500 head of cattle and horses at Parowan.[39]

The Gold Rush brought many emigrants through Utah on their way to the gold fields. Their demands soon depleted Utah's first cattle herds and brought Texas cattle across Utah on their way to the gold fields. These Texas herds usually moved up the Pecos across the Rio Grande Valley, then north into southern Colorado. Here they turned west and followed the Old Spanish Trail through southern Utah. Some 9,000 Texas longhorns trailed this route in 1854. In Texas, these cattle brought $5-15 a head and in California they sold for $60 to $150 a head.[40] Although these cattle trailed through southern Utah they did not make appreciable use of the higher mountain ranges.

Local livestock men and the Texas herders found ample feed growing in the valleys. This valley feed supported the limited number of local livestock both winter and summer for several years. The Mormon settlers considered that animals ranging out were in danger of being stolen by the Indians; therefore, it was nearly 15 years after settlement at Parowan before they began to make much use of the pastures in the higher mountain ranges.[41]

In many localities, the earliest use of mountain grazing was in conjunction with the local dairy industry. Dairying was a basic industry with the process being pretty much the same in all communities. As the number of animals increased and the close-in lands were grazed off, the herds were driven farther and farther away from the town to find pasturage. At Parowan and Cedar City, it was the pressing need for food for their cattle which drove the pioneers to venture into the high mountains. There they found at the heads of canyons and in the open spaces on the mountain tops natural pastures which furnished bounteous feed for milk cows during the summer months. They also found cool temperatures, and cool, clear springs of water which were ideal for the processing of cheese and butter. Here people established claims by squatters rights. Each man would build a log house on his claim. Although the same families went to the same place year after year and had built a cabin and corrals, often there was little or no attempt to secure ownership of the land used.[42]

In May, the men would move their families and cattle to the mountain dairy sites. There the children would herd the cows to and from pasture and do the milking. The women would make the butter and cheese. Once the family was established at the mountain site for the summer's work, the father, would return to town and make only occasional trips to the mountain until late October when it was time to return the family and cows to the valley. The average dairy milked from 15 to 25 cows; however, the Ranchers at Grass Valley milked 70 cows and several goats.[43] Some families would rent cows from their neighbors to supplement their own herds and pay the rent in dairy products.[44]

Most of the cows were red Durhams, but in 1866, a man by the name of Popkiss brought in the first Holsteins. The average dairy was able to convert the milk to about 75 cheese blocks weighing from 30 to 40 pounds each and two or three 10-gallon kegs of heavily salted butter. Each keg held approximately 85 pounds of butter. Most of these dairies made their cheese and butter on alternate days.

It was soon discovered that a grove of oak trees about 40 miles from Cedar City lent itself especially well to charring and shaping into staves for making dash curns, hoops, and tubs. Local artisans also carved cheese boards, the butter bowls, paddles, and butter molds from the wood of cedar trees found in the hills east of Cedar City. Each dairy manufactured its own rennet, raised a crop of calves and fattened several pigs on whey, buttermilk, and acorns for the winter meat supply.[45]

Much of the cheese and butter was used by the family, but much was bartered and/or sold to travelers and later to the mining camps at Pioche and later Silver Reef. In many instances, the sale of dairy products provided the family with its only ready cash. The price of butter averaged 20 to 25 cents per pound and the price of cheese about 15 cents a pound.[46] This was a very successful business for many southern Utahns. Some families sold thousands of pounds of butter and cheese.[47]

From the grazing of dairy cows, it was a short step to the grazing of beef cattle and then sheep in the mountains that were to become the Dixie National Forest. The grass was lush and tall. In places it was even mown as hay.[48] The pioneers found that wild bands of horses did well on the open range,[49] and the settlers also discovered a herd of wild cattle ranging the hills 15 or 20 miles southwest of Hebron. They came to call these steep

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[39] *Ibid.*, September 5, 1852.

[40] Herbert C. Broyer, *American Cattle Trails*, (Bayside, New York, 1952), p. 38 and 39.

[41] Studies, Historical Information, Dixie National Forest Supervisor's Office, Cedar City, Utah, p. 2.

[42] Woolsey, p. 109.

[43] Lorenzo Brown Diary, June 13, 1864.

[44] Gladys McConnell, "Pioneer Dairying," (unpublished, 1962), found in Dixie National Forest Historical Documents, Vol. II.

[45] *Ibid.*

[46] *Ibid.*

[47] Interview of Riley C. Savage at Leeds on October 16, 1958, found in Dixie National Forest Historical Documents, Vol. IV.

[48] Lorenzo Brown Diary, May 23, 1863.

[49] *Ibid.*, and Huntsman.

rugged hills and canyons Bull Valley.[50]

There then were indications that cattle would do well on the low winter ranges and the high mountain summer ranges. At the time of settlement there was a heavy stand of grass in most localities. The pioneers would simply turn their oxen out on the grass to graze. At first the stock were not numerous. There, however, was no ready market and so the livestock increased rather rapidly. At first the stock which changed hands was not usually sold for cash but was bartered.[51]

Some Texans were among the 1861 settlers in Dixie. Among them were the Slades and Goheens who had brought some Texas longhorns with them. They soon built up a fairly good sized herd which grazed the open mountain ranges.[52]

Two enterprising non-Mormons becoming aware of the buildup of cattle numbers and the lack of a ready market, went to St. George and set up a store where they traded goods for cattle. When they had accumulated a herd, they drove it to market.[53] This served to stimulate additional interest in the cattle industry. Soon the raising of cattle was becoming a dominant industry.

In these early days of stock raising it seemed as if the natural grasses and shrubs could support an unlimited number of livestock, and so the herds grew in size and soon the mountain range began to show the effects of overgrazing.[54] But no one regulated the grazing and since agriculture and livestock had come to produce 95 percent of the income in southern Utah,[55] no one was voluntarily going to reduce his herds.

The cattle operations varied in size from 2,000 head down to 50 or 100 head. Most of these cattle were of mixed breeds. Short horns probably predominated. Herefords were not introduced into southern Utah until 1900. The steers were usually marketed at age three or four but some did not go to market until seven or eight years old. These large old steers never brought a very good price. Sometimes they went for as low as $15 a head.[56]

As the herd size increased, people began to pool their cattle and to organize into cattle companies. The earliest and most successful was probably the Canaan Cattle Company, under the leadership of James Andrus. The people of Washington formed the Mabooa Cattle Company and the upriver settlers in eastern Washington County founded the Pachum Pockets Cattle Company. As the cattle industry flourished, a few men began to be the most prominent with V. F. Saunder, Preston Nutter, Anthony W. Ivans, James Andrus, Andrew Sorenson, and Frank Foster among others dominating.[57]

These early stockmen prospered. Some maintain that profits were three times higher in these early days as compared to the modern era. Equipment costs were low. A couple of saddle horses and a pack horse were necessary for starters. Cattle were usually run out year-round. They did not raise much hay as it was not fed to anything but working stock. The feed was free for the taking, there were no grazing fees. Up until 1888, the tax remained very low for many years. Even though the taxes were almost nonexistent, many ranchers turned in low herd counts. A man who ran 500 head might report 100 head.[58] Most ran on a cash basis and neither borrowed nor lent money. Range hands were paid $1 to $2 a day and board. The fare for riders was usually potatoes, other locally raised vegetables, flour, salt, sugar, and meat.

As prosperity continued the herd sizes increased. Some felt that "feed for hundreds of thousands of cattle is wasting on the ranges and hillsides."[59] Additional cattle were introduced. Some resented the arrival of outside herds because, "Utah, with her extensive ranges should export not import beef cattle."[60] As early as 1873, the demand began to decline because Utah was now producing a surplus of cattle.[61] Nevertheless, in the years from 1875 to 1890, the herds of cattle increased. Under such pressure the range began to deteriorate and washes, gullies, and sagebrush became facts of life. In 1883, Edgar Beecher Bronson complained that cattle in Utah were "increasing at a rate that made it sure the ranges would become so badly overcrowded that profitable breeding and beef fattening would be no longer possible."[62]

But by 1880, the great packing houses in Chicago and Omaha beckoned. The railhead had extended south to Frisco and there were no restrictions on the number of cattle a man could graze. These seemed to be great days as cattle wintered in the lower warm country and summered in the mountains. There were big drives as the cattle were

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[50] Huntsman.

[51] Interview with Israel Nielson at Washington, Utah, October 17, 1935, found in Dixie National Forest Historical Documents, Vol. IV.

[52] *Under Dixie Sun*, p. 195.

[53] Israel Nielson Interview.

[54] Dixie National Forest Historical Documents, Vol. II.

[55] *Ibid.*, Vol. I.

[56] Interview with Alma Savage, Sr., at Panguitch, November 7, 1940, found in Dixie National Forest Historical Documents, Vol. IV.

[57] Israel Nielson interview.

[58] Nathella King Griffin, "The Rise and Fall of the Livestock Industry in Escalante," unpublished, found in Dixie National Forest Historical Documents, Vol. IV.

[59] Salt Lake *Daily Herald*, September 14, 1871.

[60] *Ibid.*, September 4, 1871.

[61] Don D. Walker, "Longhorns Come to Utah," *Utah Historical Quarterly*, Spring 1962, Vol. XXX, No. 2, pp. 135-147.

[62] Edgar Beecher Bronson, *Reminiscence of a Ranchhand*, (Lincoln: University of Nebraska Press, 1962, First Printing, 1910), p. 294.

moved cooperatively from winter to summer range.[63] Men, not knowing the results of overgrazing, allowed their herds to continue to increase rapidly.

When feed became short in one locality, new herd gounds were sought. When feed became short at Pinto, Prime Coleman took the Pinto co-op herd across the west desert to the old Pinto Ranch just east of Hamblin Valley and kept it there for a number of years. When the cattle were brought back, the co-op herd was dissolved and the cattle dispersed to the several owners. Many then took their cattle south to the Canaan Ranch and turned them to James Andrus.[64] Because of increases, the Canaan Cooperative moved much of its herd to Parashunt in 1876, while the St. George herd was dispatched to Dameron Valley. James W. Nixon took cattle to Mt. Trumbull and the Nixon Springs area, and Anthony W. Ivins sold the Arizona Strip herd to Preston Nutter.[65]

On the Aquarius Plateau, there was another virgin range. As the second Powell expedition made its way from Kanab to the mouth of the Dirty Devil in the spring of 1872, the explorers observed that the country was covered with fine grass. Potato Valley was "green with fresh June grass."[66] Frederick S. Dellenbaugh recorded that "All day we traveled over a rancher's paradise,"[67] and A. H. Thompson exuded over the "Best grass I have seen."[68] All in all they judged the Aquarius Plateau as a "perfect paradise for the rancher."[69]

When Escalante was settled, the settlers brought livestock with them. Hyrum Fowler brought in the first large cattle herd in 1878. Joseph Lay followed shortly after with a large herd and then Martin, Rufus, and Joseph Liston came in from Pine Valley with their herds. Soon the livestock industry was bringing in 90 percent of the cash receipts to the community. In these good old days they did not even bother to wean calves.[70]

Up to 1896, the Escalante residents had the range pretty much to themselves. In that year the Rogers boys of Kanosh brought 5,000 head of cattle to the area. Later they trailed in another 1,000 head of Texas longhorns. In 1898, Blackburns of Loa took 1,500 head of cattle from the west side onto the Escalante range. In the same year, Dougherty of Kanosh brought in 5,000 sheep and 2,000 cattle. In the next few years the small operators added 3,000 sheep and 2,000 cattle. From 1892 to 1900, it is estimated that 30,000 to 35,000 head of cattle and horses grazed the Aquarius Plateau country.[71] When decline came, it was due to the condition and productivity of the range.

Since the country appeared to be very fine cattle country with forage abundant and thrifty, there were very few sheep in the early days.[72] The Rencher family did have several hundred head of sheep at Grass Valley as early as 1863,[73] and the Savage family that settled in Kanab in 1862 and moved to Toquerville in 1866 did successfully raise cattle, sheep, and horses on the open range in the 1860's and 70's.[74] Generally, however, the early settlers who ran small bands of sheep corraled them at night and herded them by day.[75]

Sheep began to be important in the economy of southern Utah and began to compete with cattle on the open range when Napolean and Wallace Roundy brought 2,000 head of sheep from the northern part of the state to Escalante in 1880.[76]

In the early days of the sheep industry in southern Utah, there was little or no conflict between the cattlemen and sheepmen. The stockmen from Escalante, Boulder, and neighboring towns reached an agreement dividing up the range. Certain districts were designated which were not to be intruded upon by sheep and other districts were designated for sheep. This plan proved to be generally satisfactory until transient bands of sheep whose owners were not parties to the agreements began to come. They paid no attention to the local arrangements and effectively annulled them. Thereafter it was a free-for-all rush to see who could get the best feed first. This practice had a destructive effect which became readily apparent in the range appearance within a relatively short time.[77] Under these new conditions overgrazing, overconcentration, and excessive trailing of stock became largely responsible for the rapid range deterioration. Because of the free-for-all circumstances, the large owners now set about to

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[63] *Under Dixie Sun*, p. 196.

[64] Interview with Walter J. Knell, October 15, 1935, at Pinto, found in Dixie National Forest Historical Documents, Vol. IV.

[65] Woodbury, p. 25.

[66] Frederick S. Dellenbaugh, "A Canyon Voyage," *The Narrative of the Second Powell Expedition Down the Green-Colorado Rivers from Wyoming, and the Exploration of Lands in the Years 1871 and 1872.* (Yale University Press: New Haven, 1926, first printing, 1908), Chapter 13, "An Account of the Trip from Kanab to the Mouth of the Dirty Devil," p. 198. See also Almon Harris Thompson Diary, *Utah Historical Quarterly*, Vol. VII, No. 1, 2, and 3, 1939, edited by Herbert E. Gregor.

[67] *Ibid.*, p. 200.

[68] *Ibid.*, Thompson Diary, June 8, 1872.

[69] *Ibid.*, June 10, 1872.

[70] Griffin.

[71] Dixie National Forest Historical Document, Vol. IV.

[72] Interviews with Arthur Meeks and Walter Coleman found in Dixie National Forest Historical Documents, Vol. IV.

[73] Lorenzo Brown Diary, June 13, 1863.

[74] Interview with Riley C. Savage at Leeds, October 16, 1958, found in Dixie National Forest Historical Documents, Vol. IV.

[75] Interview with Independence Taylor at New Harmony, October 16, 1935, found in Dixie National Forest Historical Documents, Vol. IV.

[76] Griffin.

[77] Dixie National Forest Historical Documents, Vol. I.

crowd out the small operators. In the process they further overstocked the range.[78]

Earlier stockmen had settled in the local communities and had become an integral part of the community. These transient herd owners had little intention of making permanent residence or in helping to build up the community. Their sole interest was free range. But both transient owners and permanent residents shared a shortsighted policy of seizing the profits of this natural resource without sufficient thought for the future. Their overgrazing practices depleted the range and almost ruined the watersheds in many areas. By the early 1890's, there were rather frequent reports of overstocking and overgrazing.[79]

[78] *Ibid.*, Vol. IV.

Cattlemen found it necessary to brand their cattle before sending them onto the mountain. (Photo courtesy of Lynne Clark Photography Collections, J. L. Crawford, donor.)

The transient herds which became such a factor on the range in the 1890's were trailed in from Colorado and some from other areas of Utah. There now developed some trouble between the cattlemen settlers and the sheep grazing newcomers. The large cattlemen now opposed the sheepmen and small operators of all kinds.[80] The large sheep owners were accused of attempting to control the range with their sheep.[81] The local cattlemen had seen the sheep come in and take over most of the range and eat most of the feed. Cattlemen were coming to welcome the idea of range control. They even took steps to help the government gain control as the cattlemen in the upper valley petitioned the government to make this area into a National

[79] Walker, p. 146.

[80] Interview with Alma Savage, Sr., Panguitch, November 7, 1940, found in Dixie National Forest Historical Documents, Vol., IV.

[81] Griffin.

Cattlemen. (Photo courtesy of Urban Hanks, Grover, Utah.)

Forest.[82] So rapid had been the increase in sheep that in 1891 Washington County assessed 20,000 sheep and 18,400 head of cattle in what had once been almost exclusively cattle country.[83]

The increase in sheep continued as the sheep business prospered. Costs were low. A herder and camp tender were paid wages of $30 a month. Sometimes a boy went with the herd and he would be paid 25 cents a day. Salt constituted one of the higher overheads. Camp supplies ran about $25 a month plus mutton and about two muttons were consumed a month by men and dogs. No winter feeding was done in these early days. The sheep ranged promiscuously. Outfits would race for the choice locations and were not particularly careful in in their range habits. Established bed grounds were used regularly. Camp was moved as little as possible, often it was not moved for two weeks or more. There was also much more trailing in these early days as the sheep were trailed into camp each night and out to feed the next day.[84] The herds were also trailed onto the mountains in the spring and off in the fall.

Places like Boulder Mountain where once it was "like coming into a new world, like a wheatfield..."[85] now began to show the results of overgrazing. Beginning in 1892, there was a rather severe, general drought, and hundreds of head of stock starved to death. After the drought the range never

[82] Dixie National Forest Historical Documents, Vol. IV.

[83] Memo, John T. Woodbury to J. E. Gurr in Dixie National Forest Historical Documents.

[84] Interview with John S. Hiskey found in Dixie National Forest Historical Documents, Vol. V.

[85] Dixie National Forest Historical Documents, Vol. IV.

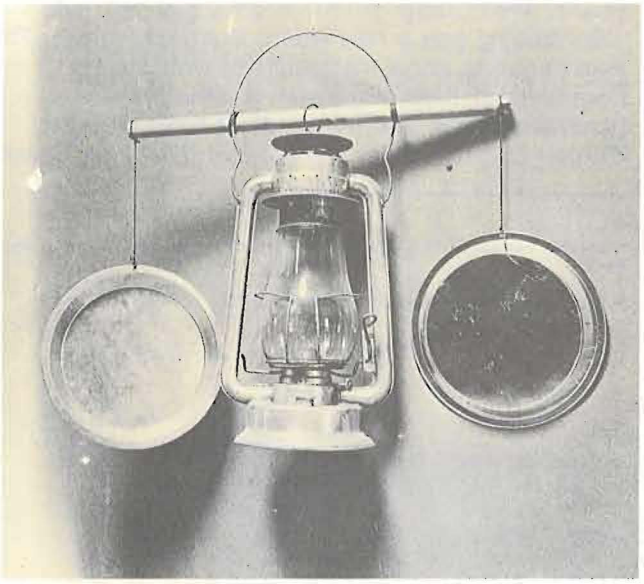
Sheep on Boulder Mountain. (Photo Urban Hanks, Grover, Utah.)

Sheep wagon such as was often used where the allotment was accessible by wagon. (Dixie N.F. photo.)

Burch tent used by herders practicing bedding system of handling sheep. (F.S. photo.)

seemed to revive to what it had been.[86] Beginning again in 1895 and lasting into July of 1896, there was another severe drought. In July of 1896, it began to rain and many bad floods ensued from then until fall. During this period a great deal of damage was done to much of the range from erosion. This range deterioration continued again between 1900 and 1905.[87]

[86] Israel Nielson interview. See also Dixie National Forest Historical Documents, Vol. V.



Coyote guard lantern and plates. The plates swinging in the wind give light flashes by reflecting from the lantern. (Dixie N.F. photo.)

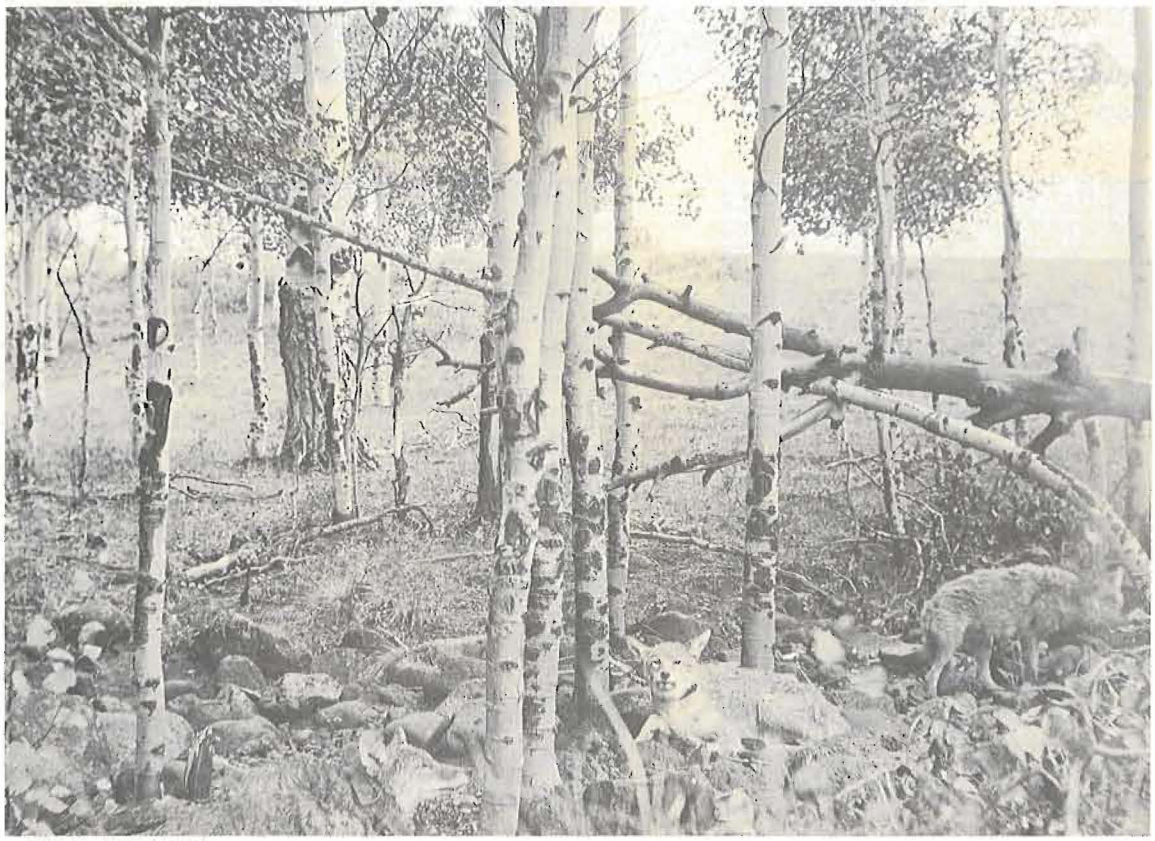
Until 1892, losses of livestock had never been particularly large. There was some loss to predators such as cougars and some sheep lost to coyotes. At first predators were largely uncontrolled but eventually sheepmen began to use a lot of poisoning.[88] The abuse of the range had also led to a noticeable increase of sneezeweed with some incumbent stock losses. And sometimes stockmen had gambled and lost with the weather. They took stock on the high summer range early, oftentimes in April, and left stock late. Sometimes they just moved from deep snow areas to less snowy valleys for winter. Sometimes some stock got caught by storms and ranchers suffered some winter stock losses. When stock was caught out in winter, ranchers used grain and straw as emergency supplements.[89] Although winter losses generally were not high, there were two severe winters when losses were unusual, the greatest being 1880.[90] Drought proved

[87] Interview with William Flannigan by Albert Albertson, October 23, 1952, found in Dixie National Forest Historical Documents, Vol. IV.

[88] Interview with John Hiskey.

[89] Interview with Arthur Meeks and Walter Coleman.

[90] Dixie National Forest Historical Documents, Vol. IV.



Predatory animals. (Dixie N.F. photo.)

more disastrous than any of the other obstacles, and ultimately both the feed and livestock on the range decreased.

During the dry summer months, the stock fed the range too heavily and trampled the rangelands into a veritable dust bed. Erosion became very evident along stock trails, creeks, around water holes, and on steep slopes. Nomad sheepmen who were said to have no regard for range conditions or for local settlers, were generally blamed.[91] The livestock industry which had been the backbone of the regional economy suffered a severe setback. Settlers now had to rely more heavily on farms and gardens and whatever else they could find for a livelihood.[92]

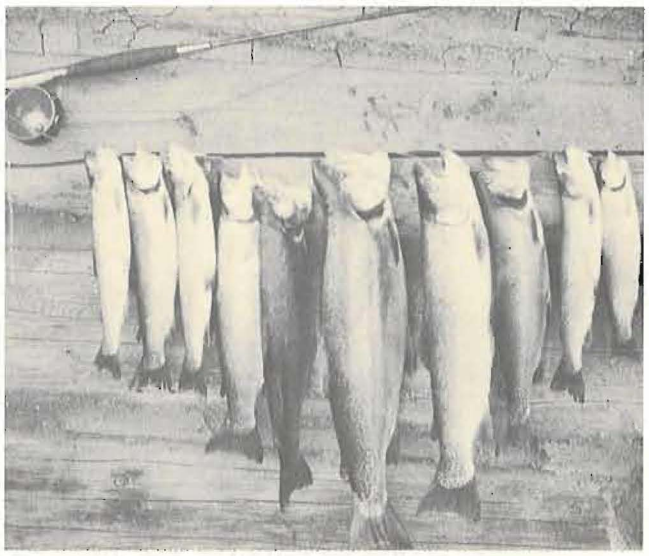
Cattlemen and sheepmen reacted differently to these changed circumstances. The cattlemen advocated better management and proper stocking of the range. Many large sheep operators, while admitting that regulation years ago would have saved the range, continued to radically oppose regulation.[93]

When George M. Wheeler was making his geographical survey west of the hundredth meridian, he visited the Markagunt Plateau and observed that in Center Canyon a road was under construction to reach the timber that is being sawed for the Pioche market 110 miles to the west. He observed fine pine and aspen groves, abundant grass and fine water, and the cooperative herd of Cedar City grazing about nine miles east of town. He had observed most of the mountain resources which the settlers were utilizing.

There were, however, other resources and other uses made of the forest lands. Wheeler also reported float copper and silver ore in the canyon east of Paragonah.[94] Fredereck S. Dellenbaugh reported seeing signs of prospectors on the Aquarius Plateau,[95] and A. H. Thompson reported a vein of coal two feet thick in a cliff.[96] Even though mining was not as significant a pioneer forest industry as was lumbering or stock raising, there were mineral resources in the mountain vastness that was to become the Dixie National Forest.

Coal mining had begun at Cedar City in 1852. There were also significant coal deposits near Escalante. In 1875, the Silver Reef mines in Washington County were opened and provided jobs, a market, and silver, gold, copper, zinc, and lead until a decline set in during the early 1880's. The local settlers also mined limestone and gypsum of Parowan Canyon. The Godfry and Hampton Mining Company began mining antimony in the 1880's, and the town of Antimony was named for the mineral product of the mines. Local residents found employment here, some as teamsters as they freighted using large wagons pulled by oxen to haul the ore to the railhead at Chicken Creek.[97] As the railhead came south to Salina and then Marysvale, the local settlers found they had a more ready access to markets via rail. To the west the railhead was extended to Modena in July of 1899.[98]

Dellenbaugh reported sighting another forest resource—game. He saw deer and elk and an occasional fat pine hen.[99] Early settlers reported that trout were abundant in the streams,[100] and deer were plentiful.[101] In fact, fish were so abundant that they became a source of livelihood for professional fishermen. In the 1880's, these professionals caught fish in the lakes of the Markagunt Plateau and most especially from Panguitch Lake. Twice a week they carried several hundred pounds of freshly caught fish to the mining camps at Pioche, Nevada, and Frisco in Beaver County. They also supplied the people of the surrounding towns with fresh fish.[102]



Fish caught at Panguitch Lake. (Dixie N.F. photo.)

In the early days the game animals did not constitute a range problem. Their winter range was not taken up with freeways and housing projects and they seemed to be kept in balance by predators, and killing by whites and Indians. Navajos were

[91] Interview with Arthur Meeks and Walter Coleman.

[92] Israel Nielson interview.

[93] Griffin.

[94] George M. Wheeler, *United States Geographical Survey West of the 100th Meridian*, (Geographical Report, 1889), Vol. 1, p. 48.

[95] Dellenbaugh, p. 199.

[96] Thompson Diary, June 2, 1872.

[97] Alma Savage, Sr., interview.

[98] Huntsman.

[99] Dellenbaugh, p. 200.

[100] Arthur Meeks and Walter Coleman interview.

[101] John Hiskey interview.

[102] Dixie National Forest Historical Documents, Vol. I.

coming from the reservation south of the Colorado River to hunt deer.[103] The Indians would bring their pinenuts to trade and hunt the deer to secure their winter meat supply. There were also many antelope in the early days particularly along the freight road to Milford where band after band with 20 to 50 head to a band would be seen,[104] and in the Parker Mountains which settlers said were eventually largely killed off by Indians.[105]

Some early observers maintain that before the deterioration of the range and the replacement of natural grasses by browse there were fewer deer than today. The sighting of two or three deer was considered significant in the old days. Some could not recall that the early settlers very often hunted them.

[103] Dixie National Forest Historical Documents, Vol. IV.

[104] Walter J. Knell interview.

[105] Arthur Meeks and Walter Coleman interview.

It may have been unusual for more than a few men from a community to kill a deer in a year.[106]

The pioneers of southern Utah found that the forest areas of southern Utah contained much land that nobody seemed to want. It was there for their using. As they devoted their physical energies to procuring food, shelter, and clothing, they found that these mountains were a great asset and blessing to them. They set about to convert the natural resources of the forest to their use. In doing so, they were able to establish stable, permanent homes and derive a livelihood from the land. Their usage involved some abusive and ill-advised practices which were detrimental to the fragile forest lands. Another generation would attempt to correct some of the pioneer misusage while at the same time continuing to use the forest resources in deriving a livelihood and even wealth.

[106] Riley C. Savage interview.

Chapter 5

SOUTHERN UTAH FORESTS, BIRTH AND INFANCY

The story of any National Forest begins with the national story of the elevation of the Forest Service. Professional forestry became increasingly important in post-Civil War America. Usually trained abroad, foresters adapted European theories to the less limited abundance of natural resources found in the United States. Forestry was a vital part of the general conservation movement that arose in the United States in the last quarter of the nineteenth century and reached its peak during the Presidency of Theodore Roosevelt. An intellectual and political phenomenon, the conservation movement was largely a response to the rapid industrialization and urbanization in America after the Civil War. Settlements had now extended across the continent, the landscape had been altered, and American culture appeared to be increasingly materialistic. A countermovement developed to preserve pristine areas and to try to conserve the Nation's natural resources for present and future generations. Much leadership in the emerging conservation movement and most expressions of conservation concern came from eastern urban dwellers. However, the focus of conservation attention was primarily on the American West, where vast extents of land remained in the public domain and where large tracts of forest remained.

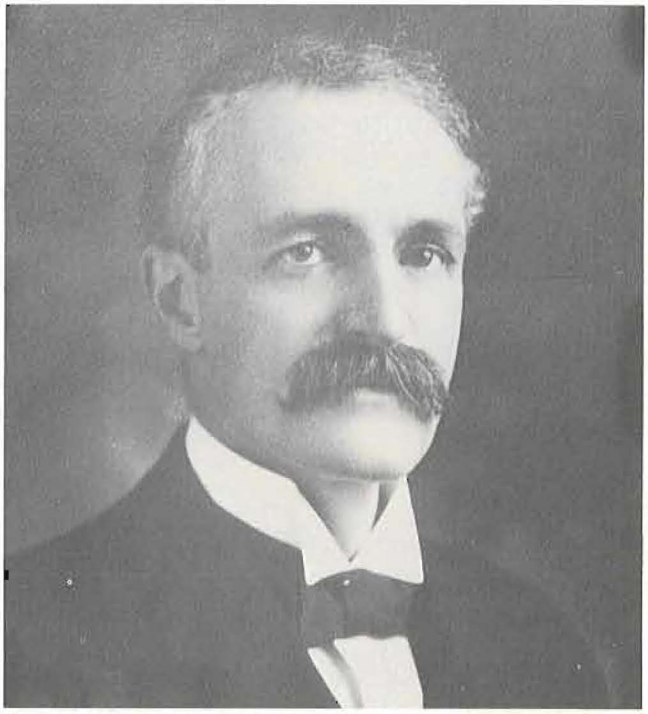
This conservationism embodied two distinct types: preservationists and utilitarians. The preservations, inspired by Henry David Thoreau and exemplified by the influential found of the Sierra Club, John Muir, believed in saving as much as possible of the Nation's scenic wilderness and forest expanses just as they were—never to be exploited by humans. They believed the beauty of the national landscape should be valued in and of itself. The creation of Yellowstone, the first National Park, in 1872, was one of the earliest outgrowths of preservationist concerns.[1]

In the last four decades of the nineteenth century a second conservationists faction developed: those who believed that renewable resources should be protected and managed through wise and economical use. The principal focus of this philosophy was the Nation's forests where the mechanics of economical conservation were to be demonstrated. A leading spokesman for this philosophy was Gifford Pinchot, early forester, who became Chief of the Division of Forestry in the Department of Agriculture in 1898 and its successor, the Forest Service in 1905.

The federal government recognizing the land hunger of its citizens, had followed an accelerating policy of transferring land from federal control to

[1] Roderick Nash, Ed., *The American Environment: Readings in the History of Conservation*, (Reading, Mass.: Addison Wesley Publishing Company, 1968), p. 89.

President Theodore Roosevelt. (Courtesy Library of Congress.)



Gifford Pinchot. (U.S. Forest Service.)

private ownership. Congress passed a variety of public land laws that promoted agricultural development and internal improvements. For almost a century, millions of federally owned acres of land came under private control with little or no concern about the conservation or preservation of natural resources. The land policy of the federal government from 1785 to 1891 was that of opening land to farms, mines, sawmills, and railroads.[2] With the Civil War, the U.S. Government gave away even more vast tracts of land to settlers under the Homestead Act and generous grants to railroads in the hope that this liberality would spark the development of regions of small farmers served by transcontinental railroads.[3]

The public land laws did not always operate as intended. This was particularly true in the far West where the topography complicated matters. The regions beyond the 100th meridian proved better suited for cattle raising, lumber, and mining ventures as opposed to small subsistence farmsteads. In 1869, there came a man of far vision to southern Utah, John Wesley Powell, surveyor of the Colorado River Canyons, who recognized some of these inadequacies of the laws. Powell was fascinated with the arid west, its climate, its native peoples, and its potential. His exploration of southern Utah, including some of the lands which were to become a part of the Dixie National Forest, particularly the Aquarius Plateau, helped him sense some of the West's unique problems, such as the need for a federal land policy beyond the 160-acre Homestead Act. He saw that irrigated farming required not large land holdings but secure water supplies for the intensively farmed areas. His work was especially important to the conservation movement as it impacted southern Utah and it led to additional topographical surveys such as that of Lt. George Wheeler, 1869-1871, and eventually to the establishment of the Bureau of Reclamation.[4]

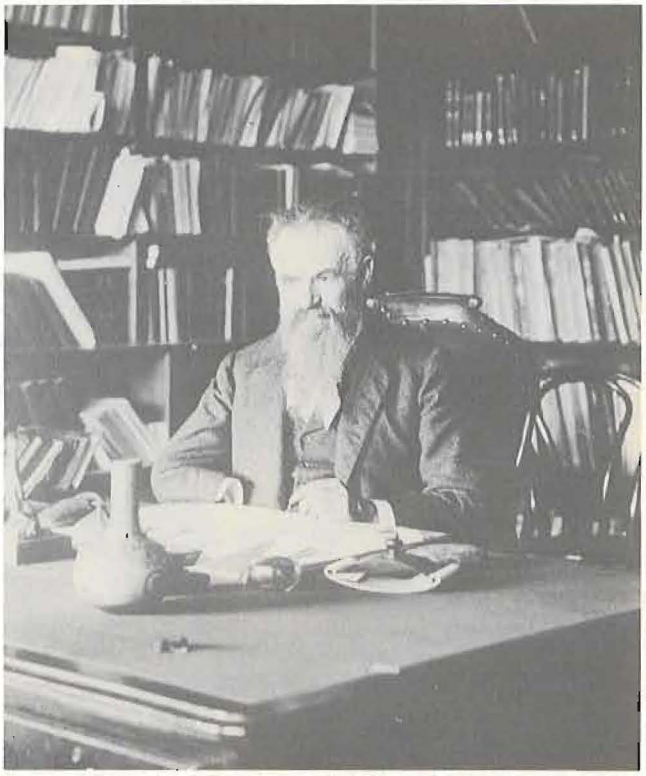
In the meantime, professional forestry concerns developed an organized voice in 1875 with the creation of the American Forestry Association. This new professional forum led to the creation in 1881 of a Forestry Division within the Department of Agriculture. By 1884, the Department published a massive study of the Nation's forests. The principal goal of the foresters was to protect America's timber resources from destruction in a final rush of heedless private exploitation.[5]

Among the goals of the forestry advocates was the desire to be practical. By this they meant convincing the public that they were not a set of sentimentalists fallen in love with greeness who would become teary-eyed over the cutting of a tree. Their intensive lobbying efforts for practical conservation of forest areas bore fruit in 1891 in the administration of Benjamin Harrison with the passage of legislation authorizing creation of government forest reserves. These reserves were the predecessors of the National Forests. Section 24, (commonly referred to as the Forest Reserve Act) of the General Land Law Revision Act was used by President Harrison to create 15 National Forest Reserves throughout the American West.[6]

The 1891 Act did not specify how the reserves would be protected or administered. In the absence of such stipulations, Grover Cleveland, Harrison's successor, was hesitant to proclaim new reserves. On February 22, 1897, with his Washington's Birthday Proclamation, Cleveland overcame his reluctance and proclaimed 21,000,000 acres of new Federal Forest Reserves. This withdrawal provoked acrimonious and strident protests. The result was the passage of the Organic Act of 1897 which came to form the basis of forest management for many years.[7] It specified the purposes for which reserves could be created. These stated purposes ignored

[2] Roy M. Robbins, *Our Landed Heritage: The Public Domain 1776-1936*, (Lincoln: University of Nebraska Press, 1962), pp. 160-169.

[3] John Messing, "Public Lands, Politics and Progressives: The Oregon Land Fraud Trials, 1903-1910," *Pacific Historical Review*, February 1966, Vol. 35, No. 1, p. 35.



John Wesley Powell. (State Historical Library, Salt Lake City, Utah.)

[4] Melvin T. Smith, "Forces that Shaped Utah's Dixie: Another Look," *Utah Historical Quarterly*, (Spring, 1979, Vol. 47, No. 2, pp. 110-129), pp. 120-121.

[5] Robert E. Ficken, "Gifford Pinchot Men: Pacific Northwest Lumbermen and the Conservation Movement, 1902-1910," *Western Historical Quarterly*, (April 1982, Vol. 13, No. 2, pp. 165-178), p. 166.

[6] Robbins, p. 304.

[7] *Ibid.*, pp. 314-321.

frequent western uses of the forests such as mining, grazing, wildlife, and recreation, but did specify that reserves were created to improve and protect the forests and to secure favorable water flow and a continuous timber supply.[8]

The development of the forestry profession, the founding of the Forestry Division, and the creation of reserves offered the hope that the government and the public might be willing to cooperate in the search for solutions to America's dwindling natural forest resources. Gifford Pinchot believed that, "As a people, we are ready for forestry."[9] At any rate it was certain that government officials were reevaluating and changing the policies of the last forty years.

The assassination of President William McKinley in 1901 brought Theodore Roosevelt to the White House, and the Roosevelt Administration did much to foster the new conservation movement. Gifford Pinchot who had become the Chief Forester in 1898, conducted a vigorous campaign to improve the public relations of the division. Eventually, he hoped to wrest the forest reserves from the control of the General Land Office of the Interior Department.[10] The President supported Pinchot's conservationism. Together they sought protection of the forests from disaster and mismanagement, but also from the more radical forms of environmental preservation.

Roosevelt and Pinchot made conservation one of the most dramatic issues of the Progressive Era. In 1905, they completed the metamorphosis of the Forestry Division into the U.S. Forest Service. For them the "underlying principle of conservation" was nothing more complicated or threatening than "the application of common sense to common problems for the common good." Common sense, wrote Pinchot, "holds that the people have not only the right, but the duty to control the use of the natural resources, which are the great sources of prosperity." Directed by a corps of professionals—forestry would be so applied as to provide for the needs of all Americans, present and future. "The outgrowth of conservation," inevitably would be "national efficiency."[11] "The first great fact about conservation," wrote Pinchot, "is that it stands for development." While concerned with the future, "it means...the recognition of the rights of the present generation to

[8] *Ibid.*

[9] Gifford Pinchot, "The Immediate Future in Forest Work," *Forestry and Irrigation*, Vol. VIII, January, 1902, p. 18.

[10] Gifford Pinchot, *Breaking New Ground*, (New York: Harcourt, Brace, 1947), p. 160.

[11] Samuel P. Hays, *Conservation and the Gospel of Efficiency: The Progressive Conservation Movement, 1890-1920.* (Cambridge, Massachusetts: Harvard University, 1959), pp. 265-266.

Teddy Roosevelt (bottom ledge) in Southern Utah and Buffalo Bill (standing on top ledge). (State Historical Library, Salt Lake City.)

the fullest necessary use of all the resources with which this country is so abundantly blessed."[12] Under such philosophy forestry seemed to call only for the adoption of practical measures.

Until the signing of the Transfer Act of February 1905, the Forestry Division had no control over the Federal Forest Reserves which were still managed by the General Land Office in the Interior Department. However, foresters at least had input and provided a measure of protection against fires and erosion within the forest reserves.

In the late nineteenth and early twentieth centuries as observers recognized and drew attention to the adverse impact of some activities on the environment, southern Utah residents were also heedful of destruction and wanted to do something about the problem of overgrazing and watershed destruction. For example, the community of Boulder brought suit against sheep grazers for pollution of its watershed. Even though a solution was agreed upon and the suit dropped, it underlined the recognition of the problem.[13]

As a result of the General Revision Act of 1891, a president of the United States could designate particular areas as forest reserves set aside for future use. Administration under the Act was vested in the General Land Office. When reserves were created, the GLO was authorized to appoint forest supervisors and to hire rangers to administer the reserves. The principal administrative duty was to administer timber sales and regulate grazing.

Since relations between Interior and Agriculture were generally very good, and since the Interior Department was short on forestry talent, the Forestry Bureau in the Department of Agriculture was often called on to make reconnaissance of potential forest reserves. So it was that on the first forest reserve of southern Utah, which was to become a part of the Dixie National Forest, the forest survey was done by Albert F. Potter, Chief Grazing Officer of the Forestry Bureau. His survey of the forest lands of southern Utah began October 17, 1902, at Teasdale and ended because of a snowstorm on November 21, 1902, at Panguitch.

Potter's survey took place in the midst of a drought year and as a result he observed much overgrazing, particularly by sheep. He noted the range was heavily stocked and looked very bare. Several sheep herds were "grubbing away at grass roots."[14]

Potter found cattle operations sharply limited with

Albert F. Potter, Chief Grazing Officer. (U.S. Forest Service.)

sheep forming the basis for Utah's largest grazing industry. Sheepman Peter Thompson assured him that $1,000,000 in revenue was produced annually through the sheep herds in the area.[15] Seeing sheep virtually everywhere, Potter observed, "This country has all been taken by the sheep which have just about cleaned up all the grass." The only deterent to the sheep operators seemed to be scarcity of water. Even ideal cattle range country such as that on Birch Creek had been taken over by sheep. On the high ridges dividing Birch and Coyote Creek, he did observe a good forest and grass country and saw several bunches of horses but few cattle.

King and Brown of Coyote who ran four bands of sheep in this area said they generally entered the range about June 14 and left September 15. In 1902, they were still on the high range in late October because, as they explained, the drought created a scarcity of feed and water on their traditional winter range.[16] To his great surprise, Potter later met J. M. Henrie and Brothers of Panguitch driving sheep from Cedar Mountain on their way to winter range in Washington County. When a snowstorm hit on November 20, it appeared the Henrie herd might be snowed in.[17]

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[12] Gifford Pinchot, *The Fight for Conservation,* (Seattle, 1967), p. 42.

[13] Dixie National Forest Historical Documents, Vol. IV.

[14] Albert F. Potter Report, October 18-November 21, 1902, found in Dixie National Forest Historical Documents, Vol. II.

[15] *Ibid.,* October 21, 1902.

[16] *Ibid.,* October 19, 1902.

[17] *Ibid.,* November 20, 1902.

Sheep herd on Cedar Mountain near Long Valley. (Lynne Clark Photography Collection, donor Reusch family organization.)

Whereas many sheep were still in the high country the cattle had all been moved to lower range for the winter. Generally the grass had been eaten off very close and the country was quite badly trampled by the sheep.[18] At one time, there had been several dairies, but competition for grazing was forcing them out. The Brindley Dairy used to milk about 100 cows producing butter and cheese, but they had given up dairying "on account of the scarcity of feed."[19]

The sheepmen Potter encountered generally opposed range control. For example, Peter Thompson stated that six herds of cattle used to range over much of the Aquarius Plateau. Now there were only a few cattle. Since the cattle were gone and the sheep utilized the range to better advantage than other livestock, why regulate the grazing? Thompson argued that the trampling of the soil by sheep had increased the water supply by causing the water to run down the canyons instead of soaking into the ground. He, like many other sheepmen, maintained that a large part of the water was wasted in support of surplus vegetation.[20]

Potter first gained the cattlemen's perspective on range control from Jesse Lowder of Parowan. Lowder who had a rather large cattle operation on the Markagunt Plateau complained that the sheepmen were crowding him.[21] Others complained that the North Fork of the Virgin had been overrun by sheep in recent years.[22] Potter concluded that the entire Cedar Mountain formed an important watershed and needed to be given more careful care with proper regulation of grazing. It was good grazing country, but it had been overstocked with sheep. Potter agreed that the cattle did not stand much chance in competition with the aggressive practices of the sheepmen.

Potter also observed that much of the Forest had been lumbered for years by local settlers. In some locations the lumbering appeared to have been rather heavy. It seemed that local lumbering interests had cut yellow pine almost exclusively in their logging operations. Often the cutting had concentrated on only the choicest timber. He also found that "loggers were very careless about cleaning up the trees cut; many good logs were being left to rot."[23] Most mills had been set up in fine bodies of yellow pine. The slopes in those areas had been reduced to a scattering growth. In other localities such as at Winslow Creek, he found a "splendid lot of yellow pines" where no cutting had been done.[24] The conditions he had observed

[18] *Ibid.*, October 19, 1902.

[19] *Ibid.*

[20] *Ibid.*, October 21, 1902.

[21] *Ibid.*

[22] *Ibid.*, November 11, 1902.

[23] *Ibid.*, November 20, 1902.

[24] *Ibid.*, October 20, 1902.

Sheep gathering time on Cedar Mtn., Reusch family organization. (Lynne Clark Photography Collection.)

indicated a serious problem of timber management. He did find the Boulders a mountain wilderness of good forest stands. The good spruce forest he termed a "pole heaven."[25] He also found a good stand of yellow pine on the ridges south of Panguitch Lake and a good spruce and fir forest near Brian Head, and in other localities on Cedar Mountain good aspen growth.[26] But again as elsewhere he found the more accessible stands of yellow pine pretty closely cut out.[27]

Mining, flooding, fire, disease, forest growth, and the reproductive capactiy of the forests all came under Potter's scrutiny. It appeared to him that the mountains contained mineral deposits, but he observed no mining of consequence.[28] He did find evidence of old burn areas such as in Jacob's Valley and in some areas of the Boulders fires evidently had run through "quite frequently."[29] He also viewed a 500-acre timber burn which had taken place as recently as June of 1902.[30] On the Markagunt Plateau he observed that many trees were defective and quite a number of dead trees were scattered through the forest. He speculated that they may have been killed by the Little Black Pine Beetle.[31] Potter did express concern about forest reproduction in some areas. He found some locations where "reproduction is very poor" with very few seedlings evident.[32] Near the East Fork of the Sevier River where he had observed areas with 80 trees per acre he noted that there was very poor reproduction of young trees.[33]

Availing himself of every opportunity to sample local attitudes on a wide variety of subjects, Potter tested attitudes of the people about the proposed forest and found the majority seemed to recognize the need for some regulation. He observed that opponents and proponents of forest regulation tended to divide according to economic interest. Cattlemen, farmers, and townspeople generally favored reserves. Sheepmen and those involved in associated activities were more likely to be opposed. In general he did find a rather widespread sentiment against sheep and those who ran them, but he did find a Mr. Adams at Parowan who managed the co-op store to be strongly opposed to reserves.[34] At Panguitch he attended a mass meeting attended by over 200 people to discuss the proposed Forest Reserves. Potter talked for one hour and then answered questions for another hour. He found the people were anxious to gain a fuller understanding of the issues before taking sides.[35] The day after the mass meeting he met a large group of citizens who wanted even more information. As he visited about town that day, he found opposition to the proposed Sevier Forest Reserve among the sheepmen and a few others who objected to any type of regulations. He, however, believed that a majority of citizens favored the Reserve, especially the more influential members of the community including county governmental officials and J. B. Heywood, the Bishop of the Panguitch Ward.[36] Dr. Steiner of Panguitch who ran about 150 head of cattle summed up much of the local sentiment when he said that he was tired of the aggressiveness of the sheepmen and was fearful of losing out in unregulated competition.[37]

The Potter survey served to confirm the Forest Reserve policy and during the next several years the federal government moved to place the mountains of southern Utah into National Forest Reserves. Armed with the conclusions of the Potter survey, President Roosevelt signed the proclamation establishing the Aquarius Forest Reserve on October 24, 1903. The 702,470 acres of this Reserve had been withdrawn from public entry on May 7, 1902.[38] It is not clear what this meant in terms of legal status, but with the President's proclamation the status was firm.

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[25] *Ibid.*

[26] *Ibid.*, November 13, 1902.

[27] *Ibid.*, November 11, 1902.

[28] *Ibid.*, November 10, 1902.

[29] *Ibid.*, October 18, 1902.

[30] *Ibid.*

[31] *Ibid.*, November 18, 1902.

[32] *Ibid.*, October, 18, 1902.

[33] *Ibid.*, November 18, 1902.

[34] *Ibid.*, November 11, 1902.

[35] *Ibid.*, November 16, 1902.

[36] *Ibid.*, November 17, 1902.

[37] *Ibid.*, November 21, 1902.

[38] Dixie National Forest Historical Documents, Vol. I.

Now that these lands in Wayne and Garfield Counties were in a National Reserve they were to be administered by the Forestry Division of the General Land Office in the Interior Department. The Aquarius was the only Forest Reserve which was to become a part of the Dixie National Forest to be supervised by the Forestry Division. The next reserve, the Sevier, was not proclaimed until May 12, 1905, which was after the February 1905 transfer of Forests to the Department of Agriculture.

The principal initial duties included administration of timber sales and the regulation of grazing. A decision by the Attorney General procluded the collection of grazing fees at this time. Even though the GLO was to appoint supervisors for the reserve and was authorized to hire rangers who were to administer districts within the reserve, no forest officers were appointed to the Aquarius until March of 1904. The first supervisor, George H. Barney was joined shortly by Rangers Ambrose Shurtz, Joseph J. Porter, and Orrin C. Snow.[39] These employees were under Civil Service and were generally capable and dedicated although harried by administrative responsibilities. A major problem was lack of funds to properly manage the resources. Additionally these men were not trained foresters.

George H. Barney, first supervisor. (Photo courtesy Jillyn Smith, Logan, Utah.)

The livestock industry was of most immediate concern since it was of such major importance in both Garfield and Wayne Counties in 1903. Only a small portion of the land was suitable for farming. Irrigation was essential to farming success and irrigation was limited to a few valleys along the principal streams. The public lands which were now Forest Reserve lands were good grazing country and the principal occupation since settlement had been livestock. The total assessed valuation of Wayne County was $343,855 with $132,496 representing the livestock in the county and about one-half of the balance represented other property owned by the large livestock raisers. In Garfield County the total evaluation was $747,280 with $331,685 being the value of livestock. Again other property holdings of livestock men accounted for a large part of the balance.[40] From these circumstances Potter had concluded that "it is very important that the regulation of grazing livestock should be practical and as liberal as possible, consistent with the proper care of the forest."[41] In the absence of forest officers on the Aquarius in 1903, J. H. Fimple, Assistant Commissioner to the Secretary of Interior, decided to rely heavily on Potter's advice in assigning the first grazing permits.

Many stockmen realized that the country had been overgrazed and many admitted the need for some restriction to insure the permanency of their business. Much of the demand for the creation of this reserve came from local ranchers who had experienced increasing pressure from transient herds which had no base property in the counties. A successful management of grazing on the new reserve would gain goodwill and the cooperation of the local stockmen in the care of the forest. Although in the first year grazing permits were assigned from the Washington Office, when Supervisor Barney was appointed, he corresponded directly with the Washington Office and the next year's grazing permits were issued by Barney upon the approval of Washington.

Potter had attempted to find the number of livestock grazing on the Aquarius in 1902, but he found it difficult to determine the number because of the transient livestock, mainly sheep. The home stock totaled 12,500 cattle and 75,000 sheep. Some of the cattle and horses ranged within the boundary of the reserve year-round, wintering along the lower southern slopes and working the higher ranges in the summer. Some of the cattlemen put their stock in fields at the settlements to winter, while some others rounded up in the fall and drove to the Henry Mountains where they set up a winter camp. These had customarily returned to the lands that were now forest reserves around April 1.[42]

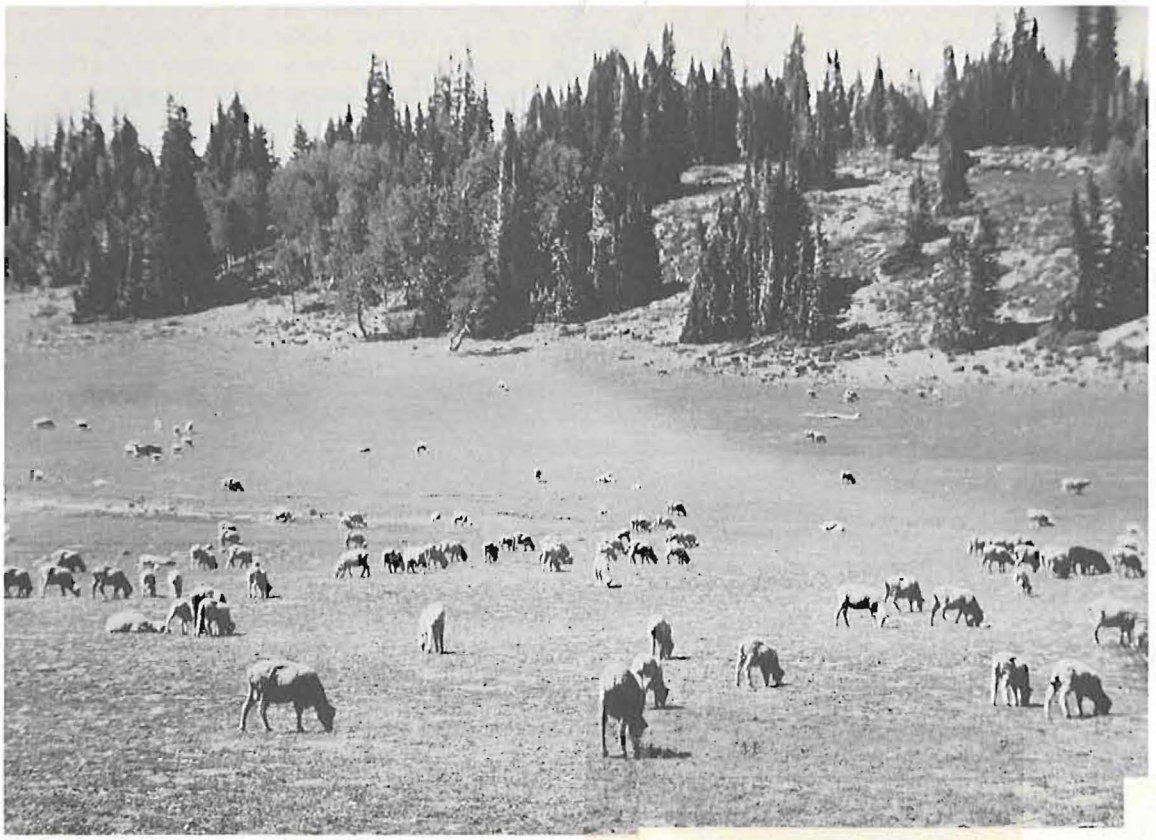
Most of the sheepmen lambed out their herds on

[39] *Ibid.*

[40] *Ibid.*

[41] Potter's Report, Dixie National Forest Historical Documents, Vol. II.

[42] *Ibid.*



Sheep grazing near Cedar Breaks. (Dixie N.F. photo.)

the winter range and came onto the forest about June 1 and remained until around November 1. Some, however, lambed on the reserve's lower southern slopes in early May.[43]

In view of Potter's firsthand experience in the area and his recommendation for a liberal permitting policy, 12,500 cattle and 75,000 sheep were permitted to graze the Forest Reserve in the first year. The number could then be adjusted as the need arose for the proper utilization and protection of the forest.[44] On May 1 sheep up to 25,000 head maximum would be allowed on the forest for lambing, the other 50,000 would enter the forest June 1. All were to be off the reserve by November 1. The grazing season after 1904 was to be determined by the forest officers.[45]

In addition to regulating grazing there were some other immediate use concerns and decisions to be made by Interior for the new Forest Reserve. Sawmills had operated in virtually all the principal timber areas at one time or another. There was still a large amount of the pine forest which had not been culled. Up until the withdrawal had shut them down, Charles Torgerson had operated a sawmill on Bailey's Creek, Henry Cullum on Fish Creek and John Smith on the Lost Branch of Carcass Creek. These were all small mills and had been cutting primarily for the local settlers. Because of the distance from a railroad, the nearest being at Marysvale, and the expense of transportation, there was little demand for the timber beyond local use. The local demand remained fairly strong and these operators all wished use permits to resume operations. Some of the burn areas and mature forests required cutting for proper resource management. Burn areas could be harvested up to seven or eight years after a fire with only a 25 to 30 percent loss. Selective cutting was dictated by the scarcity of young trees under 8 inches D.B.H.[46] Persons wishing to purchase timber applied to the forest supervisor who issued permits and designated, or had a ranger designate, the area to be cut.

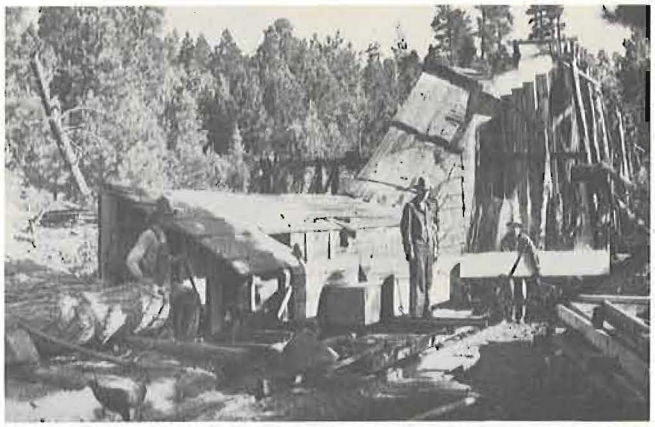
Another use and regulatory concern was mining, especially as it related to timber usage. The Coyote Mining District was located in the northwest corner of the new Aquarius Reserve. Within the district were nine patented claims totaling 155 acres and 14 unpatented claims totaling 280 acres. The principal minerals were sulphide and antimony lying between layers of sandstone on the sides of Coyote Creek. This ore contained about 15 percent antimony. Because of the distance from the mines to

[43] *Ibid.*

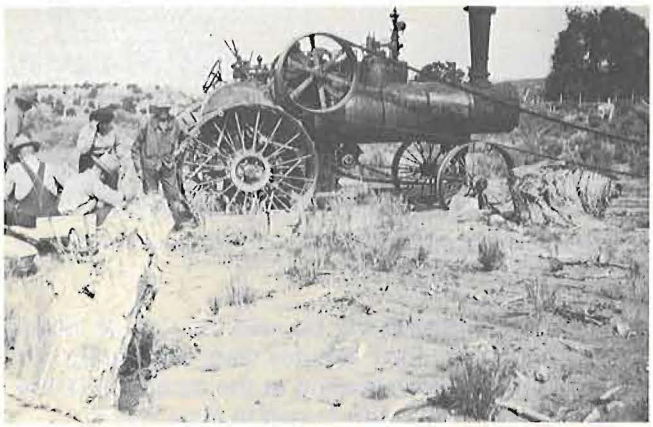
[44] *Ibid.*

[45] Dixie National Forest Historical Documents, Vol. I.

[46] *Ibid.*, Vol. I. Also see Potter's Report.



Water powered sawmill north of Boulder which supplied most of lumber for settlement in the valley. (Dixie N.F. photo.)



Steam powered sawmill—Coleman Sawmill. (Photo courtesy of Burr Coleman.)

the railroads, transportation expense was high. The only successful way of marketing antimony was to burn the sulphur out of the ore, thus reducing its bulk. Wood was used to fire the furnaces at the mines. This process consumed 250 to 300 cords of wood per month.

Benjamin Hampton was granted a permit when the withdrawal was first made in 1902 for 3,500 cords of juniper and pinyon wood to be harvested in the vicinity of the mines. He applied for renewal of the permit when the first expired. There was much dead wood in the vicinity which would be used to advantage in this operation and not damage other interests and so his permit was extended.[47]

With foresight Potter had suggested cutting two areas out of the proposed reserve to avoid complications and competition with settlers at Grover and on Fish Creek.[48] A related issue dealing with the status of land at Boulder remained unresolved. The community had been settled in 1889. When the first forest reserve was established about twenty families lived there, all of whom were engaged in the livestock business. They had fenced and cultivated property within the community but it was all technically public domain. Altogether the residents claimed lands from the public domain totaling 3,600 acres. Potter suggested that this land be surveyed to protect their claims. However, it was 1923 before President Harding set aside 130 acres of the public domain for a townsite. A survey continued to be neglected and the residents remained legal squatters until Maggie Baker asked the Federal Land Office for permission to buy the land on which her home stood. A survey was made at that time so land could be purchased.[49] There were also two desert land entries in the new reserve, one of 120 acres and one of 40 acres. There were also a number of places where settlers from the valley communities had built pasture fences and driven cattle to them in summer months for dairying. All seemed to be abandoned but it was possible that some users might seek continued use in the future.[50] These issues all posed use and survey problems for the new forest.

Even though the GLO administration of the Aquarius Reserve was short, and not optimum, it was not necessarily a failure. Inadequacies, oversights, and omissions were due to a lack of funds. By 1905 the GLO was calling upon the USDA's Forestry Bureau under Gifford Pinchot for more and more expert advice on silviculture and other forest problems for which the GLO lacked the expertise and technology. Pinchot favored the transfer of the forest reserves to the Agriculture Department and had worked for seven years to bring this change about. He convinced President Roosevelt of the desirability of such a change. With the support of Interior, Congress approved the change in February 1905. With the transfer, Pinchot had virtually created the Forest Service. He had united in one office the functions of advising the nation on forestry and of overseeing forest reserves.

Potter's survey in 1902 had also included lands on the Markagunt Plateau. On August 20, 1903, lands within this area were withdrawn for forest consideration. By Presidential Proclamation the Sevier Forest Reserve totaling 372,357 acres on the Markagunt Plateau was created May 12, 1905. During the period between the withdrawal of lands and the date of the proclamation, prominent citizens such as Judge John F. Chidester, James Clove, and others were busy explaining to the people the advantages of the establishment of a National Forest.[51] On January 17, 1906, the Paunsaugunt Plateau was added to the Sevier as the East Division thus creating a reserve that now totaled

[47] *Ibid.*

[48] *Ibid.*

[49] Workers of the Writer's Program of the Work Projects Administration for the State of Utah, *Utah A Guide to the State,* (Hastings House: New York, 1941), pp. 340 and 341.

[50] *Ibid.,* Vol. IV.

[51] *Ibid.*

710,920 acres.[52] The name for the Sevier National Reserve was given at the creation and derived from the forest's association with the Sevier River which traverses the adjoining Sevier Valley and has its source and 75 percent of its tributary streams in the forest. The Sevier River and Valley were named in honor of John Sevier, an American pioneer, General and politician who was born in Rockingham County Virginia on September 24, 1725.[53]

Beaugard Kenner was moved from the Manti to become the first supervisor on the Sevier. Initially the office was at Parowan, but it was soon moved to Panguitch. The first rangers were Will Funk on the Cottonwood District and Frank Seaman.

Ranger Frank Seaman and wife Anna. (Photo courtesy of Anna Seaman, Cedar City, Utah.)

They both began their tenure on July 25, 1905.[54] When the East Division was added, Wallace M. Riddle was hired for that division. These and other new appointees were generally not trained foresters. Usually they were people from the local area, often with a background in handling stock and ranching. Recognizing the need for training the Forest Service provided ranger correspondence courses.[55] Later a short forestry course was offered at Logan. This was initiated by Pinchot with the support of District Forester Clyde Leavitt. About sixty Forest Service personnel began the course

[52] *Ibid.*, Vol. I.

[53] *Ibid.*

[54] *Ibid.*, Vol. IV.

[55] Interview with Martin L. McAllister, found in Dixie National Forest Historical Documents, Vol. I.

Frank Seaman, Ranger at Duck Creek. (Photo courtesy of Anna Seaman, Cedar City, Utah.)

thinking that they would be paid their usual salaries. After two weeks their salaries were terminated contrary to their understanding at the inception of the course and many were forced to drop out.[56]

The urgency for training was graphically spelled out in an annual personnel report from the Sevier. Of 11 part- and full-time employees only one had any University training and he had one year. One was a high school graduate. Among the others one showed a "slight inclination to favoritism," some were described as laggards, one was on probation for doctoring reports, another had been let go and a third's work was unsatisfactory and when reprimanded he quit and would not be rehired. Another was an habitual braggard.[57]

At the outset under the Bureau of Forestry, now renamed the Forest Service, little administrative change took place. The direction of the forests under the Forest Service remained for a time as highly centralized as it had been when administered by the Interior Department. Budgets were tight and revenue was essential for effective administration of the forests. Pinchot brought the first major administrative change when he secured a ruling from the Attorney General in 1906 approving charges for grazing fees. The fee for 1906 was 3-4 cents per month per head of cattle and 1½ to 2 cents per head per month for sheep. These initial low fees

[56] Interview with Wallace M. Riddle found in Dixie National Forest Historical Documents, Vol. IV.

[57] Dixie National Forest Historical Documents, Vol. V.

covered only the cost of administration but were nonetheless significant. For example, in 1906 timber receipts on the Sevier totaled $148 and grazing receipts $6,328 for a total collection of $6,478. Salaries for the forest personnel totaled $4,393.34 and other administrative costs about equaled the receipts.[58]

Over time other changes began to occur. On March 4, 1907, the designation of forests was officially changed from National Reserves to National Forests.[59] In 1908, a more significant change took place, one that was to alter forest administration if not revolutionize it. There had been concern that centralized administration was inefficient and excessively expensive. It was now proposed to decentralize administration through the creation of districts which were later renamed regions which would be headed by a District or Regional Forester. District 4 was organized in 1908 and located at Ogden, Utah.[60]

With these changes occurring and the lack of training on the part of many Forest Service personnel, it was important that the purposes of the reserves should be spelled out. Secretary of Agriculture James Wilson on February 1, 1905, stated that the purpose of forests is to "see to it that the water, wood, and forage of the reserves are conserved and wisely used for the benefit of the homebuilder first of all, upon whom depends the best permanent use of lands and resources alike."[61]

Using the authority of the government as owner of the land to prescribe how the land should be used, there was a desire to regulate the range by economically sound principles which would develop from a growing body of technical knowledge essential for the proper management of range resources. Once the idea of regulation was substituted for the idea of free-for-all range, there had to be some method to decide among applicants who should be admitted and on what terms—that is unless regulation was to prohibit all grazing use. Since the primary purpose of forests was to regulate forest timber production and to provide watershed protection, a prohibition of grazing was possible but unlikely.

One possible method to determine grazing usage was to sell grazing privileges to the highest bidders. Since the Forest Service hoped to serve the local area and hoped to be as democratic as possible, remembering the Progressives feared monopoly and bigness, this means was rejected. Other considerations for determining use included previous use, local residence, ownership of developed ranch property dependent on access to the forest, the effects on settlement and agricultural development, the desire to have widespread distribution of grazing privileges, public interest, maintenance and upbuilding of the range resources, a fair and reasonable return to the public treasury and the promotion of a stable, healthy, and efficient livestock industry.[62]

With all of these considerations it was not until 1909 that grazing policy had fairly well settled down on the Sevier National Forest. When the Sevier was established, the summer range on the forest was overstocked and was being damaged and denuded by large herds owned by a comparatively few individuals. These large operators, who were the range occupants in 1905, had succeeded in crowding out small, weaker operators. These dominant stockmen were used to driving their stock in and removing them at will. Other than a few low mesas, the forest is a summer range. Most of the grazers took their stock onto the forest lands too early in the spring when the ground was soft and pervious and susceptible to much damage.[63]

The task of the Forest Service was now to regulate these practices and improve the range. The grazing capacity had to be determined, the number of stock reduced to that carrying capacity, and equitable permitting among bona fide settlers of the region had to be arrived at. Gradually the number of stockmen using the forest was increased, the range was improved by reducing the livestock permitted and restricting the grazing season. Those who had previously dominated the range reduced their stock by shipping the surplus to market. By 1910, some of the large outfits sold off substantial amounts of their stock. The Rogers Brothers sold off 6,000 head of cattle and kept 3,000 more on their traditional Sevier range and moved another 3,000 head to the Boulders. Joe Lay sold and trailed 2,000 head out in the same year. At the same time steps were being taken to restrict sheep from certain areas of the forest.[64]

It was a constant concern to maintain good relations with the forest users. James E. Gurr and William M. Hurst were regarded as being particularly adept at this sensitive aspect of Forest Service administration.[65] It was difficult to convince the grazers that over time there had been an appreciable decrease in the carrying capacity of the range and that adjustments were necessary in the number of livestock grazing the forest.

Since Utahns were generally aware of and concerned about the beauty and the resources offered by

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[58] *Ibid.*, Vol. IV.

[59] *Ibid.*, Vol. I.

[60] *Ibid.*

[61] *Ibid.*, Vol. IV.

[62] *Ibid.*

[63] *Ibid.*, Vol. IV.

[64] *Ibid.*, Vol. V.

[65] Riddle Interview.

the canyons and mountains, they generally supported the actions to preserve forest and range lands and to develop and protect water resources.[66] Of course, as would be expected, redistribution of grazing and the assessment of grazing fees led some of the stockmen to complain. But since the early 1900's were fairly prosperous times in Utah, stockmen were able, as the range improved, to improve the grades of their stock by introducing purebred Hereford cattle and Spanish Merino or French Rambouillet sheep. These steps improved both the quality and the profits of the livestock industry.[67] The overall result was a larger number of owners grazing smaller herds made up of better stock, better cared for and as a result the lamb and calf crops improved.[68]

Although improvements were made, the force on the Sevier National Forest remained inadequate to handle road repairs, care for watering places, and carry out range development. Old washed out roads that went unrepaired became a special watershed problem.[69] The improvement budget for 1907 contained no money for fire control, forest planting, construction of drift fences, corrals, roads, trails, and bridges.[70]

The supervisors in southern Utah dealt with insufficient budgets in various ways. Rangers were furloughed at the end of the year and sometimes not restored to employment until May or June. In 1910 the rangers on the Sevier were kept year-round for the first time.[71]

In 1908, the name of the Aquarius was changed to the Powell National Forest. In 1919, the Powell and the East Division of the Sevier were consolidated and the forest became known as the Powell-Sevier National Forest until 1922 when the Sevier was dropped from the name.[72] The forest was now named for John Wesley Powell, geologist, explorer, founder, and first director of the Bureau of Ethnology, and director of the Geological Survey in the Department of Interior from 1881 to 1894. The Powell eventually consisted of 1,056,593 acres on two divisions. The East Division comprised the Escalante Mountain, the Aquarius Plateau, and the West Division included Adams Head and the Paunsaugunt Plateau.[73]

Between the creation of the forest and 1910 there had been several boundary changes on both the Aquarius and Sevier Forests. In December 1907, the Aquarius was enlarged by approximately four townships. On September 26, 1910, the boundary was considerably reduced by eliminating a large area on the north and the Kaparowits Peak on the south. Finally, on December 23, 1910, the East Division of what had been the Sevier was slightly enlarged. The overall effect of the adjustments had been an acreage reduction.[74]

One factor facilitating boundary changes was improved communication due to the Forest Service telephone system. The biggest expense next to payroll in the early years of the Sevier had been construction and maintenance of telephone lines and equipment. For example, in 1907 the expenditure on telephone service was $2,277.18.[75] The expense was incurred because of the remoteness and distances on the forest. Communication was irregular including mail service. The mail between Parowan and Panguitch was carried direct only in the months of June to October and it was just tri-weekly at that. The tiny settlement of Boulder was almost isolated from the world by towering walls of solid rock and 35 miles of pack trail from Escalante. The first automobile in the community was a pickup truck packed in piece by piece by mule back and reassembled in 1923. It ran for eight years without a license. The gasoline had to be

[66] Dixie National Forest Historical Documents, Vol. IV.

[67] Letter, E. L. Clark to *Iron County Record*, December 13, 1905.

[68] Dixie National Forest Historical Documents, Vol. IV.

[69] *Ibid.*, Vol. I.

[70] *Ibid.*

[71] *Ibid.*

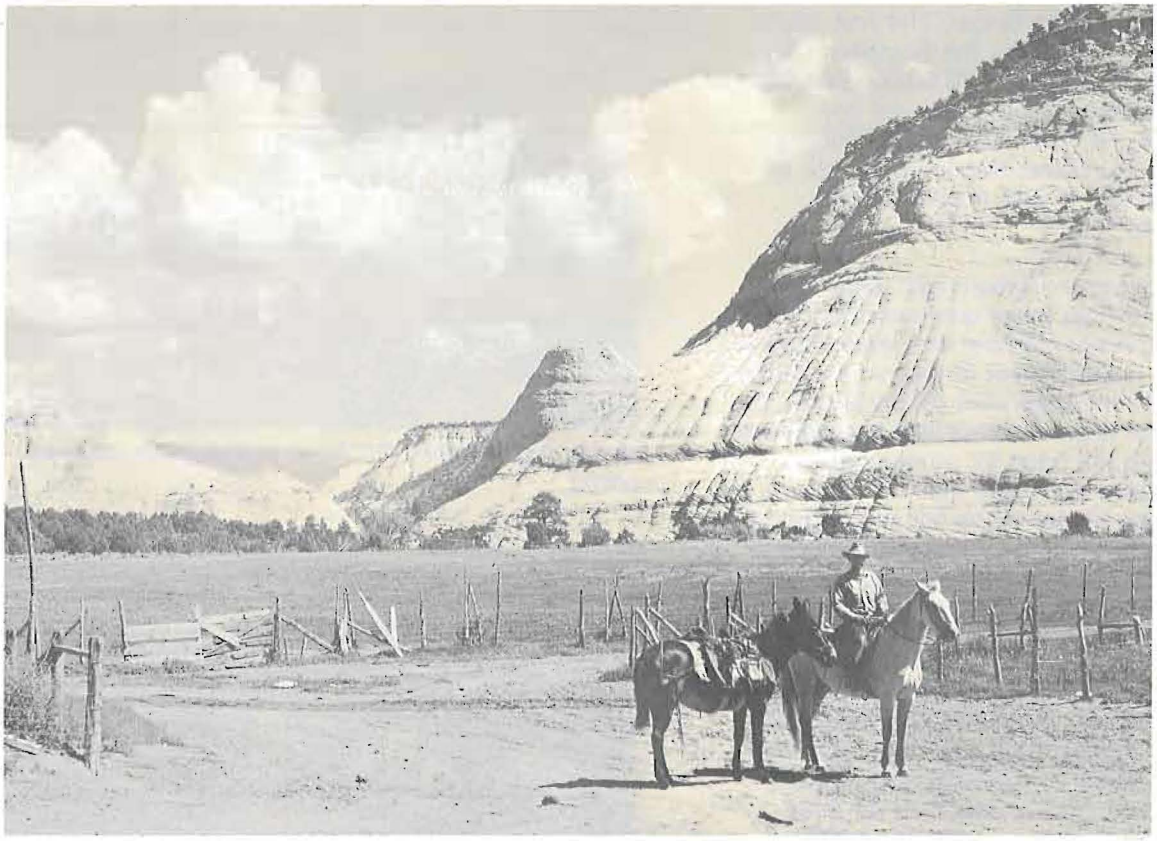
[72] *Ibid.*

[73] *Ibid.*, Vol. IV.

[74] *Ibid.*

[75] *Ibid.*

First Supervisor George H. Barney, receiving first telephone call by rigging his own line across the telephone lines crossing the forest, 1907. (Photo by Jillyn Smith, Logan, Utah.)



Mail carrier Franklin Hansen about to leave Boulder for Escalante. (Dixie N.F. photo.)

packed in at the cost of 75 cents a gallon.[76]

The result of such primitive transportation and communication required that the Forest Service construct and maintain a telephone system that would reach to different locations in the Forest and connect with the Mountain States Telephone Company line at Parowan, the Garfield County telephone lines at Panguitch, and the Fish Lake and Aquarius Forest Service lines at Widtsoe.[77] The Forest Service also used a telephone connection at Blue Springs Ranger Station just south of Panguitch Lake. The telephone service proved very beneficial in fire control, emergencies, reduction in travel time and expense, and in general convenience.

The timber resources of the East Division of Sevier had been "scarcely exploited" prior to the creation of the Forest. Sixty-five percent of the Forest was regarded as mature or overmature. In these stands of mature timber "frequent large fires" had occurred prior to the establishment of the Forest. The harvesting of mature timber was considered essential for timber management and fire control. The eleven small portable sawmills operating on the Sevier and cutting for a local market could not

Supervisor George H. Barney standing next to a mature yellow pine. (Photo by Jillyn Smith, Logan, Utah.)

[76] Workers of the Writers' Program, WPA, p. 340.

[77] Dixie National Forest Historical Documents, Vol. IV.

begin to harvest the mature timber. The first major timber sale came in 1910 when the Southern Utah Railroad Company applied for 100,000,000 feet from the Sevier.[78] Nevertheless, with improved communications due to the telephone system and by use of fire patrols, the Forest Service was able to reduce fires to one-half to one percent of the previous occurrence.[79]

The construction of ranger stations also helped in fire protection and overall forest administration. In the fall of 1906 Supervisor Kenner was transferred to Fillmore and T. C. Hoyt, a forest ranger on the Dixie, was promoted as forest supervisor on the Sevier. He sensed the need for improvements with perhaps the most pressing being the need for ranger stations. Will Funk and Wallace M. Riddle built the first ranger station on the Sevier in the fall and winter of 1908. In 1908 T. C. Hoyt went to the district office in Ogden and Orrin C. Snow of the LaSal was transferred to the Sevier as supervisor where he continued the construction of ranger stations.[80]

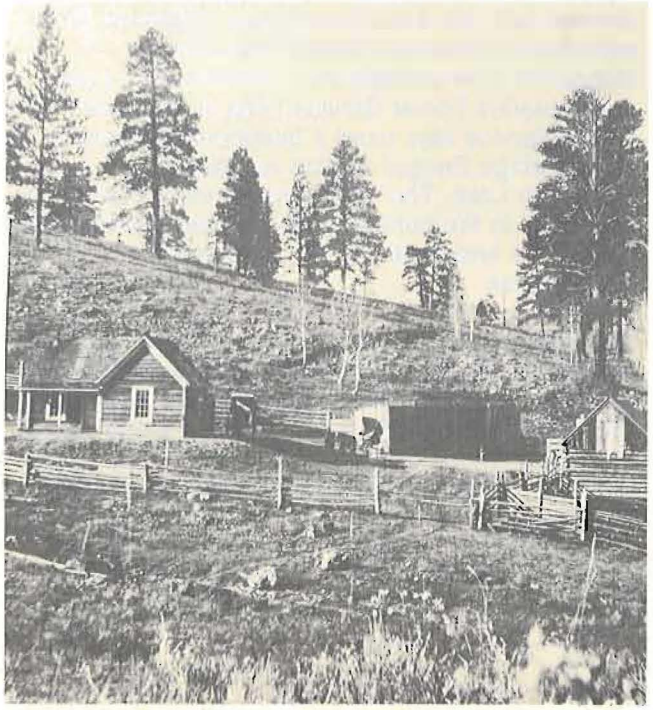
Station construction was also begun on the Powell National Forest with the Clayton Station being built in 1909 at a cost of $400. Later the same year the Dipping Vat Station was constructed at a cost of $480. In 1910 the Box Station was built for $460 and the Sweetwater Station was built for $550.[81]

When the National Forests were turned over to the Department of Agriculture in 1905, Secretary James Wilson stressed that all resources contained in the public properties administered by the Department were to be managed with an eye single "to the greatest good of the greatest number in the long run."[82] The first task seemed to be protection of the forests from fires, then came such tasks as segregation of agricultural lands, cutting of timber for sustained yield, replanting young trees, and regulation of sheep and cattle grazing. For many years the Forest Service had little time or money for anything else and so little was said or done in this early period about recreation.[83]

The lack of concern about recreation was very evident on the Sevier National Forest. For many years Panguitch Lake and Mammoth Creek had been used rather extensively by local citizens as recreational centers. Panguitch Lake at one time hosted a midsummer holiday celebration. The facilities included a horse race track, a store, saloon, and some residence dwellings and at Mammoth Creek

Boulder Ranger Station, 1917, Powell National Forest. (Dixie N.F. photo.)

Little Valley Ranger Station, ~~Lowder Ranger Station~~, Powell National Forest. (Dixie N.F. photo.)



Blue Springs Ranger Station, Sevier National Forest, Utah. Taken by O.C. Snow, October 6, 1914. (Dixie N.F. photo.)

[78] *Ibid.*, Vol. VI.

[79] *Ibid.*, Vol. IV.

[80] *Ibid.*

[81] *Ibid.*, Vol. I.

[82] *Ibid.*

[83] *Ibid.*, Vol. V.

Old East Fork Ranger Station, 1910. (Photo courtesy of Darylene Veter, Panguitch, Utah.)

Harris Flat Ranger Station. (Dixie N.F. photo.)

there was a dance hall. Much of this began to fall into disrepair. The most rapid deterioration took place between 1910 and 1920, but by 1910 the race track had become a swamp.[84] Little upkeep or restoration was done and little concern expressed until sometime later. Out of necessity most of the Forest Service work concentrated on range reconnaissance, some reforestation, trail and road construction, fencing of pastures, water development, and telephone and ranger station construction. Pastures on the Powell-Sevier were especially important because hay and grain costs were two to three times as high as those in the northern part of the state.[85] Thus it is easy to understand why

[84] *Ibid.*, Vol. IV and V.

[85] *Ibid.*, Vol. V.

First four rangers, Powell National Forest. Left to right; Wilford Pace, Walter E. Hanks, Josiah Shurtz, Philip Baker. (Photo courtesy of Don Pace, Torrey, Utah.)

recreation took a backseat in these early days of forest management.

The pay for the first rangers on the Sevier was but $60 a month. In addition, the employee furnished his own horse, saddle, pack outfit, tent, a harness, and light outfit. The risks were high and the benefits few. In 1910 Forest Ranger William Dodds drowned in attempting to swim his horse across Blue Springs Lake at the Blue Springs Meadow on the Panguitch District.[86]

The Forest Service decreed that "where an employee of the National Forest is accidentally drowned while in the performance of official duties, the Forest Service cannot pay the expenses of a party sent out to search for the body." Furthermore, "the Forest Service is not liable for the loss of horses through the negligence of a forest officer."[87]

In 1906 there were three rangers to handle nearly 800,000 acres of rough and broken topography. To assist the ranger, Kenner put part-time employees to work in the summer months. James Steele, a school teacher at Panguitch, found the seasonal nature of the forest guard work compatible with his profession and was willing to accept the minimal pay. Kenner also hired three full-blood Ute Indians who were later released because they were regarded as more trouble than benefit. The grazers were reluctant to take orders from them and sometimes they were not as diplomatic as might be desired in giving orders. One told a grazer that "I and Teddy Roosevelt want you to get your G—— Damn sheep off this range." It was also true that some of the rangers resented what they regarded as a propensity for laziness among the three Utes.[88]

[86] *Washington County News*, May 8, 1910.

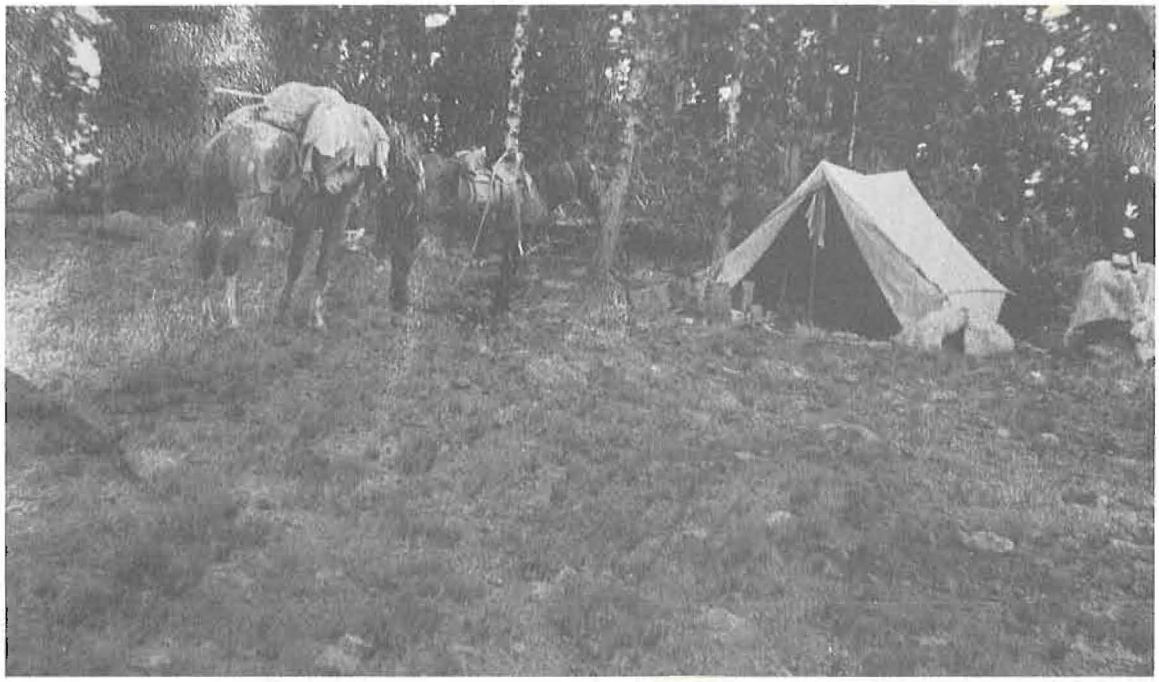
[87] Dixie Patrolman, February 1911, found in Dixie National Forest Historical Documents, Vol. VI.

[88] *Ibid.*, Vol. V.

First Supervisor G. Henry Barney on bay horse and first Ranger Hanks on pinto at Roundup Flat. (Photo courtesy Urban Hanks, Grover, Utah.)

Rangers Walter Hanks, right, and Phil Baker, left, at Long Lake, Boulder Mt. (Photo courtesy of Urban Hanks, Grover, Utah.)

Ranger Walter Hanks with pack horse ready to go on the mountain. (Photo courtesy Urban Hanks, Grover, Utah.)



Rangers quarters while in the field. (Photo courtesy of Urban Hanks, Grover, Utah.)

The rangers spent most of their time in the field and little in the office in these early days of the Forest Service. Some regarded themselves as "roustabouts" because they were expected to be able to handle anything. They did surveys, settled range disputes, dealt with the excessive numbers of trespass cattle that ranged the forest, constructed roads, trails, boundary and drift fences, and did whatever else came up. They also hoped against an early winter because heavy snow would bring their layoff until spring.[89]

By 1910 the Aquarius and the Sevier National Forest had survived their infancy and the Aquarius was now known as the Powell National Forest. Much had been learned and much had been accomplished, but much remained to be done on this part of the National Forest which was to later be consolidated as a part of the Dixie National Forest.

On September 25, 1905, by presidential proclamation, the Dixie National Forest was created.[90] When the first emigrants came into the locality, they found such a warm and delightful climate that it reminded them of the climate of the Dixie in America's Atlantic states, particularly that of Georgia. Thenceforth this lowland country was known as Utah's Dixie, or simply Dixie. The forest was given its name for the locality.[91]

From the outset this new forest proved difficult to administer. The five ranger districts were widely separated. Much of the forest was brushy, rough, and quite hard to get over. The scarcity of horse feed and water made it impossible to conduct extensive and intensive field work in some areas. The smallest of the ranger districts was made up of 50,750 acres and the largest had 434,840 acres. The entire forest at its inception contained 1,116,920 acres.[92]

District Number 5, which was the largest, was situated on the breaks of the Colorado River. The scenery was spectacular with a 50-mile view of the Canyon of the Colorado which was as spectacular

[89] *Ibid.*

[90] *Ibid.*, Vol. I.

[91] *Ibid.*, Vol. IV.

[92] *Ibid.*

First Dixie National Forest sign. (Dixie N.F. photo.)

Ranger/Staff Meeting at Pine Valley. (Dixie N.F. photo.)

Ranger Angus Woodbury, Willard Sorenson, Supervisor John Raphael, Milt Moody, Alec MacFarlane, Martin McAllister, 1911. (Dixie N.F. photo.)

Regional Supervisors and Rangers Meeting, Richfield, Utah, January 22, 1916. (Photo courtesy William Hurst, II, Bosque Farms, New Mexico.)

Forest officials would have field meetings as well as meetings in the Supervisor's Office. (Dixie N.F. photo.)

as that from Bright Angel Point,[93] but "considerably over half of the area is wasteland...and on account of the scarcity of water is useless."[94] The two ranger districts in Arizona, Mt. Trumbull, and Parashant Divisions, were separated by 45 miles. They were located 80 miles from the St. George Supervisor's Office and at first there were no telephone lines. Once a month the rangers made a trip to St. George by horseback. This required five or six days a month for the round trip.[95]

The two Arizona districts both required a considerable amount of range improvement. They had been overgrazed and the range was in bad shape. There was a belief among some of the stockmen of the locality that the regulations of the Secretary of Agriculture with regard to grazing on the National Forest were unenforceable.[96] Furthermore, much of the land in these two districts did not really qualify as forest lands. A rather liberal policy had been followed by the examiners in recommending lands. They included within the forest large areas of land fit only for grazing purposes and it was very poor for even that. They also ran the boundary lines to a cliff or other natural barrier in order to reduce the cost of improvements to land claimants and settlers. Adjoining lands in many instances had been claimed years before the creation of the forest and the settlers who had established fences wished the lines to conform with the fenced lands as much as possible. Here a large area of grazing land was needed for the grazing of a few stock. The liberal policy may have been fully justified under the conditions even though the land was absolutely worthless for forest purposes. There seemed no reason to work any unnecessary hardships on the settlers and to do other than was done would have been of no benefit to the government.[97]

Another difficulty was the high expense incidental to work on the Dixie National Forest. The cost of hay and grain and upkeep of stock and equipment was high. The ranger districts were large and the country rough and broken. The long, dry, and rough roads were hard on wagons and repair costs were abnormally high.[98] A ranger had to be equipped with two outfits, a driving outfit and a pack outfit. The initial cost of the average ranger's outfit was $600. The pay was $1,200 and annual expenses were $700. The average ranger was left with $500 a year to support his family. Flour cost $8 a barrel, bacon $.25 a pound, ham $.25 a pound and beef $.15 a pound. Hay was $15 a ton. All of these prices were considered to be high. Due to the scarcity of water and forage, water, hay, and grain were carried on field trips for the horses. Early seeding of ranger station pastures became a high priority in order to lessen the ranger's expenses.[99]

Another early measure taken to reduce ranger expenses included the taking up of every little piece that was open where some grass grew that could be used to pasture a horse. Ranger sites were changed often and rangers moved from one district to another rather frequently so they did not burn out on the less desirable districts. In 1909 the Forest Service even built the Black Rock Ranger Station just below the old Chadburn Ranch about two miles east of Veyo at a location that was off the forest in order to have a horse pasture for the ranger. There was also an early ranger station at

[93] Journal of Angus Woodbury, July 13, 1909, found in Dixie National Forest Historical Documents, Vol. II.

[94] Dixie National Forest Historical Documents, Vol. IV.

[95] *Ibid.*

[96] *Ibid.*

[97] *Ibid.*

[98] *Ibid.*

[99] *Ibid.*

Rangers checking range conditions in Mowapa Valley District. (Dixie N.F. photos.)

Frank Seaman?

Harris Flat Ranger Station. (Dixie N.F. photo.)

Frank, Lema Seaman, Children, Dagmar (Hatch) Bertha, Kerstine

Central even though there were no buildings.[100] Supervisor James E. Jewell, who became supervisor of the Dixie on January 18, 1909, ~~coming from the Weiser Idaho National Forest~~, decided to deal with the communication problem by decreeing that each ranger put in two days a month to improve the roads and trails in his district.[101]

So primitive was some of the area that on his first visit to the Mt. Trumbull Division, Ranger Martin L. McAllister who was running and posting the forest boundaries, found at Mt. Emma a tin can with notes written by the men who left the Powell Colorado expedition in 1869 and were killed by Indians. Any visitor to the area during the 37 years interval should have seen this. The fact that no one made this discovery was accounted for by the remoteness of the area.[102]

Ranger Milton Moody who won a firm place in the residents' hearts on all the districts he served in by his energy and faithfulness and his rare musical talents, courtesy, and eagerness to accommodate, became something of a local folk hero by killing a large silver tip grizzly bear on the Middle Fork of the Santa Clara Creek in Pine Valley in 1909. His experiences qualified him to delineate some of the early forest issues and concerns. These included the remoteness of some of the districts, overgrazing, hard work, danger, predator control, wild cattle, and trespassing, among others.

Wild cattle that had run 10 to 15 years all year long on the forest were a problem especially on the Leeds and Pine Valley Districts. Since it proved impossible to drive them off the forest, they were shot by the rangers and quartered and taken out. These wild cattle, combined with trespass cattle

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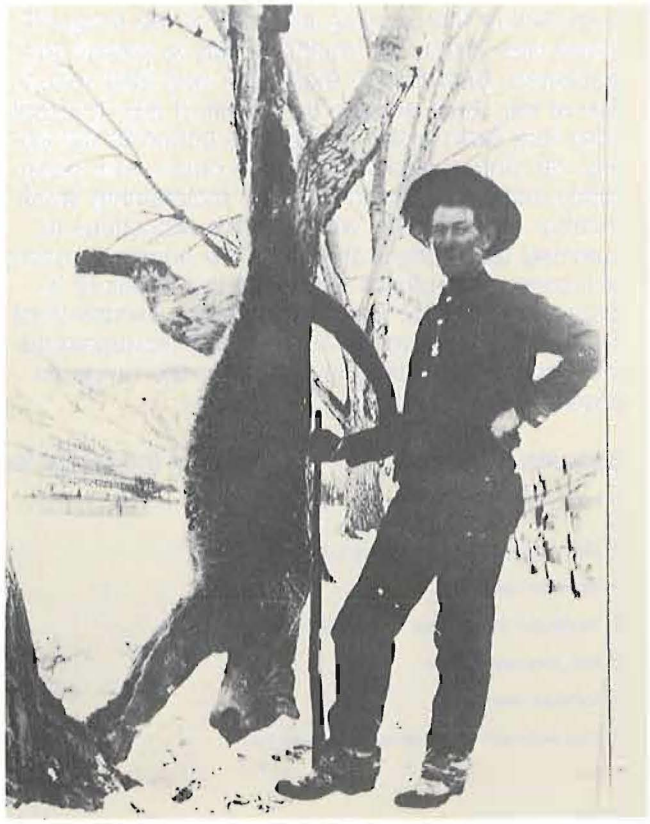
[100] *Ibid.*, Vol. I.

[101] *Washington County News*, January 28, 1909, and August 26, 1909.

[102] Interview with Martin L. McAllister, found in Dixie National Forest Historical Documents, Vol. I.

SEE VOL. VI! (Yellow-sheets)

Ranger Milton Moody, Pine Valley. (Photo courtesy of June E. Moody, St. George, Utah.)



Mountain lion killed on Pine Valley Mountain by Ranger Milton Moody. (Photo courtesy of June E. Moody, St. George, Utah.)

that stayed on the forest until the snow got so deep ~~they~~ had to be driven off or ~~die in "grubbing to death" some of the forest range.~~ starve. At one spot near the Gubler Ranch a herd of permitted sheep had to be removed from the range due to the range condition created largely by wild and trespassing cattle.[103]

Unlike the Sevier, rangers on the Dixie were never furloughed in the wintertime. They spent winters building fence along the forest boundary and cutting fence posts for future use. They also spent a good deal of time in predator control mostly in hunting and trapping mountain lions. In the winters between 1907 and 1916, Milton Moody killed 13 cougars.[104] L. M. Terry of Enterprise killed seven in one day.[105] In time predator control on the Dixie became more systematic with profound results. Rangers came to be given elaborate instructions in trapping and poisoning.[106]

The boundary fence constructed in the early days of the Dixie National Forest was built far inside the forest boundary. This anomaly came about because the fences were built in the easiest locations and there was a wish to reduce the distances involved rather than follow the many boundary jogs. The rangers built boundary fences on the Dixie between 1907 and 1911 that totaled over 100 miles.[107]

Given the conditions on the Dixie, it is of little wonder that the Forest Service and the Dixie Supervisors expressed much concern about the physical hardyhood of the rangers. They indeed had to be men who could perform hard work in trying conditions. Most of the men hired were locals who had previous experience in occupations such as farming, lumbering, work in the stock raising line as a proprietor, cowhand or ranch foreman, some had been miners, and one a hunter and a butcher. With those who had been stockmen there was always a concern about any conflict of interest as land owners or grazers. There was also a concern about the community standing and habits of the employees. One employee was described as a "trifle flighty" and another as "a little unsteady when off duty."[108]

With everything considered it was difficult for the Dixie to hire educated individuals. Several had limited education, one had failed his civil service exam and only one ranger was a high school graduate. It was acknowledged that even those who

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[103] Interview with Milton "Mit" Moody, found in Dixie National Forest Historical Documents, Vol. I.

[104] *Ibid.*

[105] *Washington County News*, March 19, 1910.

[106] McAllister interview.

[107] *Ibid.*

[108] Dixie National Forest Historical Documents, Vol. V.

were considered as "physically perfect" for the labor aspects of the job would make slow progress in forest work without an education.[109] Those with the least technical skills often ended up on the more remote districts. Those with the best education and those who adapted best to writing adequate reports received assignments at Diamond Valley, Pine Valley, Enterprise, and Leeds where more reconnaissance work and technical skills were necessary.

Regardless of where they were stationed the work was hard and lonely. There always seemed to be more work than there was time to accomplish it. Much general patrolling and free use business was neglected due to insufficient staff.[110] Wher. Angus Woodbury was sent to take over the Parashant District in July 1909, he and his new bride arrived to find no doors or windows on the ranger house.[111] Rather than wait for a carpenter to come from St. George, Woodbury set to work putting doors and windows in the house.[112] The carpenter spent an additional two weeks after his arrival boarding at the Woodbury expense to finish off the station. The furnishings including a stove, table, and chairs arrived nearly a month after the newlyweds had taken possession of the station.[113] It was another two weeks before the painters arrived from St. George to do some minimal painting.[114]

The journal of Woodbury further details the types of work done by an early ranger. He ran boundaries, took minutes of hearings, and looked for unpermitted stock on the forest. He worked in timber sales, special use permits, estimated and marked timber, mapped, processed homestead claims, examined sales of electric light poles to B. E. Slusser for the first St. George electrical power plant in 1908, and received and stored thirteen loads of lumber purchased by the Forest Service. He did range riding, put in troughs, corrals, general repairs, built telephone lines, harrowed and sowed wheat at ranger stations, put in water pipe, built and repaired fence and sold wood and posts. He wrote a proposal for a reseeding experiment on an overgrazed area, wrote reports on proposed forest revisions including the elimination of unsuitable areas from the forest, posted sheep driveways and escorted sheep across the range. He supervised wood haulers; attended ranger meetings; did timber reconnaissance; went on cattle drives and field trips into the backcountry; discussed grazing problems with livestock men; shod horses; fought forest fires, with the biggest being a 500-acre burn south of New Harmony; laid out roads; located trails and built outhouses.[115] Rangers also planted many yellow pines particularly on Harmony and Mill Creeks.[116]

It was also true that in these early days of the Dixie National Forest, watershed protection was given considerable emphasis. For this purpose, in February of 1909, President Theodore Roosevelt added 11,500 acres to the Dixie all lying north of St. George with the primary purpose of protecting the city's water supply.[117]

Even though with Forest Service encouragement new cattlemen's associations were formed, the Forest Service did not realize the cooperation it had hoped for.[118] Stockmen remained opposed to the salting of their stock on the forest. With reluctance they accepted salting at water holes or along creeks. This only served to hasten the depletion of these natural congregation spots. It was a number of years after the forest was created before salt grounds were posted.[119] Supervisor Jewell came to feel that "the people in this part of the state do not regard the land laws very seriously."[120]

At the time of withdrawal, depletion of the forest range was estimated to be 25 to 100 percent.[121] The permitted livestock for the seasonal grazing in the first year of forest supervision on the southern Utah forest included 142,000 head of sheep. This was far in excess of the carrying capacity of the range.[122] There was simply too much anxiety to please the stockmen. Before 1910 there was very little reduction of the stock grazing the forest, if any. If reductions had been made during this period to the actual carrying capacity, the range could have been vastly improved. The reason for maintaining stock number on the forest with minimal reductions is summed up in one statement. The principal source of income in southern Utah was the livestock industry and for that reason the Forest Service tried through the medium of better range management practices to hold as many stock on the range as possible.[123]

Between 1908 and 1910 conditions of the range led

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[109] *Ibid.*

[110] *Ibid.*

[111] Angus Woodbury Diary, July 9, 1909.

[112] *Ibid.*, July 10-17, 1909.

[113] *Ibid.*, July 31, 1909.

[114] *Ibid.*, August 15 and 16, 1909.

[115] *Ibid.*, October 8, 1908, to January 1, 1911.

[116] McAllister interview.

[117] *Washington County News*, February 18, 1909.

[118] *Ibid.*, February 11, 1909.

[119] McAllister interview.

[120] Dixie National Forest Historical Documents, Vol. VI.

[121] *Ibid.*

[121] *Ibid.*

[122] *Ibid.*

[123] *Ibid.*

to a greater local appreciation of what the Forest Service was attempting to do. The sheep had so cleaned much of the range of feed that cattle struggled for an existence. Livestock was actually dying on the range. This began to bring home the importance of the Forest Service. Its endeavors to regulate the range and not permit overgrazing began to be more supported and appreciated. The *Washington County News* acknowledged that "many looked upon the Service at first as a hardship. It is generally dawning upon them that it is a good thing, and we believe time will emphasize this."[124]

Despite the lack of technical expertise, funding, and other difficulties, the forests of southern Utah which were to become part of the Dixie National Forest had survived birth and infancy, and despite continued growing pains were beginning to be regarded as important in their interactions with the local communities.

On a national level the end of the infancy of the Forest Service was marked by the controversy between Richard A. Ballanger, the Secretary of the Interior in the William Howard Taft administration, and Gifford Pinchot, the Chief Forester in the Department of Agriculture. In January 1910, President Taft dismissed Pinchot. Upon his dismissal Pinchot became a leading advocate of a new forestry direction which favored a stiff dosage of federal regulation desiring more to preserve and less to develop resources. Pinchot was proving to be a more radical conservationist out of office than in.[125] However, he had already firmly set the course for the Forest Service in the direction of "practical conservation" and it would not be greatly altered.

Pinchot was succeeded as Chief Forester by Henry S. Graves and cooperation came to generally characterize the relations between the government and the forest users. Graves was a serious, studious, no-nonsense administrator who presented to many a pleasing contrast to the flamboyant, aggressive, self-righteous Pinchot. In 1910 the continued development and success of the Forest Service needed an economy-minded, moderate, apolitical leader. Graves provided just what the Forest Service needed for the next stage of growth and development both on a national level and in southern Utah.

Henry S. Graves. (Photo U.S. Forest Service.)

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[124] *Washington County News*, April 16, 1908.

[125] Ficken, p. 177.

Chapter 6

FOREST MANAGEMENT: 1911-1929

The Forest Service in 1911 was a very young and a threatened organization. It was not in Congressional favor. Frugality imposed on the Forest Service compounded the already demanding, self-sacrificing existence that Forest Service employees were expected to assume in these early days. Nevertheless, Chief Forester Graves continued Pinchot's policies and even expanded administration into new areas.

For former Chief Forester Pinchot, recreation had no part in the forest administration. Graves and his successor William B. Greeley felt quite differently, and they worked to build recreational facilities. This led to the creation of campgrounds, the leasing of summer homesites, and the expansion of water sport and recreation activities.

When Secretary of Agriculture James Wilson had decreed in 1905 that all the resources contained in the forests must be managed with an eye single "to the greatest good to the greatest numbers in the long run," most had interpreted this to include fire protection, watershed protection, timber management and grazing regulation. For the first several years it was true that the Forest Service had little time for anything beyond these activities. Many, when they saw a tree on the forest, could see nothing but board feet of lumber, in waterfalls only kilowatts of electrical energy, and in wildflowers only fat mutton.[1] Graves and later Greeley decided it was time for the Forest Service to send the message that the canyons "belong to the home folks." Canyons and forests "have a place in everyday life." Many people already had a natural affinity for nature and had developed wood going habits. The Forest Service now hoped to promote and encourage the recreational interests and inclinations by planning and managing for recreation. In order to fit into its proper place vis-a-vis other forest uses, recreation would need both promotion and encouragement but also control where restraint might be necessary.[2]

William B. Greeley. (U.S. Forest Service photo.)

The early pioneers of southern Utah were seemingly indifferent to the scenery. This is somewhat understandable since they devoted their physical energies to procuring food, shelter, and clothing. The deep crooked canyons were interruptions to travel and places to lose cows rather than scenic wonders to be admired. The marvelous erosion features of the plateaus, the volcanoes and the streams of lava are but parts of the "pink cliffs," red walls, "black knoll," and "bad lands" that characterized the topography of southern Utah and the Dixie National Forest,[3] but to pioneers they were often hardships.

The landscape, the flora and the fauna that now attract thousand of visitors annually were first made known to the outside world by government engineers and scientists intent on the prosaic tasks of map making, fossil collection, scientific investigation of sandstone, shale, gypsum, streams, minerals, and timber. In 1844, John C. Fremont made note of the geographic features and economic potential of the region. Much fuller disclosures came in the 1870's from surveys under the direction of Major John Wesley Powell and Captain George M. Wheeler.

George M. Wheeler observed that from the summit of the south rim of the Markagunt Plateau at an altitude of over ten thousand feet, one was afforded:

> One of the finest panoramic views then witnessed. The Virgin River lying at our feet, the Colorado Canon [sic] in the distance, plateaus, canons, and mountains to the east, mountains high and frowning to the north, and the mountains and desert to the west and

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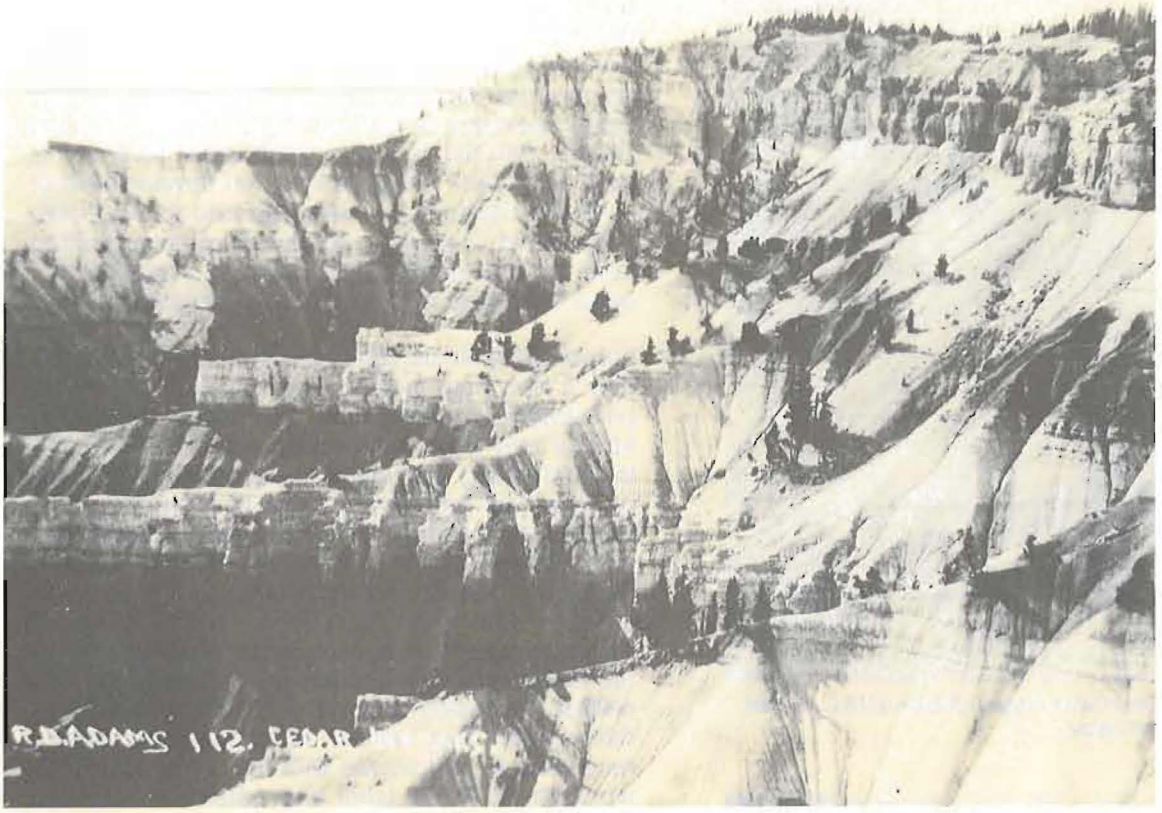
[1] Memo, Recreation in the National Forests from W. B. Greeley, Chief U.S. Forest Service, October 2, 1924, to Forest Supervisors, found in Dixie National Forest Historical Documents, Vol. V

[2] *Ibid.*

[3] Dixie National Forest Historical Documents, Vol. II.

Dixie National Forest. (Photo S.U.S.C. special collections, George Barrus donor.)

Dixie National Forest. (Photo S.U.S.C. special collections.)



Cedar Breaks. (Photo S.U.S.C. special collections.)

Overlook at Cedar Breaks. (Photo S.U.S.C. special collections.)

View of Lava Point in Coal Creek Canyon. (Photo S.U.S.C. special collections, George Croft donor.)

Surveyors, Dixie N.F. (Courtesy A. P. Winsor.)

> southwest, the black bristling ridges of the eroded mesas that for grandeur of beauty and desolation of appearance far surpass all that words can express.... Following the canon to the northward the eye soon rests on a beautiful lake (Navajo Lake), nestled in the mountains, fringed by the embrace of an encircling valley, and set like a gem in the green verdure rising from the slopes on either hand...."[4]

[4] Quoted from Wheeler survey documents found in Dixie National Forest Historical Documents, Vol. II.

Frederick Dellanbaugh and other imports who worked for John Wesley Powell and F. V. Hayden also did much to publicize southern Utah's spectacular scenery. Two Utahns, H. L. A. Culmer and Alfred Lambourne, who did much to help popularize the scenic wonders of northern Utah and the Wasatch Range, also did important landscapes celebrating southern Utah.[5] Nevertheless, full development of southern Utah's scenic wonders and tourist potential awaited other developments including facilities such as acceptable roads, camping sites, and a more organized and concerted promotional effort.

Forest Supervisors were now told that it was time to take a long hard look into the future and to initiate preparedness programs in recreational development so that they could not be accused of not recognizing and taking advantage of a movement bound to be important and far-reaching. They were to prepare recreational folders and packets and to make special efforts to increase summer home features of the Service activity.[6]

This new approach to recreation held that forest recreation and vast populations of wildlife are neither necessary evils nor leftovers to shift for themselves. They were to be regarded as major resources to be fostered with the same zeal with which the foresters labor and scheme to increase the yield from the woodlands. At a minimal expense forest officers were now expected to apprise the public of recreational opportunities in the forests and to proclaim that National Forests were freely available for recreational use.[7]

With the forests now defined as recreational grounds, supervisors were instructed to care for all the beautiful, rugged scenery and natural wonders.[8] It was hoped that this new emphasis on the recreational aspects of forest management could be implemented with minimum conflict with coordinated management of grazing, fire protection, and sanitation considerations.

The increased fire hazard from campers and recreationalists was an immediate concern. Forest Supervisors either developed or caused to be developed directories for campers on the forest detailing attractions, appreciation of nature, the do's and don't's of camping, backpacking, and fire prevention. Campers were warned that by federal law, forest officers were empowered to arrest without warrant

[5] Charles S. Peterson and Linda E. Speth, *A History of the Wasatch-Cache National Forest*, (Utah State University: Logan, Utah, 1980), p. 51.

[6] District Forester to Forest Supervisors, July 15, 1916, found in Dixie National Forest Historical Documents, Vol. I.

[7] Memo: Recreation, August 2, 1923, found in Dixie National Forest Historical Documents, Vol. V.

[8] Letter September 29, 1913, District Fiscal Agent Croft to Supervisor Raphael, in Dixie National Forest Historical Documents, Vol. II.

Recreation use on the Pine Valley Mountains. (Lynne Clark Photography Collection, donor Malin Cox.)

Campfire at the Pine Valley Mountains. (Photo Lynne Clark Photography Collection, donor Agnus Pickett.)

Recreation in the Pine Valley Mountains. (Lynne Clark Photography Collection, donor Agnus Pickett.)

individuals for violation of fire laws. If found guilty of violations an individual was subject to a $5,000 fine and two years imprisonment.[9]

Ranger E. L. Cox putting out camper's fire. (Dixie N.F. photo.)

Prior to the recreational emphasis, Forest Service officers on the Dixie National Forest had been most involved in and concerned about the aspects of recreation that deal with wildlife and game management. Unrestricted harvesting of wild game had eventually caused a shortage and led to protection by legislation and the passage of state fish and game laws. Shortly after the creation of the forest a five-year closed season was proclaimed by the state. During this period there were to be no deer hunted or killed in Utah. This closing was the turning point in game protection in Utah. The deer began to increase and gradually made a comeback.[10]

When the closed season ended, fishing and hunting licenses were required in Utah. Forest rangers were also required to be actively involved in law enforcement. In 1911 the first arrest was made and successfully prosecuted for poaching deer out of season on the Dixie National Forest.[11] Annually officers now made arrests for fishing in closed streams, killing sage hens out of season, poaching deer, etc.[12] While foresters were expected to work with state fish and game officials in the administration of wildlife, their responsibilities in predator control were reduced as the Forest Service was expected to do less and less in this area as the Biological Survey was expected to do more.

By 1911 there were large numbers of deer on the Dixie National Forest and they seemed to be on the increase. With the first open season many were killed. Additionally mountain lions on Pine Valley were killing significant numbers.[13] When it was recognized that the deer herd on the so-called Dixie Unit at Pine Valley was being devastated, a state game preserve including some 375,000 acres was established. The topography and forage within the preserve were ideal for deer and they rapidly increased.

By 1927 some five to six thousand deer inhabited the game preserve. While no excessive damage was noticeable, it had become evident that something needed to be done to control the growing numbers. Farmers, whose gardens and crops were being too heavily loaded with deer, worked actively to have the preserve cut down "to a more practicable size."[14] In 1927 the preserve was reduced to 140,000 acres. When the eliminated 245,000 acres was opened to hunting, hundreds of hunters flocked in. The bombardment sounded like a battlefield. The deer were easy prey and 1,080 antlered bucks bit the dust. Hunters christened this hunters' "dreamland" as "The Little Kaibab."[15]

The comeback of deer had, of course, been aided by the Dixie Unit Game Preserve. Due to the results of this experiment, in 1923 the Parowan-Paragonah Game Preserve was created on the Markagunt Plateau by sportsmen, the State Fish and Game, and the Forest Service. It also proved successful in stimulating a herd increase.[16] By 1916 the Forest Service on the Dixie National Forest was actively cooperating with local sportsmen's clubs in developing fishing ponds and streams and restocking depleted waters and assisting in game management.[17]

The issue of game management caught the Forest Service between a rock and a hard place—between grazers and sportsmen. Of course, it was necessary on game preserve areas that the Forest Service reduce the numbers of cattle and sheep grazing in order to protect watersheds. This did not always please grazers.[18] In the judgment of stockmen the deer became so numerous as to constitute a menace. Range assessments were made in response to grazers' complaints and in some cases

[9] Dixie National Forest Historical Documents, Vol. I.

[10] *Ibid.*, Vol. II.

[11] *Ibid.*, Vol. VI.

[12] *Ibid.*, Vol. II.

[13] *Ibid.*, Vol. VI.

[14] *Ibid.*, Vol. I.

[15] *Ibid.*

[16] *Ibid.*, Vol. II.

[17] *Ibid.*

[18] *Ibid.*

these studies did establish that there had been range damage caused by the deer. The Forest Service took the position that proper balance between the demands of the sportsmen and the stockmen should be sought. It was recognized that deer had a rightful place on the range, but that they should not be allowed to increase to the extent that they became burdensome to the range and livestock interests.[19] The reduction of the acreage in the Dixie Unit Game Preserve and the harvesting of 1,080 bucks in 1927 from Pinto, Gunlock, Shoals Creeks, and the lower ranges of Pine Valley helped alleviate some of the pressure and criticism from the stockmen.[20]

Forest Service management of fishing waters proved less controversial than wildlife management. In 1912 Duck Creek was stocked with trout by Utah game officials.[21] Soon Mammoth Creek, Asay Creek, Panguitch Creek, and the East Fork of the Sevier were also being stocked. For this purpose a fish hatchery was maintained for several years at Panguitch Lake. The extremely cold water from Blue Springs resulted in a condition that required 65 to 70 days to hatch. For this reason the hatchery was moved nearer to Hatch, Utah where the water was warmer.[22]

Much of the hunting area and many fishing streams remained relatively inaccessible. Realization of the full recreational potential of the forest lands in southern Utah could only come about with road and trail development. Officials lamented in 1916 that the splendid camping opportunities on the Sevier National Forest were not fully appreciated and as a result comparatively little camping was being done within the forest.[23] The problem, it would seem, was not appreciation but accessibility.

Forest officials could suggest that people avail themselves of the opportunity to observe the increasing beaver activity on Swains, Strawberry, and Mammoth Creeks and the East Fork, or that the old volcano crater among the lava beds south of Hancock Peak was worth visiting, or the Ice Cave where ice could be found year-round was unique, or the Temple of the Gods (Bryce Canyon) on the east boundary of the East Division of the Sevier was scenic, but in the absences of convenient travel few would heed these promotions.[24]

Indeed Mother Nature had seemingly attempted to make up for the sparseness of vegetation by painting the landscape riotously with all the bright hues of the rainbow, but how many tourists would take the mail stage which left every other day from St. George to Enterprise to view the landscape,[25] and claims of good telephone service from the forest to the surrounding towns could not compensate for the lack of roads.

With the advent of the Forest, roads were made in order to administer and to develop the forest areas. These roads, however, were not always passable. In 1915 the Forest Service reconstructed the road by way of Sweetwater and Widtsoe, giving it a better grade and surface. However, even though the road crossed the mountains through its lowest saddle the elevation was 9,200 feet. Though it was a beautiful picturesque route in summer months, it was difficult to impossible in winter or during rainy weather.[26]

An early scraper, used in grading roads. This picture was taken, apparently, when the road was being built through Cedar Canyon to Highway 89. Original is in Iron Mission State Historical Museum, Cedar City, Utah. (S.U.S.C special collections.)

The local residents, recognizing their isolation, sought to bring about better transportation. They applied for federal aid for roads and had some success in gaining assistance. There was also considerable maintenance done on existing roads and trails. But endeavors were sharply curtailed by the war effort during America's participation in World War I.[27]

After the war funds were made available under the Shakleford Act for road construction, residents of Iron and Kane Counties applied for the construction of a road across the forest to run from Cedar City to Glendale.[28] Brian Head, Strawberry Point, Navajo

[19] *Ibid.*, Vol. VI.

[20] *Ibid.*

[21] *Ibid.*, Vol. VI.

[22] *Ibid.*, Vol. II.

[23] *Ibid.*, Vol. I.

[24] *Ibid.*

[25] *Ibid.*, Vol. V.

[26] Woolsey, p. 187.

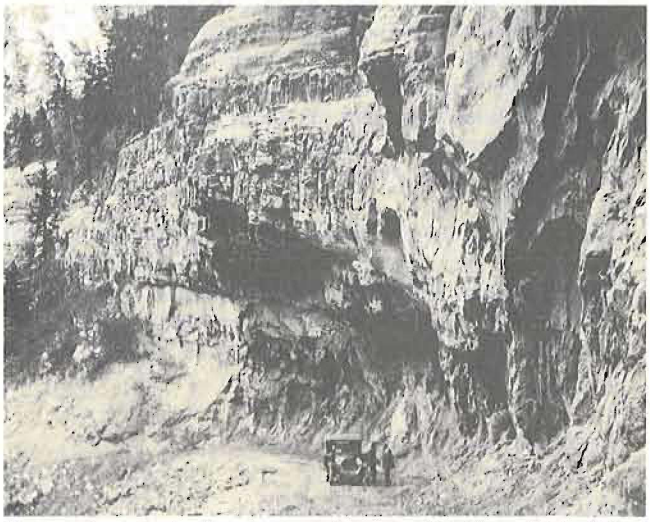
[27] Dixie National Forest Historical Documents, Vol. I.

[28] *Ibid.*

Lake, Cedar Breaks, Duck Creek, Mammoth Cave, and the crater beds were inaccessible by car from Cedar City. In 1920 there were perhaps as many as 60 to 75 cars that visited Duck Creek, but all were from the east side of the mountain.[29] Recreation at these scenic attractions could become prominent only after construction of a road. Construction of the Cedar-Long Valley road was finally begun in 1920 and completed in 1923.

Horse-drawn scrapers. (Dixie N.F. photo.)

Building road over Cedar Mountain. (Dixie N.F. photo.)



First road up Cedar Canyon, remains are still evident. (Dixie N.F. photo.)

The years from 1919 to 1923 were extremely important in the realization of recreational potential for the forests of southern Utah. Tentative plans that had been formulated to develop local scenic areas were finally brought to fruition. The results proved to be beyond the wildest dreams of the "most enthusiastic local planners."[30]

There were two main factors in the rapid recreational development. One was the Union Pacific Railroad Company which built a 33-mile branch line from Lund to Cedar City. The rail reached Cedar City June 17, 1923. Among the passengers were Senator Reed Smoot and President and Mrs. Warren G. Harding. A dedication ceremony was held in Cedar City September 12, 13, and 14, 1923.[31] In 1924, 8,400 passengers rode the train to Cedar City. The next year the usage jumped to 16,817.[32] Union Pacific also constructed comfortable lodges and other accommodations at Zion National Park, Cedar Breaks, Bryce Canyon, and at Bright Angel Point on the rim of Grand Canyon.[33]

President Warren G. Harding near Zion National Park while visiting southern Utah. (Photo by Lynne Clark Photography Collection. Cecil B. Alter donor.)

A second factor was a system of connecting roads and highways constructed through the cooperation of the Utah State Road Commission, with the

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[29] *Ibid.*, Vol. II.

[30] *Old-Timers' News*, Vol. II, No. 4, February 1960, found in Dixie National Forest Historical Documents.

[31] Dixie National Forest Historical Documents, Vols. II and VI.

[32] Woodbury, p. 203.

[33] Dixie National Forest Historical Documents, Vol. II.

National Bureau of Public Roads, the Forest Service, and the National Park Service which had been created in 1916.[34] Much of this development came as a result of local boosterism. In Cedar City, the Old Commercial Club became a modern Chamber of Commerce participating actively in coordinating many of the development plans. The first president was Dixie National Forest Supervisor William L. Mace.[35]

At Parowan, S. A. Halterman took the first automobile to Cedar Breaks via the old wagon road in Parowan Canyon in 1919. The next year he took Senator Reed Smoot and other officials by the same route to the Breaks. By 1921 he was prepared to make regular weekly trips during the summer months to take tourists to the Breaks. In its support of such efforts, Iron County spent $12,000 in 1921 to improve the Parowan Canyon road.[36]

Development was also taking place on the Powell. Nine miles of the Widtsoe to Escalante road was improved and completed. The Old Pine Creek road was improved and made suitable for auto travel up to 10 miles north of Escalante. The Widtsoe to Tropic Dump road was constructed and the Red Canyon road finished as well as the road from Tropic to Panguitch and a road to Bryce Canyon. Much time and many dollars were also put into trail development as 350 miles of trail were constructed or improved, much of it at Bryce Canyon. In 1929, 26,120 tourists visited the Powell.[37]

St. George, not wanting to be outdone by other communities in attracting tourism, tied some of its activities to forest development. A trail was constructed around the summit of Pine Valley Mountain in 1919 which became known as the Summit Trail.[38] Later a second trail known as the Pine Valley Trail was built which intersected the Summit Trail. A special meeting of the St. George Chamber of Commerce was held to consider what the Chamber could do for the official opening of the trail. The opening on July 4, 1926, proved to be a big success as Governor Dern among other state and local dignitaries was present. Over 1,100 people attended the opening ceremony and 117 riders made the dedicatory trip around the top of Pine Valley Mountain led by Ranger MacFarlane and Baldwin.[39]

However, boosterism and access in and of themselves would not have been sufficient to bring

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[34] *Ibid.*

[35] *Ibid.*

[36] Woodbury, p. 201.

[37] Dixie National Forest Historical Documents, Vol. II.

[38] *Washington County News*, July 31, 1919.

[39] *Ibid.*, July 8, 1926.

Road through Red Canyon. (Dixie N.F. photo.)

Rangers MacFarlane and Baldwin at Pine Valley Ranger Station. (Dixie N.F. photo.)

about significant recreational development in the forests if there had not been scenic and recreational attractions. Until their transfer to the National Park Service, Bryce Canyon and Cedar Breaks constituted the two major attractions on the forests of southern Utah. They, like other recreational attractions on the forests, awaited promotion and development before their full tourism potential was realized.

When J. W. Humphrey was transferred from the

J. W. Humphrey. (Courtesy of Bryce Canyon N.P.)

LaSal to the Powell on July 1, 1915, he knew and cared little about Bryce Canyon. He felt that nothing could compare with Dead Horse Point, Natural Bridges, and other wonders in eastern Utah. As he toured the forest that July, he was introduced to Bryce Canyon for the first time. He was amazed at the beauty and grandeur and resolved to do what he could to make this beautiful canyon known and accessible to the public.[40]

In an endeavor to secure funds for constructing a road to Bryce, Humphrey took visiting dignitaries to Bryce. They were all duly impressed. Finally he secured an appropriation for $50 which he used to make a passable auto road to the canyon rim. The money was spent to bridge the East Fork of the Sevier River and the Tropic Canal and to drag dead timber out of the main route through Dave's Hollow. This road was not very satisfactory since it went through the Dave's Hollow Ranger Station and necessitated the opening and closing of two gates, one upon entering and another leaving the station.

Somehow, within the year, Humphrey was able to have constructed another road that could be traveled by automobiles in dry weather right to the rim where the Union Pacific Railroad later built its lodge. With the completion of this road, recreational use of Bryce by residents from Panguitch and Tropic became increasingly significant. When the highway from Panguitch to Tropic was moved, Humphrey was able to secure another $150 to connect to the new highway. This appropriation was especially difficult to come by because most of this connecting extension was off National Forest lands.[41]

In 1916 Arthur W. Stevens of the regional grazing crew wrote an illustrated article for the Union Pacific Railroad publication, and J. W. Humphrey did a similar article for the Rio Grande Railroad publication. These were the first descriptive articles to be published about Bryce.

Mark Anderson, another Forest Service grazing expert, was taken to Bryce by Humphrey. He became so excited that he rode his horse back to Panguitch and telephoned the Regional Forester at Ogden to send down a photographer with a moving picture camera to take colored pictures of the canyon. A Mr. Geshen was consequently sent and his pictures made a tremendous hit wherever they were shown from California to New York. From this point on Bryce Canyon had visitors from all parts of the Nation.

At the same time Humphrey also called on the Denver and Rio Grande Railroad to build hotel

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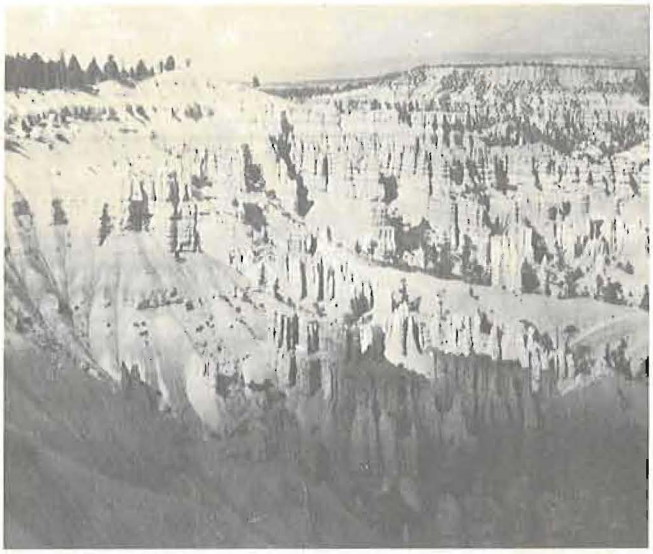
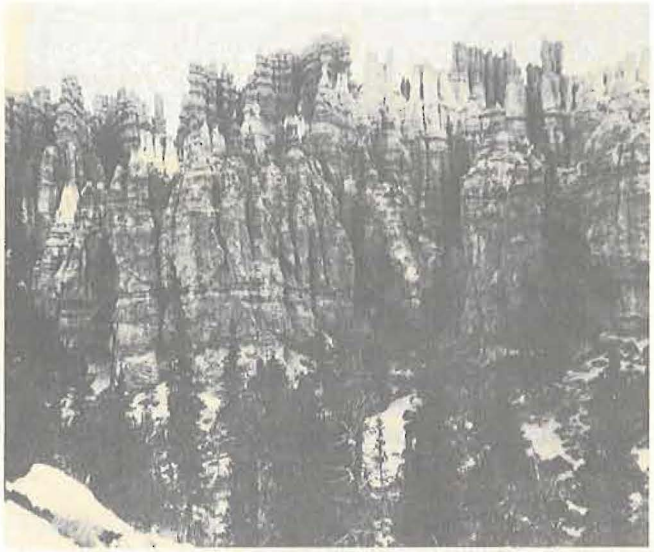
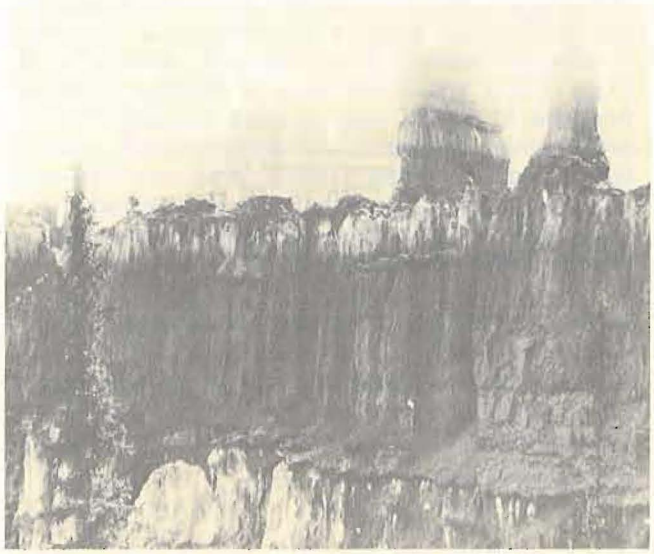
[40] J. W. Humphrey, "Early Development of Bryce Canyon," unpublished paper found in Dixie National Forest Historical Documents, Vol. I.

[41] *Ibid.*







Bryce Canyon National Park. (Dixie N.F. photos.)

accommodations at Marysvale and extend their line to Bryce.[42] The D&RG did not follow up on Humphrey's suggestion but the Union Pacific did. The Union Pacific eventually acquired land on the rim from the Utah State Land Board in a transaction that the Forest Service felt was a mistake, but the Forest Service and Union Pacific cooperated in developing camping, lodging, access, promotion, and picnicking at Bryce.[43]

In 1917 Ruby Syrett had become interested in development and construction of a lodge at Bryce. Tourists, he felt, were bound to come since by 1917 the Forest Service had put $350 into trail construction and postcards were in circulation promoting Bryce Canyon. His application for a special use permit was rejected because the Forest Service felt he would be unable to finance improvements required for such an attraction. It was further explained to him that the state of Utah owned a school section that occupied the most desirable location for a lodge and cabins. Syrett immediately arranged to lease the state's school section and started to construct improvements. Suddenly there were legal

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[42] *Ibid.*

[43] Dixie National Forest Historical Documents, Vol. IV.

OLD TIME MENU
CIRCA Early 1930's
AAA

RATES AT RUBYS INN
FAIR PRICES TO ALL

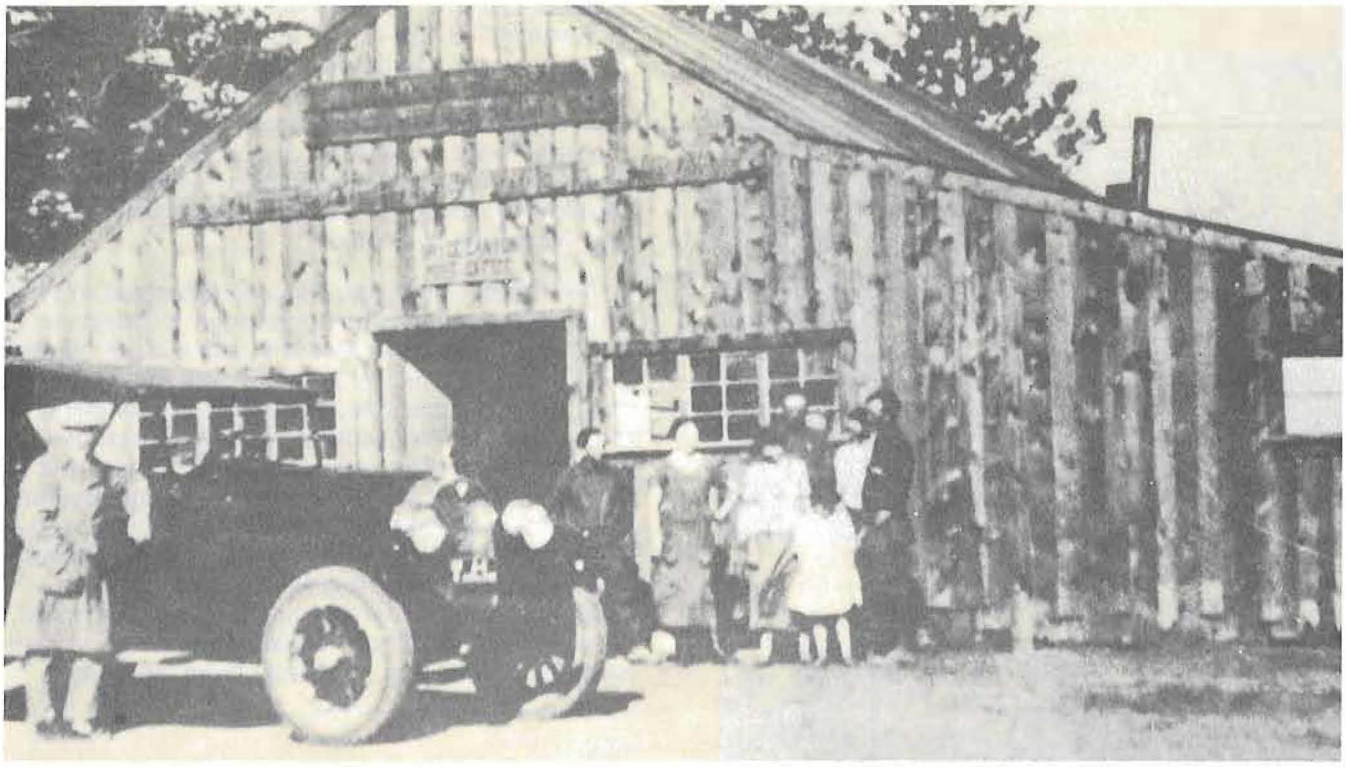
Meat Sandwich	15c
Served on plate at table	25c
No table service less than	25c
Waffles and Coffee	30c
Second Order	20c
Bed for one person	$1.25
Bed, 2 in same bed	$2.00
Breakfast	25c to 75c
Lunch	35c to 75c
Dinner	75c to $1.00
One-fourth Pie	10c
Whole Pie	40c
Milk, quart	15c
Eggs	Market price
Shower Bath	25c
Saddle Horses, per day	$2.50

Cabin with Springs, $1 to 2.50 per day
EXCELLENT CAMP GROUNDS
Camping privileges 50c per car 1st day
25c each additional day, wood and water included

A place away up in the Pines that calls to memory that Beautiful song:
HOME SWEET HOME

OPEN ALL YEAR

First menu at Ruby's Inn. (Courtesy Ruby's Inn.)



First picture of Ruby's Inn. (Courtesy Ruby's Inn.)

difficulties when stockmen who had leased the grazing on the state's land protested. During the legal hassle the Union Pacific Company came along and bought out Syrett's improvements. With the cash from this transaction Ruby developed a lodge on a forest homestead he held near Bryce Canyon. He had soon established Ruby's Inn.[44]

The Union Pacific carried to a successful completion the endeavors that Syrett had begun on the state school section. One elderly lady tourist even surmised that the canyon itself was excavated by the Union Pacific to attract tourists to their cabins.[45]

In 1919 the Utah State Legislature sent a memorial to Washington asking that Bryce Canyon become a National Monument. In 1923 this was done and in 1928 Bryce was removed from the Forest Service jurisdiction and made Bryce Canyon National Park. Later an additional 12,000 acres were taken from the forest and given to the park. However, the Forest Service remained involved at Bryce for many years because through arrangements arrived at with the Park Service in 1930, the Forest Service was to administer the grazing allotments that remained at Bryce and collect grazing fees. As time went on, many permits were changed from cattle to sheep and then phased out.[46]

Cedar Breaks on the Markagunt Plateau was a fan-shaped basin that was the source of Coal Creek. It had even greater depth than Bryce. At first it was impossible to get to Cedar Breaks except on horseback or by horse drawn wagon, and the wagon road was from the Parowan side.[47] With the construction of the Cedar-Long Valley road in 1920, there was a great expectation of an influx of tourists and campers. The Forest Service received numerous inquiries about campgrounds and homesites. Panguitch Lake and Mammoth Creek in the vicinity of Cedar Breaks had been local recreational centers for years. In fact, the Panguitch Lake shore was already mostly privately owned. In anticipation of increased recreational use in the area, the Forest Service began making improvements at Duck Creek. The Forest Service also spent money from the 10 percent fund to make road improvements. The Hatch and Swain's Creek road was improved; recreationalists could now reach the upper stretches of Swain's Creek and Strawberry Creek by car; and the road was made passable from Navajo Lake to Duck Creek.[48]

When the movement began to include Bryce Canyon in the infant National Park System, Cedar Breaks was incorporated into the effort. Application for a special use permit to construct a hotel at Cedar Breaks was received from the Union Pacific

[44] J. W. Humphreys

[45] Dixie National Forest Historical Documents, Vol. I.

[46] *Ibid.*, Vol. II.

[47] *Ibid.*

[48] *Ibid.*

Railroad Company and approved. An application was also received from the Mutual Improvement Association of the Parowan Ward for a permanent campground on the head of Mammoth Creek.

With the completion of the Cedar-Long Valley road and a spur to Cedar Breaks, the Forest Service undertook several development projects. The people of Parowan had constructed a poor road to a spot they had named Lookout Point and this road was improved by the Forest Service to satisfy the people of Parowan. A log railing was built at Rainbow Point and a foot trail was constructed along the ledge. A campground was made about 2,000 feet off the Cedar Breaks Road with a road to the campground, two toilets were built, a spring was developed and tables provided for eating purposes. At points of interest along the Cedar Breaks road, parking spaces were provided. Appropriate signs were placed to indicate attractions. At Point Perfection a log railing was constructed and the railroad company built a $50,000 hotel and dining room at Buckskin Knob. The Forest Service made a trail along the rim from Buckskin Knob to Point Supreme. A trail was also run to the Foxtail (bristle cone pines) near Point Supreme that were the oldest living thing in the area. Some were estimated to be well over a thousand years old.[49]

[49] *Ibid.*

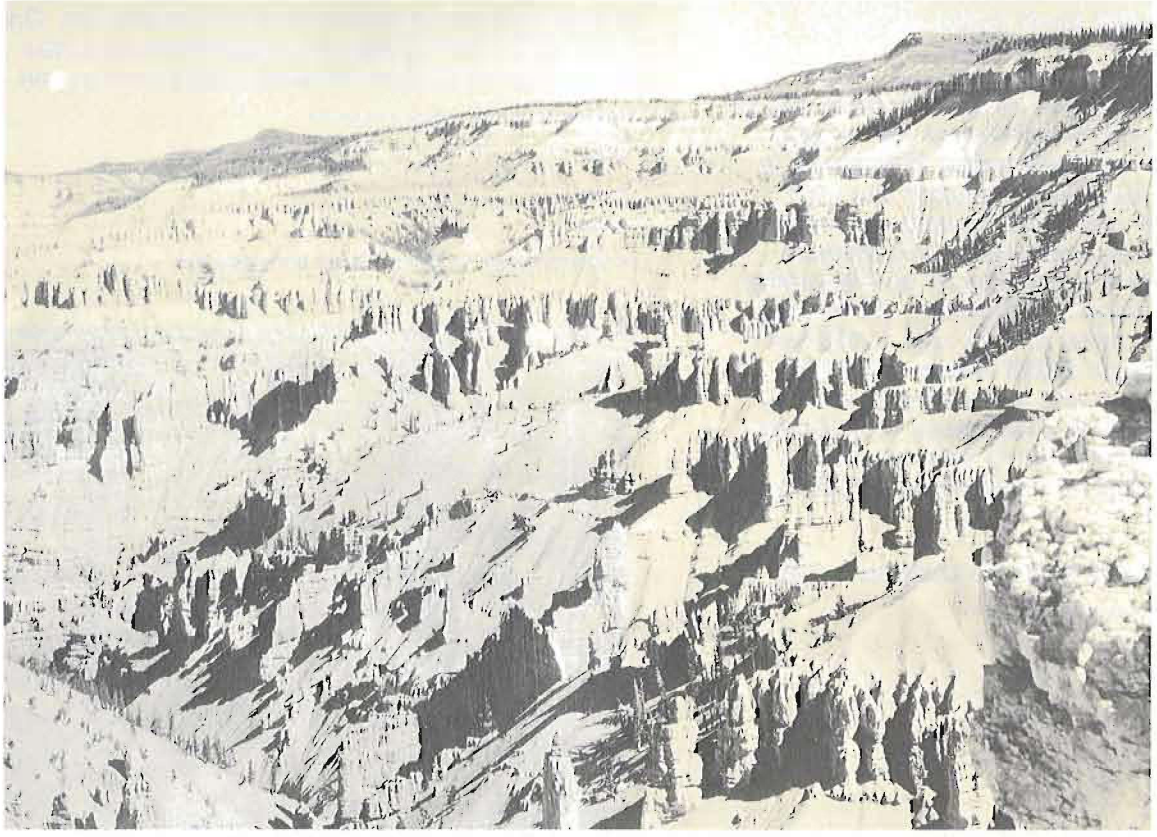
Portals at the entrance to the forest along the Cedar-Long Valley road were built, other toilets, tables, and public campgrounds were built and maintained. During the summer months it became necessary to employ a guard to look after the public campgrounds and to patrol for fires. The road was maintained and in some stretches it was surfaced by the Forest Service.[50]

With these developments, by 1927 there were over 30,000 visitors to the Dixie and about 26,000 to Powell.[51] Private development on lands adjacent to the forests increased dramatically. A. G. Anderson constructed a dude ranch on Pine Valley near the old Whipple Ranger Station. Dr. Aiken of Hurricane constructed a lodge and cabins on the southwest shore of Navajo Lake which also offered boating and horseback attractions.[52] When the Cedar Mercantile and Livestock Company voted to exchange 800 acres on Navajo Lake's west shore for other lands because they considered it a public benefit for the Forest Service to have the lake's west end, the Dixie National Forest was suddenly plunged deeply into the business of summer home use permits. There were already a few summer homesites

[50] *Ibid.*

[51] *Ibid.*, Vol. I.

[52] *Ibid.*



Cedar Breaks National Monument. (Dixie N.F. photo.)

on Mammoth Creek, but now there were many applications including a number of the stockholders in the Cedar Mercantile and Livestock Company. Additionally, a Cedar City Hotel Company applied for a hotel site permit at Navajo Lake.[53]

To the Forest Service, the issue of Cedar Breaks' inclusion in the National Park System was important from a grazing standpoint. Some of the land for the proposed monument was as good a rangeland as any on the Forest, and Park status would preclude grazing. Whether Park administered or Forest administered, grazing was going to have to be excluded for one-fourth to one-half a mile along the rim and so the Forest Service implemented this grazing restriction. Since local sentiment strongly favored Park Service status for Cedar Breaks, the Forest administration decided not to oppose it. In 1933 Cedar Breaks was transferred to the Park Service,[54] but no one could truthfully deny the development and competent management of this recreational area by the Forest Service.

As recreational use became more important, it impacted other forest uses indirectly. The extensive forest road system that opened up hitherto remote areas for recreational use also made much mature timber more readily accessible. Also much lumber for forest recreational development came from the local forests and stimulated timber production. The lodge at Cedar Breaks was constructed of locally cut Engelmann spruce,[55] and the development work at Bryce Canyon used much local lumber and significantly increased forest timber sales over a three-year period.[56]

In the 1897 law defining forest uses, grazing was of secondary consideration with timber the number one concern of the Nation's forests.[57] However, in southern Utah, there was no question but what grazing dominated and timber operations tended to remain quite small on the forests. Nevertheless, there were significant timber stands on the forests, especially on the Aquarius Plateau of the Powell. Here on 70 square miles of land near 11,000-foot elevation, even though 29,000 sheep and 2,200 cattle grazed the plateau, the forest officers felt that "timber production takes precedence over all other uses."[58] As late as 1912, the Engelmann spruce forest on Boulder Top was considered a virgin forest without a stump.[59]

Actually many areas in southern Utah were fairly well timbered. At the lower elevation of the forest grew the juniper and the pinyon pine. Green junipers were very valuable as fence posts and dead or down juniper was used for fuel. The pinyon also had high fuel value with its use also being confined to the dead and down, but there was ample to meet demands. This class of timber was available under free use permit on most of the forest areas.[60] At about the 7,000-foot level the yellow pine was in evidence. It comprised a large portion of the merchantable timber on the forest. At higher elevations spruce, Douglas fir and alpine fir intermixed with aspen.

The Powell, Sevier, and Dixie were classified as asbestos forests because of few annual fires.[61] Since the fire hazard was not considered great, there was little need to employ short-term men for fire patrol in some areas. In low risk areas, patrolling was accomplished by regular forces in connection with their other duties.[62] Where firefighters and fire patrols were needed, the Forest Service hired local men. Sometimes these locals also assisted in trail building, which was considered a part of fire control and bug control.[63]

A major commitment of the Forest Service was fire protection. All employees were subject to fire duty. Most of the large fires on the forest lands had occurred years before the forests were proclaimed in mixed aspen, Engelmann spruce forests where there was thick ground cover. At the time of the establishment of the Aquarius, there were traces of several old and extensive fires on Boulder Top. One aspect of the early timber management here was the removal of a few hundred fire-killed poles and

[53] *Ibid.*

[54] *Ibid.*, Vol. I and VII.

[55] *Ibid.*, Vol. I.

[56] *Ibid.*

[57] *Ibid.*

[58] *Ibid.*, Vol. II.

[59] *Ibid.*

[60] *Ibid.*

[61] *Ibid.*

[62] *Ibid.*

[63] Interview October 17, 1984, with Sandin at Panguitch, Utah.

Ponderosa pine fire damage on May 31, 1916. (Dixie N.F. photo.)

house logs.[64] Of course, Engelmann are a very fire susceptible species. Yellow pine were quite another matter. There had been no major fires in the yellow pines of southern Utah since the country was settled. They usually grow in open stands and are not readily injured by fire, even though vulnerable to lightning strikes. There were old fire evidences around the roots of the mature trees in many places, but no major fire damage prior to 1905.[65]

After the establishment of the forests, rangers and supervisors estimated that one-third of the fires were lightning caused and two-thirds were traceable to human causes.[66] Two or three of the ranger districts on the Markagunt Plateau were considered to have relatively high fire hazard due to large amounts of timber and dry grass. Since the Sevier seemingly had a higher fire danger than some other areas, two lookout stations were established; one on Adams Head on the East Division of the Sevier, and the other on Brian Head on the West Division.[67]

Because of past serious overgrazing, there was practically no fire danger in most areas of the original Dixie Forest. On Pine Valley there was some slight danger but no fire could consume much acreage.[68] In the first 18 years of Forest Service management, there were no fires of consequence.[69] Under the conditions of ground cover, fire danger was almost negligible. Of course, when the ground cover improved, the fire danger would also increase.[70] The timber stand on the Dixie consisted of pinyon and juniper, ponderosa pine, Douglas fir, Engelmann and blue spruce, alpine and white fir, foxtail pine, limber pine and aspen. It was felt that there was over half a billion board feet of merchantable timber plus much suitable cordwood. An annual yield of eight million board feet was projected without depletion of the supply.[71]

In the early period of forest administration, there was much free use of juniper, pinyon pine, and aspen from such areas as Enterprise, Pine Valley, and Diamond Valley. On the Leeds Ranger District, fuel and fence timber had all been stripped from the hillsides during the mining days at Silver Reef. The Forest Service also granted free use for saw logs to churches, schools, Indians, and public service use for several years. In fact a very liberal free use policy was followed for some time on the Dixie.[72] Through 1916 an average of 700,000 feet of timber was given away annually to people living in and adjacent to the forest. On the Diamond Valley area, which was eliminated from the forest in 1913, heavy cutting of green aspen and juniper for poles and posts in pre-forest days made it difficult to find suitable post and fuel material. The Forest Service practice was simply to discourage but not prohibit cutting in this area.[73]

A similar lenient policy was followed in administering sawmill operations. Mill men resisted Forest Service efforts to get them to upgrade their equipment so they could handle large timber. For some time they were allowed to operate leaving large trees uncut, or having cut them, wasting much good lumber in chopping off the slabs when the saw would not cut entirely through the log.[74] For too long no action was taken to stop these practices.

Much care was also needed in selecting cutting areas because much of the ground was friable and susceptible to erosion. Even a light cutting on some hillsides was bound to result in serious erosion and much of the forest was important for watershed protection. Lumbermen, however, wanted to take accessible timber regardless.[75] They resisted ranger attempts to limit their actions.

There was an estimated 60,000,000 feet of sawtimber standing on the Utah Division of the Dixie in 1911. One-half of this timber was inaccessible or the cost of road or chute construction was prohibitive for the amount of timber available. Almost all the lumber was consumed locally and was considered to be generally a low grade of lumber. Most of the lumber operations were conducted by ranchers in the off season. As a result, timber administration was considered to be unsatisfactory and expensive. It took as much time to supervise and administer small mills as it would much larger operations.[76] Until construction of the Dixie Academy in 1911 which, for a time, significantly increased timber sales, there were but three sawmills on the Utah Division of the Dixie. Only two actually operated and they were both "very old, worn out affairs." They were entirely inadequate to handle much of the timber which needed to be cut for proper silvicultural management.[77] Only $1,000 worth of timber was taken in 1910.[78]

Some of this condition was attributable to the

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[64] Dixie National Forest Historical Documents, Vol. II.

[65] *Ibid.*

[66] *Ibid.*

[67] *Ibid.*

[68] *Ibid.*, Vol. VI.

[69] *Ibid.*, Vol. II.

[70] *Ibid.*, Vol. VI.

[71] *Ibid.*

[72] *Ibid.*

[73] *Ibid.*

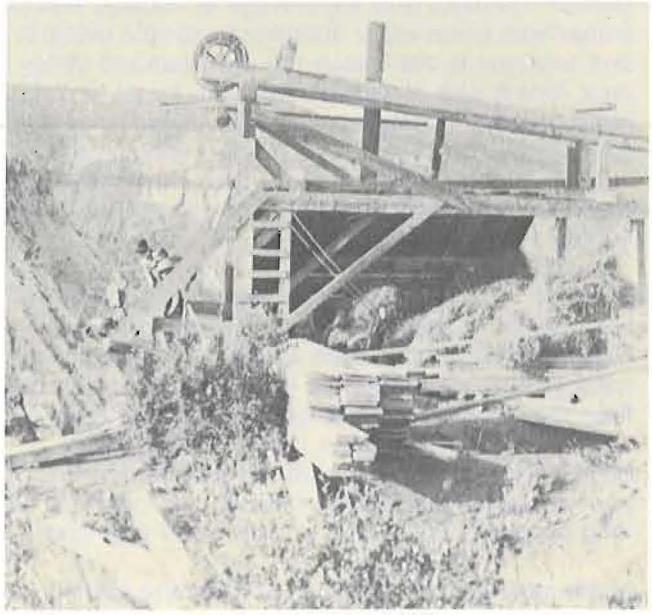
[74] *Ibid.*

[75] *Ibid.*

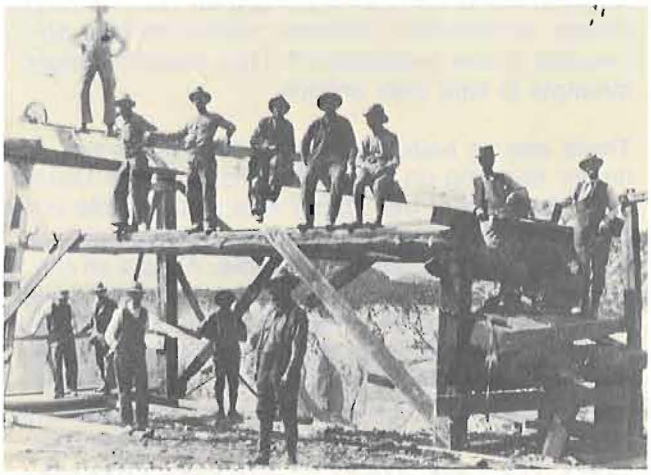
[76] *Ibid.*

[77] *Ibid.*

[78] *Ibid.*



Cable logging. (Lynne Clark Photography Collection, J. L. Crawford donor.)



Cable logging in Southern Utah. (Lynne Clark Photography Collection, J. L. Crawford donor.)

Hauling cut lumber in southern Utah. (Lynne Clark Photography Collection. J. L. Crawford donor.)

Cruising timber in the early 1900's. (Dixie N.F. photo.)

attitudes of the forest administration. It was observed by one supervisor on the Dixie that the forest was not of vital silvicultural importance and did not need intensive timber administration. Logging was to be managed with an eye toward preservation and profit. Since timber sales were very light and the cost of timber sale administration was high, the administration could see little value in more detailed and careful timber management.

When John Raphael became the supervisor in 1910, timber management improved significantly. In 1911 the first extensive forest reconnaissance of the Utah Division of the Dixie was undertaken with an eye toward preparing a reliable resource map depicting the types of timber and the topography in which it grew.[79] An additional survey revealed that 66,000,000 board feet of timber was standing at Mt. Trumbull and another 22,000,000 on the Parashant Division.[80]

Even though the survey concluded that it would likely take years to reestablish ground cover, because of Pine Valley's rugged nature, fire protection improvement work must go ahead. As a result, in 1911 an important trail for fire protection purposes was built and other fire protection measures were implemented.[81]

These early reports were prepared, of course, without the help of technical experts, but they were very creditable reports. Some perhaps were not as extensive or professional as they might have been, but they did provide rough benchmarks for later

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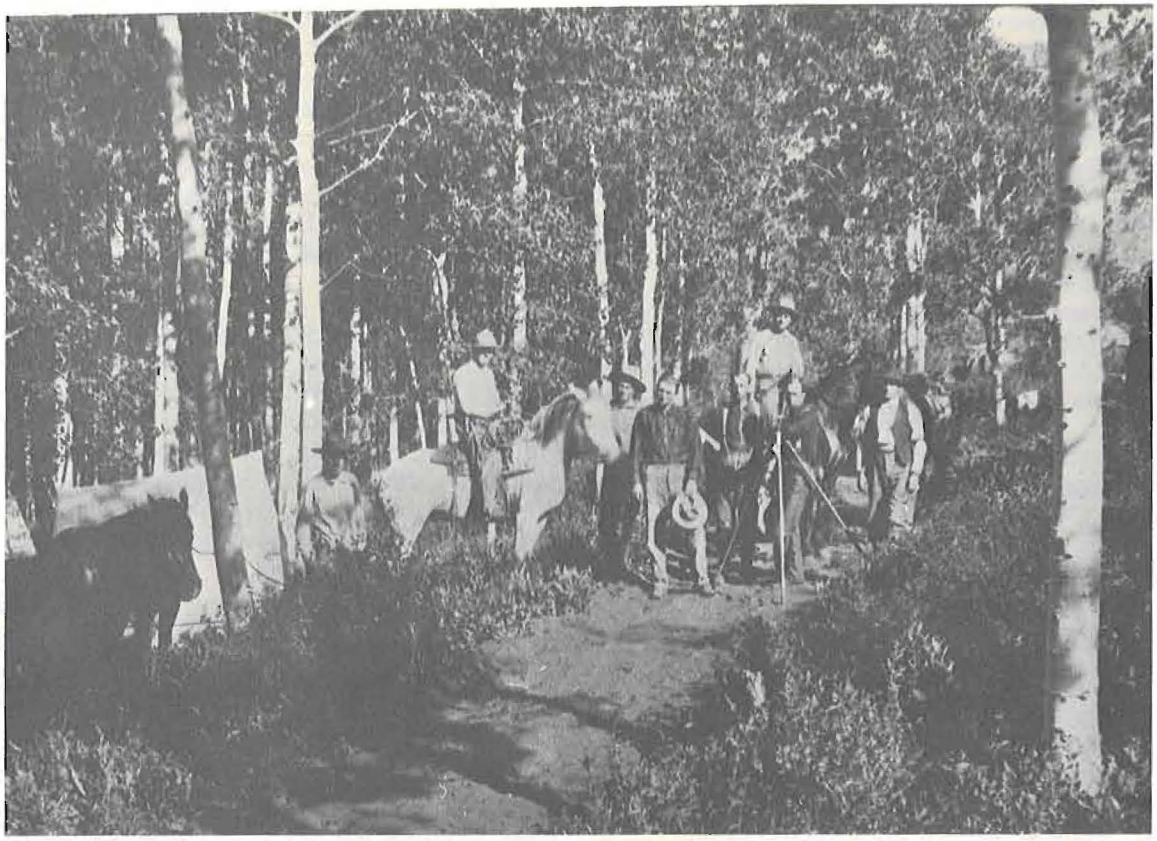
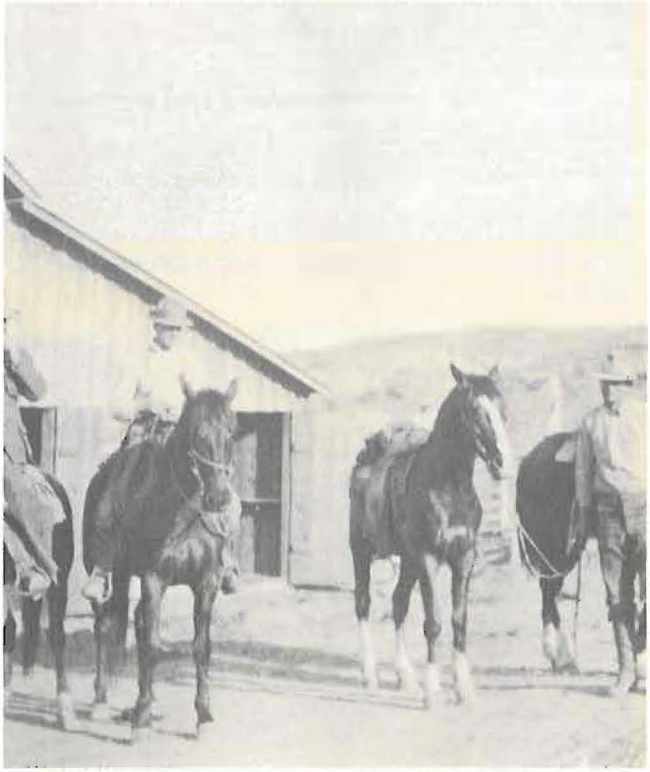
[79] *Ibid.*

[80] *Ibid.*

[81] *Ibid.*



Reconnaissance crew on the Dixie. Ranger Woodbury in charge. Assistants, Rangers Harris, McAllister, Sorenson, MacFarlane and Benson. Cook, F. N. Bleak, Forest Supervisor John Raphael (on white horse). (Dixie N.F. photo.)



Assistant District Forester McCain and Rangers Woodbury and Benson, Diamond Valley Ranger Station. (Dixie N.F. photo.)

use. Angus Woodbury completed the reconnaissance survey of Pine Valley in 1912 and wrote the silviculture report complete with a tentative plan for forest planting.[82]

Because of unfavorable climate conditions, there was a feeling that artificial reforestation would not succeed on the Dixie. However, after the reconnaissance report some planting and reseeding was done. Three different areas were sown to yellow pine seeds by the spot system in 1911. Another ten acres was planted with yellow pine seedlings on Pine Valley. This proved to be the most successful of the early reforestation efforts. In the spring of 1912, 35 pounds of Austrian pine seed was planted on another of the warmer locations of the forest for experimental purposes. There was also an effort to establish a nursery of 50,000 seedling capacity at Pine Valley. This effort failed due to drought conditions.[83] Although much effort was put into selecting tree planting sites, planting trees, poisoning rodents, and tending the nursery,[84] eventually the southern Utah forester recognized the necessity of relying on nursery stock grown at the Salt Lake, Pocatello, or the Boise nurseries.[85]

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[82] *Ibid.*

[83] *Ibid.*

[84] Angus Woodbury diary October 12, 1911 and June 30, 1912, found in Dixie National Forest Historical Documents, Vol. II.

[85] Dixie National Forest Historical Documents, Vols. II and IV.

Timber reconnaissance impressed upon forest officials the fact that as much as 65 percent of the forest was mature or over mature and needed to be culled. With mill operations being confined mainly to the production of lumber for local consumption with only small amounts of sawmill products being exported, it seemed necessary to stimulate the annual cut. On an established stand of 1,800,000,000 board feet on the Sevier, Powell, and Dixie, but 1,500,000 board feet were being cut annually.[86] In 1911 Ranger Milton Moody and a crew of workmen began constructing the Whipple Trail on Pine Valley Mountain. The purpose of this work was to make vast bodies of mature timber accessible to loggers.[87]

As a result of active timber promotion by the Forest Service, two sawmills were established on Pine Valley in 1912 and 1913,[88] and two mills with 4,000 board feet daily capacity were installed on the Mount Trumbull Division in Arizona. The yellow pine timber from Trumbull was hauled 80 miles by wagon to St. George.[89]

Angus Woodbury, who did much of the timber report, and Supervisor John Raphael were both concerned that much of the land in the Dixie was not suitable for forest use or designation. Their reports reflected this concern. In 1916 President Wilson by proclamation excluded from the Dixie 588,520 acres from the two Arizona Divisions of the forest. The area known as the Parashant Division consisted of a block of land 25 miles square bordering the Colorado River. This land was eliminated from the forest and restored to the public domain. The Mt. Trumbull Division, which was partly bounded by the Grand Canyon, had 28 sections eliminated. The lands of the Mt. Trumbull Division that were retained comprised only the well-timbered portions. The lands eliminated were considered non-forest in nature. Nevertheless, the users opposed the elimination, desiring that the land remain under forest grazing regulation.[90]

To improve the forest administrative structure two small areas of forest lands in southern Nevada in the vicinity of Las Vegas, known as the Moapa Division, including Mt. Charleston, and formerly a part of the Toiyabe National Forest were at this time transferred to the Dixie National Forest.[91]

The outbreak of World War I created a shortage of lumber and timber products. Despite lack of adequate labor, new mills were added and receipts from sales of National Forest timber on the southern Utah forests increased rather dramatically. On the Sevier the timber sales increased 100 percent and as many as 20 sawmills operated.[92] Most of the increased timber sales tended to go to small sawmill operators locating portable mills at the mouths of canyons and within easy hauling distance of towns and farms. Because of its weight and bulk, lumber tended to be quite expensive to ship and the limited population in southern Utah did not consume huge quantities of lumber.

The Weeks Act of 1911 provided that five percent of the receipts from all timber sales on National Forest lands within a county go to its treasury for schools and roads. Despite the 100 percent increase in timber production, not much was realized by counties through the provisions of the Weeks Act. Commercial sales on the Sevier reflect the fact that small operations and remoteness from markets

[86] *Ibid.*

[87] *Washington County News*, July 20, 1911.

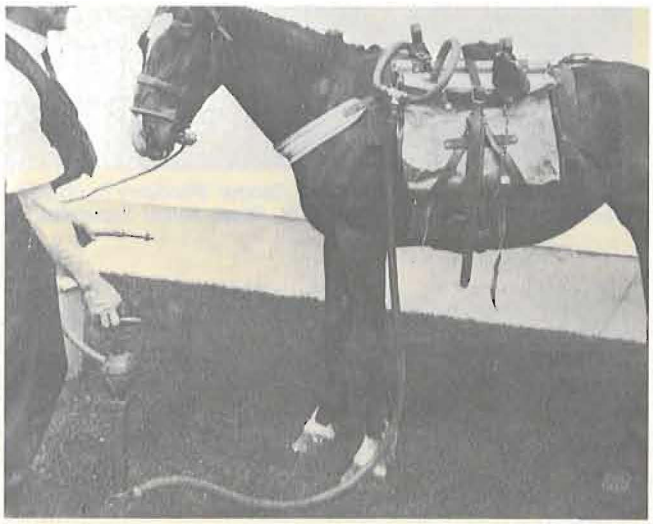
[88] *Ibid.*, December 25, 1913.

[89] *Ibid.*

[90] *Ibid.*, May 25, 1916.

[91] *Ibid.*

[92] Dixie National Forest Historical Documents, Vol. I.



Water alforjas used by Forest Service in fire prevention. (Dixie N.F. photo.)

Advanced methods of fire suppression at Pine Lake, Powell National Forest. (Dixie N.F. photo.)

continued to characterize southern Utah timber production: only $2,500 was realized in total receipts for the entire year of 1918.[93]

Nevertheless, rangers and foresters continued to encourage enlightened silviculture and forest conservation. Fire prevention and control was stressed. Money from the Weeks Act was used to establish a system of federal, state cooperation in fire protection programs. The later Clark-McNary Act also provided expanded grant-in-aid for fire protection programs. Reseeding of forest plots continued and some of them did very nicely.[94] Rodent and groundhog infested areas were treated with poison grain to protect seedlings. Aesthetics was also taken into account in the planting of seedling plots. At sites such as Panguitch Lake where a forest of pines along the lake's shoreline would add to the attractiveness, some reseeding was done with this end in mind.[95]

Public displaying fire prevention signs on steps of Cedar City Post Office. (Dixie N.F. photo.)

Forest management also set about to determine growth of trees under various reproductive conditions. Additional study plots were established.[96] The select method of cutting was most often used,[97] and to make sure forest timber harvest approximated efficient management requirements, much timber continued to be given away under free use to local ranchers. When three small mills burned to the ground during the 1929 bad fire year, they were all rebuilt with Forest Service encouragement.[98]

In 1921, reports indicated that 74 percent of the timber from southern Utah forests was rough, 21 percent was dimension and 5 percent was finish lumber. About 99 percent of all lumber from these forests was pine.[99] Lumber in all categories continued to fluctuate with the economy. When telephone line construction was significant, it impacted the forest timber harvest. The construction of a nine-mile telephone line from the Lowder Station to Midway is an example. However, a year later there was no line construction in the area. In 1921, oil fields were tested on the east end of the Powell and some local timber was used in the early stages of development. Just as it looked as if the impact would be significant, the oil company began importing Oregon timber even though a large stand of mature yellow pine was within 15 miles of the test site. The Oregon timber was imported because the company maintained that it would be a major project to break a road through the rough country to the timber stand and also because the Oregon pines were more suitable for oil derricks and sills.[100]

Failure to adequately cull mature timber was significant in that it lead to a major menace to forest timber resources. Insects, such as the bark beetle, overall may have been more destructive to southern Utah forests than fire. Foresters worked to try to control the outbreaks by cutting and burning. By the end of the 1920's, experimentation had begun with spraying of petroleum distillate and burning the wet bark. Between 1916 and 1928, a large percent of timber was killed by beetles.[101] At other times Douglas fir on the forest were attacked by the parasite, Witches Broom, aspen by fungus, and yellow pine and ponderosa pine by Dendractinus and bark beetles that killed growing thrifty trees as readily as old mature trees.[102]

There was also a heavy worm infestation in 1914 which killed 80 to 90 percent of the greasewood growing on the Powell National Forest. This was not insignificant because greasewood constituted a large share of the range forage on many forest districts. Due to the heavy overstocking of the range, the brush was unable to readily reestablish itself.[103]

Overall between 1911 and 1930, much was learned about timber management on the southern Utah forests. Despite lack of technical experts, surveys were completed and enlightened silviculture practices were begun. Forest conservation preceded toward modern mangement practices.

In the teens and twenties, the principal activity on the forests of southern Utah was grazing. The largest single source of revenue for the Forest

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[93] *Ibid.*

[94] *Ibid.*, Vol. VI.

[95] *Ibid.*

[96] *Ibid.*, Vol. IV.

[97] *Ibid.*, Vol. II.

[98] *Ibid.*, Vol. I.

[99] *Ibid.*, Vol. II.

[100] *Ibid.*

[101] *Ibid.*, Vol. IV.

[102] *Ibid.*

[103] *Ibid.*

Sawmill at Swains Creek on Cedar Mountain. (Dixie N.F. photo.)

Service came from grazing fees, as most of the forest land was considered suitable for this activity. A 1916 use map indicates that all but one percent of the Dixie was usable for grazing, nine percent of the Sevier, and three percent of the Powell.[104] Due to rough topography there was some land inaccessible to any class of stock, but most of these areas produced little forage anyway due to shallow soil and low soil moisture.[105]

Receipts are an accurate reflection of forest usage. For the fiscal year ending June 30, 1918, the use income on the Dixie was $4,924 with $3,808 coming from grazing fees, $782 from timber sales, and $333 from other special uses. For other years and other forests that became a part of the Dixie, the figures might differ, but the percentage of revenue generated by grazing fee collection was fairly consistent.[106]

Before the creation of the forests, considerable destruction of grass and forage had already taken place. Range depletion was estimated to be between 25 and 100 percent. After creation of Forest Reserves, sheep and cattle were still allowed on the forests much too early and in much too large numbers. The destruction of grass and preferred forbs allowed shrubs and browse plants to take their place.

Grazers still continued to take their stock onto the forests too early in the spring. The Forest Service continued to attempt to gain control of this situation by effectively shortening the grazing season.[107]

The most obvious fact about grazing was the excessive numbers of livestock grazing the forests. Forest supervisors and rangers tried to gain control through reductions, but their successes came slowly. At first there was little attempt to reduce the number of livestock. Owners of cattle and sheep included nearly every man and boy in some of the rural communities such as Escalante and they all felt that they had a vested right to the forest range. Initially, forest officials did little more than ask each owner to come in and apply for permits to graze as many head of stock as each grazer thought he owned. Even this proved difficult as many professed to have no idea of how many stock they held. Thos H. Gardner told the Dixie Forest officials that, "in this country a man don't know just exactly how much stock he has got. I have raised stock a good many years and I could not state how much stock I own to save my life."[108] Many more head of

[104] *Ibid.*, Vol. I.

[105] *Ibid.*, Vol. IV.

[106] *Washington County News*, September 12, 1918

[107] Dixie National Forest Historical Documents, Vol. IV.

[108] *Ibid.*, Vol. I.

were fed to stock that were grazed under permit during summer months on the forest. Unfortunately, some of the private land was not enclosed and often livestock also strayed onto the forest in the wintertime.[115]

Forest officials had little choice but to follow national land and resource policy which encouraged the transfer of farm and mineral lands to private ownership. The Stock Raising and Dry Farm Homestead Acts brought about the release of some forest land to the private sector, thus creating inholdings within the forest boundaries. Some of the rangers' time was now taken up in surveying homestead entrees.[116] In 1916 President Wilson made available to the entry of homesteaders more than half a million acres of land on the Dixie in Arizona. About one-fourth was quickly filed upon.[117]

In 1918 an additional 228,000 acres of the Dixie in southeastern Nevada and southwestern Utah were thrown open to homestead entry by presidential proclamation.[118] There were as many as 63 applications a year for forest homesteads on the Dixie. In addition in 1913, there was a gold rush to Bull Valley southwest of Enterprise Reservior where entry could be gained for mineral lands. As many as 70 prospectors set up camps in the area, and some applied for land.[119] Many of these inholders held some animosity toward the Forest Service and in many ways compounded the forest management problems.

In preparation for a proposed consolidation of forests, an intensive land survey was completed including a land classification report. When this was submitted in 1918, it resulted in 1,280 acres of land which was regarded as chiefly valuable for agricultural purpose being eliminated from the forest.[120] In 1919 the proposed consolidation was consummated. The Sevier was eliminated with the West Division being added to the Dixie and the East Division to the Powell. For three years the Powell was known as the Powell-Sevier. By Executive Order dated February 14, 1922, the Sevier part of the name was dropped. The newly consolidated forest with supervisor's offices in Widtsoe included 702,470 acres from the Powell of which 16,856 was privately owned and 387,493 from the Sevier with 22,267 being in private ownership. The two divisions of the new forest totaled 1,089,962 acres with 39,123 being privately owned.[121] Here as on the Dixie, private inholdings were a source of friction.

[115] *Ibid.*

[116] Angus Woodbury Diary, August 14, 1913.

[117] *Washington County News,* May 18, 1916.

[118] *Ibid.,* July 25, 1918.

[119] *Ibid.,* December 25, 1913.

[120] Dixie National Forest Historical Documents, Vol. IV.

[121] *Ibid.*

Despite friction that inholdings created, the most serious concern was a range that was so badly damaged that supervision had to assume as its top priority the stopping of further damage. The range condition on the Dixie was the worst that Supervisor Raphael had ever seen. The methods of handling stock he termed "deplorable."[122] Water places were poor and inadequate. Springs and seeps were unfenced and cattle mired in them. Few corrals were available and too much trailing of stock to and from water were additional problems. More trails and drift fences were seen as necessary for the proper handling and distribution of stock. Drift fences were termed the most important improvement work that could be taken up.[123] Even under a more rigid range administration there was concern that much of the range could never rescue itself.

Drift fence. Poor range management on left, good management on right. (Dixie N.F. photo.)

It was felt by Forest Service personnel that these serious overgrazing conditions on the Dixie, an important watershed area, had resulted from unpermitted stock owned by regular permittees but grazing the forest above and beyond the permit limits. For a time the rangers followed a practice of persuasion with the permittees hoping they would take the necessary steps to remove the excess cattle. When this did not happen, maximum and protective limits were established and explained to each grazer in a circular letter.[124] Grazers were given the opportunity

[122] *Ibid.,* Vol. VI.

[123] *Ibid.*

[124] *Ibid.*

livestock continued to be grazed on the forest than were permitted. John Raphael, Supervisor of the Dixie from 1910 to 1916, believed that up to 1912 not more than half the cattle on the range were permitted.[109]

Then as now, the district ranger was in a critical position in the Forest Service field organization. He was charged with the management of timber sales, grazing, fire protection, and special use permits. They were expected to be prompt, active, and courteous in the conduct of forest business and to prevent misunderstanding and violation of forest regulation by timely and tactful advice rather than following up violations by the exercise of authority. When this did not work, they did make use of legal processes. In May of 1911, Angus Woodbury and John Benson prepared a trespass case against the locally prominent John Pulsipher.[110] When John Raphael found that stockmen were not keeping enough bulls to comply with the state law and that those they had were too often of low grade, he took it up with the County Attorney.[111]

Forest officials found they often faced considerable animosity. Some were against the Forest Service in general because they felt hemmed in by a regulatory agency. Stockmen were often against the rangers because they would regulate their grazing, make them pay fees, count their livestock and limit where they could go.

Rangers were public officers, representing the United States Government and were and still are ambassadors of conservation. As a public servant, it was his duty to introduce regulations and to establish a climate in which they could be enforced. This was not easy nor was it quickly established or permanently settled. The ranger wore two fundamentally different hats. On the one hand he was a promoter and educator and on the other, a law officer. It created tension and confusion and still does.

Even though stockmen's associations were established largely through the efforts of the Forest Service in the hopes of promoting understanding and cooperation, many forest officials became skeptical that they would receive much cooperation from the advisory boards of local associations.[112] When grazing permit reductions came, feelings ran high against rangers. The Escalante Livestock Association petitioned to have nearly every ranger removed who served that district for a period of over twenty years. The St. George Association threatened to have all forest officers dismissed and the forest thrown open. To the great satisfaction of the rangers and the supervisor, the general public and complying stockmen supported the actions of the Forest Service and its regulations.[113]

The grazers' animosity was partly a result of their dependence on the forest for the highest and best use of farms.[114] A great portion of private land was secured throughout the forest under the June 11, 1906 Forest Homestead Act and it was being used mainly for the production of agricultural crops that

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[109] *Ibid.*, Vol. IV.

[110] Woodbury Diary, May 1-4, 1911.

[111] Dixie National Forest Historical Documents, Vol. VI.

[112] *Ibid.*

[113] *Ibid.*

[114] *Ibid.*, Vol. II.

Leavitt Homestead, Ox Valley, 1917. (Dixie N.F. photo.)

to take out a permit for the actual number of stock they grazed on the forest so that they might establish equity in the range. Only a few increased their permits to what they were actually grazing on the forest which resulted in an increase of 2,000 permitted head. However, the majority ignored the proposition entirely and found fault when some of their cattle were counted onto the range and permits were required if they wished to keep them there.[125]

Counting of cattle and the more strict administration was being criticized by those who had large numbers of cattle in excess of their permits and who habitually grazed over the entire forest as they pleased. Rangers began following the cattle drives to help sort the cattle onto the rightful allotments,[126] and to count and dab the unpermitted stock with paint.[127] Rangers also gathered strays and stragglers and removed them from the forest.[128]

To convince stockmen of the need for more care of the range, several meetings were held with stockmen. A major purpose of the meeting was to organize sentiment for better stock handling and compliance with regulations. However, a great deal of time was spent in settling disputes, settling grazing allotment lines, discussing grazing terms, drift fences and other range improvements.[129] When friendly persuasions did not succeed, the ranger even resorted to checking cattle sales against grazing permits in order to help get a handle on how much trespassing there really was.[130]

As a result, a meeting of stockmen was held at the St. George Supervisor's Office and the conditions of the range and the stock business in general were thoroughly discussed. In preparation for the meeting, and as general ongoing management, reconnaissance to determine the carrying capacity of various units took place. They were perhaps not as extensive or professional as they might have been due to the lack of adequate funding, but they did provide a starting point for determining grazing potential. Later, experts such as Grazing Assistant J. O. Stewart were sent to the Dixie to assist in preparing detailed grazing plans.[131] Foresters also established enclosures to measure plant growth in the absence of grazing on selected plots.[132] A rule of thumb for range management at this time assessed the carrying capacity by the condition of the cattle as they come off the range,[133] and allowed for the harvest of up to 80 percent of the forage. Even this overly generous system was abused and exceeded.

Stockmen were told that the main problem was to restore the depleted range. The evidences of depletion were several. One was floods. Those originating on the Santa Clara Creek did a great amount of damage and so far the forest administration had not produced great results in protecting watersheds. Sedimentation in the Enterprise Reservoir was also attributed to overgrazing and silt from the excessive runoff.[134] Overgrazing had killed grasses and the stock had become more and more dependent on oak and other brush for too much of their feed. Many cattle died on the range due to starvation and improper handling. In 1911 some cattle had died of poison milkweed at Diamond Valley and this was the first recorded instance of this in Utah. There had also been a blackleg epidemic in 1911 which better handling and care of stock could have helped control.[135]

Some suggested solutions included not allowing the cattle on the forest to graze so early in the spring or to stay so late in the fall, reducing the stock to the carrying capacity of the range, reseeding of the range, fencing, rotating and keeping unpermitted cattle off the forest.[136]

The stockmen present finally passed a resolution to the effect that the range was overgrazed, but they requested that applications for the present season be approved at the same level as the 1911 season and that they in turn would then sell off the surplus stock. In the future, permits were to be issued on the basis of the resolution.[137]

Forest Service fears that cooperation would come but slowly because of a lack of a genuine interest on the part of stockmen were born out. A few stockmen did sell off their surplus, but many others did not. Those who did not comply complained that they did not understand the resolution and they petitioned for temporary increases so that they could reduce their herds at a more favorable time. Their request was granted, but this encouraged some to feel that the Forest Service would not crack down on them if they still did not comply.[138]

Eventually forest officers suggested the formation of a stock association with an advisory board, which they hoped would be of assistance in range

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[125] *Ibid.*

[126] Woodbury Diary, May 2-17, 1911.

[127] *Ibid.*, June 30 - July 2, 1911.

[128] *Ibid.*, June 3-9, 1911.

[129] *Ibid.*, September 18, 21, 22, and 29, 1911.

[130] *Ibid.*, October 1-2, 1911.

[131] Dixie National Forest Historical Documents, Vol. V, December 5, 1921.

[132] *Ibid.*, Vol. IV.

[133] *Ibid.*

[134] *Ibid.*, Vol. VI

[135] *Ibid.*

[136] *Ibid.*

[137] *Ibid.*

[138] *Ibid.*

management.[139] Ranger Woodbury helped the stockmen prepare a constitution for their association and from time to time rangers met with the stockmen's advisory board to help determine grazing policy for the coming year.[140]

Nevertheless, trespassing continued to be a problem. Rangers found it necessary to ride the range to clear livestock off the low range in the spring in order to count all stock entering the forest.[141] They also counted cattle onto the forest, bushing the tails as they entered through the drift fences that were being constructed. They continued to find many unbushed cattle around the counting points and on the range.[142] A count taken during the summer grazing season revealed that there were still many cattle that drifted onto the forest undetected by the rangers despite all attempts to count, ride and gather.[143] During a three-day ride, Woodbury found 136 unbushed cattle on the forest.[144]

With the construction of new drift fences, efforts were made to get stockmen to put cattle below the fences. Rangers rode with the cattlemen in April to make sure the range was clear.[145] When the cattle entered the range, it was found that counting was now much easier because of the new drift fences.[146] During the June 1913 range ride counting cattle and tallying unpermitted livestock, the results were much improved with significantly few instances of trespass.[147]

Even though fencing continued to be a major undertaking, some trespassing continued. In 1916 when he arrived as supervisor of the Dixie, William L. Mace found that trespassing still existed. There was a wire boundary fence along the Utah-Nevada state line and part of the north and east sides of the forest were also fenced. Rather than ear tags, bushing of the tail was still being used on the permitted livestock as they were turned onto the forest each spring. The current trespass problem came from drift on the south side of the forest. The south side was to be fenced to deal with this remaining problem. Construction began in the spring of 1917 but progress was slow and difficult due to the lack of roads. When the United States entered World War I, the project was scaled down to problems of labor and supply.[148]

[139] *Ibid.*, Vol. V.

[140] Woodbury diary, February 1-2, 1912.

[141] *Ibid.*, May 9-17, 1912.

[142] *Ibid.*, May 18-23, 1912.

[143] *Ibid.*, June 1-11, 1912.

[144] *Ibid.*, June 17-19, 1912.

[145] *Ibid.*, April 27, 1913.

[146] *Ibid.*, May 19-27, 1913.

[147] *Ibid.*, June 6-17, 1913.

[148] *Old-Timers' News*, Vol. II, No. 4, February 1960, pp. 14-20, found in Dixie National Forest Historical Documents, Vol. II.

By 1915 forest officials began to feel some better about conditions on the Dixie. After 1915 flood damage diminished significantly.[149] Of course, grazing was intimately related to watershed protection.[150] As drift fences were erected between summer and winter ranges and as many miles of trails and water hole improvements were developed, there began to appear improvement on parts of the range. In places the grass was "recuperating,"[151] but in other areas the "present conditions of the mountains... was no better than when the forest was established."[152] To better determine conditions, designated grazing and forest management study plots were increased, and carefully monitored. Some areas were found to be improving and others standing still.[153]

In the 1920's, there came to be considerable sale and transfer of grazing privileges on the Dixie. More were being applied for and acted upon than at any other time since the establishment of the forest. The tendency was for the small owners to sell to larger operators. The sales and transfers were encouraged by poor times in the livestock business and good prices for grazing preferences on the forest.[154]

The fluidity in the livestock industry led to experiments on the Dixie that may or may not have been helpful for improved range conditions. Goats were permitted on an experimental basis. The goats, it was thought, would utilize rugged, broken country immediately south of New Harmony. The goats proved to have voracious appetites with almost anything being palatable to them. They did graze avidly and with great gusto the usually ungrazed quinine bush, manzanita, live oak and yucca. A major disadvantage of the goats was that they had yearning for returning to the same old bed ground for shading and sleeping. This habit was especially exaggerated during kidding. The owners maintained that it was difficult to change bed grounds with goats as often as the "bedding out system" required. The temporary goat permits were to determine if the goats could be handled on the forest without undue damage to the unused, rocky, slopes of the Dixie Division that could not be utilized by other stock. However, the use of the same bed grounds for even three nights in succession resulted in considerable damage as the goats trimmed up and often girdled most every shrub in reach. Even though the mohair was a valuable product, the experiment could not be continued. At its height eight herds were permitted with 30,000 head

[149] Dixie National Forest Historical Documents, Vol. V.

[150] *Ibid.*

[151] *Ibid.*

[152] *Ibid.*

[153] *Ibid.*

[154] *Ibid.*

grazing in Washington County under experimental permits.[155]

Another unusual grazing experiment on the Dixie was the grazing of swine. In 1913 a permit was issued for 400 hogs on the Dixie Unit.[156] Hogs were allowed to graze the so-called Toquer allotment until 1936. During the 22 years that pigs grazed the Dixie, they proved to present to the forest many insoluble problems and so the permits were phased out.[157]

The number of cattle grazing the Dixie also decreased after World War I. An overcrowded range and a slump in stock prices resulting in financial loss took many out of the cow business.[158] Some outfits went out of the livestock business while many others exchanged their cattle to take up sheep in this period.[159] Good lamb and wool prices helped encourage these exchanges.[160] World War I had thwarted some of the effort to reduce livestock grazing on the Dixie because of the federal effort to increase meat production for the wartime demand. The post-war slump began to restore a balance.

Range reconnaissance also served to restore a balance. "Period studies" were made to determine when animals ought to be allowed on the forest and when they should be removed. These succeeded in reducing the length of the grazing season to a degree. In some instances grazers were now being allowed to take nonuse on a fairly liberal basis. There were also limited attempts to reduce the numbers permitted to what was perceived to be the carrying capacity of the range. Various means were used to carry out the reductions. One fairly successful method was known as transfer reduction, whereby some cattle and sheep were removed from the range when base property and stock were sold by one rancher to another, and this happened rather frequently during the post-war years.[161]

Just before the onset of the Great Depression, Mother Nature intervened to bring further stock reductions. The winter of 1928-29 was regarded as the hardest in over 40 years. Considerable loss of livestock resulted and in some instances losses were estimated to be up to 20 percent. In addition to the heavy loss, there was also a heavy feed expense imposed upon those stockmen who endeavored to save the larger portions of their herds through stockyard feeding.[162] Range that once had required 13.8 acres of surface grazing area to support one cow and 3.44 acres per sheep now seemed inadequate,[163] and the demand for forest range continued to be much greater than the grazing capacity. The average of 170 grazing days for cattle and 130 for sheep needed to be further reduced.[164]

Through the post-war years an average of 42 percent of the permitted cattle were sold annually with but 1½ percent being sold locally and 40½ percent shipped by rail to Denver, Salt Lake City, Kansas City, and Los Angeles. An average of 45 percent of the sheep were sold annually with two percent sold locally and 43 percent shipped.[165] Financial and range conditions now produced a market unfavorable to stockmen and favorable to buyers. These conditions did result in permit reductions. With the onset of the depression the Dixie was still in bad shape, but much had been done and much more could be done to further range improvements.

There were many differences between grazing conditions and grazing management from the Dixie to the Powell Forests, but on the other hand there were similarities. The Escalante District is illustrative of this. Up to 1914, the permitted sheep on this district did not exceed 14,000 head. Prior to 1914 most families had some cattle and many considered themselves to be fairly financially independent. The change to sheep created a condition in which big sheepmen made more money than the cattle raisers ever had, but in general the community of Escalante seemed less prosperous.[166] Between 1914 and 1918, perhaps as many as 4,000 head of cattle were sold and replaced with about 8,000 head of sheep.[167]

Soon outsiders such as J. J. Page of Panguitch brought in an additional 5,000 head of sheep, the Campbells from Salt Lake added about 5,000 and the Hursts from Monroe another 5,000 for an increase of 15,000 head of sheep grazing the forest. This resulted in a speeding up of the degradation with excessive trailing of stock being a major factor. By 1925 the Escalante District had 10,000 permitted cattle, 33,000 sheep, 1,000 horses and 640 dairy cows.[168]

It was difficult for stockmen to admit that they were losing out due to an overcrowded range, but again, as on the Dixie, many outfits went out of the stock

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[155] *Ibid.*, Vol. I.

[156] *Washington County News*, April 23, 1914.

[157] Dixie National Forest Historical Documents, Vol. I.

[158] *Ibid.*, Vol. II.

[159] *Ibid.*

[160] *Ibid.*, Vol. I.

[161] *Ibid.*

[162] *Ibid.*, Vol. VI.

[163] *Ibid.*

[164] *Ibid.*

[165] *Ibid.*

[166] *Ibid.*, Vol. II.

[167] *Ibid.*

[168] Griffin.

business between 1910 and 1925.[169]

Due to an accelerated depletion, sheep allotments were terminated on Griffin Top in 1922. By then this range was badly depleted and it would take many years to recover.[170] Much of the range was getting "pretty heavy common use," with much of it being badly abused and falling into bad shape.[171] In summer months the range often became dry resulting in the bunching of stock. When this occurred, the still good but dry range broke down quickly especially at water holes.

The trespass problem on the Powell seemed to be somewhat different from that on the Dixie in magnitude, but it did exist. On the Powell there was a problem of trespass horses which rangers would round up and corral for the owners. There were also five permittees, who although cattle permits were not filling up, allowed about 120 head of their cattle to trespass on the forest at Pine Creek. On this same range there were 22 permittees adhering to the rules. The Forest Service used pressure from those complying to attempt to force the abusers into line.[172] Although the Boulder Division did have a problem with excessive cattle permitted, actual trespassing was minimal everywhere on the Powell except on the Pine Creek range.

Rangers found that in general cattle divisions showed improvement but common range and sheep range continued to deteriorate. Some sheep range was in as bad a shape as any forest range.[173] Even though the stock remained in good flesh the range was bad, especially in the vicinity of watering holes. For example, near Horse Spring, the main water from the south end of the forest, some damage was even being done to yellow pine reproduction by the sheep.

Much of the sheep range was classified as a browse range with birch leaf, serviceberry, snowberry and bitterbrush as the better species. They were being killed out by overgrazing and oak was taking over. A grazing inspection in 1924 by grazing specialist Winkler of the Regional Office bore out these tentative conclusions of local rangers.[174] It was, however, several years before improvement was much in evidence, partly due to a lack of cooperation by grazers. Trailing to water continued to do considerable damage, sheep on some allotments exceeded the three-night bedding rule and the range continued to be very closely grazed. However, since the forest remained better than any other sections of the public domain, it was not until sheep began losing flesh that sheep men finally took notice and became more cooperative.[175] As grazing reductions were implemented, ranges gradually began to show improvement. Plants and shrubs demonstrated more vigor, density increased and washes and gullies were being reclaimed.[176]

Many range improvements were needed and were undertaken. Water holes were improved, troughs built, corrals constructed and drift fences put up.[177] In 1919 five-year permits were established and in January 1924 10-year permits were initiated which would go into effect during the 1925 grazing season. These long-term permits were intended to lend greater stability to the livestock industry and to help livestock men with their banking transactions. New grazing rate structures were also designed. The goal was to approach somewhat the commercial value of forage. These increased fees were soon returning three times the administrative costs of the forests and assisted in financing the range improvements.[178]

Even though the 1920's brought some hard times to the Utah stockmen, grazing continued to be emphasized. In Utah 96 percent of the land surface area was not under cultivation.[179] This was mostly suitable for grazing, and so despite financial difficulties, grazing continued to dominate forest use. Therefore, the handling of grazing in connection with watershed protection remained one of the greatest problems for Forest Service officials. Sheep continued to dominate grazing to the West Division of the Dixie, which until 1919 was part of the Sevier, to the extent that 80,000 sheep and 7,500 cattle grazed this area during the 1920's.[180] The same held true for the Powell where 103,000 sheep and 18,300 head of cattle were permitted to graze in the 1920's.[181] Grazing was obviously the principal use of the forest with sheep dominating.

The Forest Service had inherited an overgrazed and depleted range. Liberal permitting had followed, trespassing remained a difficult issue, range improvement budgets were tight and little range expertise existed among the foresters on the Powell and Dixie. Yet by 1929 these forests, which at one time were pointed to in Forest Service circles as prime examples of overstocked and overabused ranges, were witnessing a great deal of improve-

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[169] Dixie National Forest Historical Documents, Vol. II.

[170] General Range Inspection Report by Wallace M. Riddle taken between July 15 and 23, 1926, and submitted July 29, 1926, located in Dixie National Forest Historical Documents, Vol. II.

[171] *Ibid.*

[172] *Ibid.*

[173] Memorandum, October 2, 1926, from Wallace M. Riddle, found in Dixie National Forest Historical Documents, Vol. II.

[174] *Ibid.*

[175] Memorandum, October 1, 1926, Wallace M. Riddle, Vol. II.

[176] Griffin.

[177] Dixie National Forest Historical Documents, Vol. VI.

[178] *Ibid.*

[179] Alumni Bulletin, 1929.

[180] Dixie National Forest Historical Documents, Vol. VI.

[181] *Ibid.*, Vol. IV.

ment and correction. By 1929 overstocking had become a localized matter rather than a general and widespread condition.[182] Nevertheless, modern range management was not yet perfected. Forest grazing management, however, had matured to the point that the Forest Service was no longer granting virtually all permit applications. Between 50 and 75 permit applications were denied each year from the end of World War I until the onset of the Great Depression.[183]

The years from 1911 to 1929 were years of adjustment, change and advancement on the southern Utah forests. Recreational responsibilities had been added to already understaffed and burdened officers. Timber management received more emphasis and grazing improvements were sought. Forest Service research which had begun under Pinchot's administration was expanded and enhanced by Graves and Greeley. For personnel on the Dixie, this sometimes proved difficult and frustrating. For example, scarcity of timber in some areas made seed collection unwise for specimens for a forest herbarium.[184] But the undertrained and overworked rangers attempted to do their part to accomplish whatever was asked of them.

Forest administrative organization included a supervisor who was responsible for each forest and rangers who were in charge of the administrative districts within the forest. Other Forest Service officers included deputy supervisors, forest examiners, forest assistants, lumbermen and scalers. All were appointed after a Civil Service examination.

[182] Alumni Bulletin, 1929.

[183] Dixie National Forest Historical Documents, Vol. IV.

[184] *Ibid.*

Rangers Hanks and Robins at Mt. View Ranger Station leaving to visit permittees. (Photo courtesy Urban Hanks, Grover, Utah.)

However, in southern Utah, administrative staffs tended to remain quite small. Ranger Districts tended to be one man operations, with rangers and supervisors expected to spend the bulk of their time in the field rather than the office. They were also expected to become acquainted firsthand with forest users and the land and resources within their districts. For example, when William L. Mace became Supervisor of the Dixie in July of 1916 he and the ranger rode each district to gain information and to make a specific concerted effort to meet all the forest users.[185]

The Forest Service stressed that Forest Service employment was only for those with special qualifications. Rigorous eligibility requirements for becoming a ranger were developed from the outset. Rangers were required to pass both a written and a field examination. The field examination was a test of various practical skills including lumbering, horsemanship and surveying. At first this examination lasted for several days and was extremely demanding in endurance and the range of skills required.

According to the 1905 Use Book, to be eligible as a ranger of any grade the applicant must be first of all, thoroughly sound and able-bodied.

> *Capable of enduring hardships and of performing severe labor under trying conditions. Invalids seeking light out-of-door employment need not apply. No one may expect to pass the examination who is not already able to take care of himself and his horses in regions remote from settlement and supplies. He must be able to build trails and cabins, and to pack in provisions without assistance. He must know something of surveying, estimating and scaling timber, lumbering, and the livestock business. Thorough familiarity with the region in which he seeks employment, including its geography and its forest and industrial conditions is usually demanded.*[186]

The Service did generally place officers in districts close to their homes. In southern Utah this created a problem of sorts in that there were few trained foresters in the local area and consequently the expertise on the forests was perhaps not as great as some notable foresters who worked in southern Utah. Lyle F. Watts, who was later to become Chief Forester, entered the Forest Service in 1911 as a field assistant on the Sevier.[187]

It did, however, mean that training was necessary

[185] *Old-Timers' News*, No. 4, February 1960, pp. 14-20, found in Dixie National Forest Historical Documents, Vol. I.

[186] U.S. Department of Agriculture, *Forest Service, the Use of the National Forest Reserves—Regulations and Instructions.* (Washington: Government Printing Office, 1905), p. 88.

[187] Dixie National Forest Historical Documents, Vol. II.

for those who lacked forestry skills. Personnel training courses were provided including reading courses, manual review opportunities, elective courses in grazing, forestry, lumbering, forest operations, engineering, and lands. Every ranger was to devote 45 hours per month to upgrading his skills through study during winter months.[188] Ranger correspondence courses accomplished much. As many as six officers on the Dixie took such courses at any one time and most wished to continue and complete work toward the forest certificate.[189] By 1929, one-third of the personnel held forester's certificates designating them as practicing foresters.[190]

There was a firm belief in the service in large ranger districts under the supervision of one man with the assistance of necessary temporary men during the busy season.[191] In 1916, a recommendation was made that the Dixie should be put under administration with some other forest.[192] In the fall of 1918, a plan to add the West Division of the Sevier Forest to the Dixie and the East Division of the Sevier to the Powell was put forth. On July 1, 1919, the proposed consolidations took place. This change almost doubled the work volume on the Dixie. But with the added territory, an assistant supervisor, three assistant rangers, a six-month guard position for the summer season, and a road crew of about thirty men for the field season was authorized.[193]

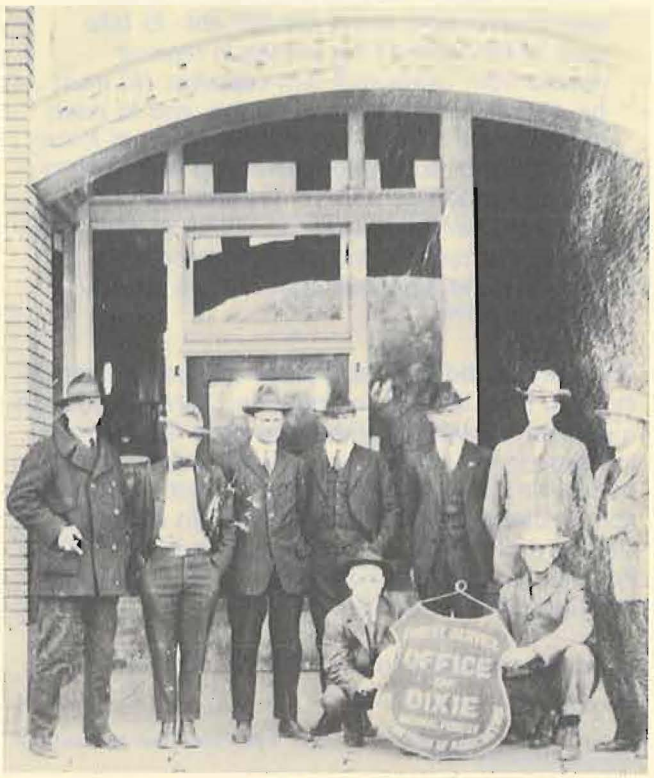
[188] *Ibid.*

[189] *Ibid.*, Vol. VI.

[190] *Ibid.*, Vol. IV.

[191] *Ibid.*, Vol. VI.

[192] *Ibid.*



Forest Supervisor William L. Mace, third from left, and his staff including Rangers' Frank Seaman, kneeling on right, and William Hurst, second from right. Others unidentified. (Photo Smoot Seaman, Cedar City, Utah.)

Mace was more than glad to sacrifice his small adobe office in St. George, where with the aid of three electrical fans, he could reduce the temperature to 105 degrees in the summer time, to move to new supervisor's quarters in the Sheep Building in Cedar City.[194] The Sevier Headquarters in Panguitch became a ranger station with the Powell-Sevier headquarters being in Escalante until 1922 when they were moved to Widtsoe. In the fall of 1924, Powell headquarters were moved from Widtsoe to Panguitch.[195]

Although these changes had carried provisions for increased staff, the newly approved positions were not always easily filled. In properous times many personnel tended to leave the Forest Service for better pay outside the Service. The continuing low salaries caused a sizable defection in the Forest Service staff in the years between 1918 and 1920.[196] Those who stayed in the Service during these years considered themselves highly dedicated in the face of low salaries and the animosity they sometimes encountered in the line of duty. Those who remained and earned the respect and loyalty of local inhabitants were rewarded principally through the satisfaction of being able to effect lasting, positive change. These men were appreciated by the Forest Service, for the relationships they built with the general public were important. These Forest Service personnel were not regarded as simply officers of the government for they were also agents of the people with whom they interacted officially and as neighbors and citizens.

The consolidation of forests had occurred largely because it had become practicable by 1919 due to technical improvements. The construction of telephone lines had continued. A line to Boulder was completed in 1912, one through the Upper Valley to Panguitch, and another through Main Canyon over the mountain to Antimony were also completed. Individuals were permitted to join lines to the Forest Service line provided they supplied their own poles, wire, insulators, and telephone. In 1913, there were but three phones in all of Escalante, but in 1919 the year of the forest consolidation, the Escalante telephone system was finished.[197]

[193] *Old Timers' News*, Vol. II, No. 4, February 1960, pp. 14-20, found in Dixie National Forest Historical Documents, Vol. I.

[194] *Ibid.*

[195] Dixie National Forest Historical Documents, Vol. II and IV.

[196] *Ibid.*, Vol. IV and VI.

[197] Woolsey, pp. 208-209.

The Forest Service telephone system consisted of a single-line ground return system stretched from tree to tree through the forest. This system necessitated considerable maintenance and involved some hardship for rangers. When March winds blew out a telephone line at the 10,000-foot level on the Aquarius Plateau, Wilford Bentley was sent to find and repair the break. The snow had drifted to 20 to 30 feet deep. It was well into the day before he started so he rode only 12 miles on horseback from the ranger headquarters to a temporary station the first day. The next day he rode an additional eight miles before the snow became too deep and crusted for his horse to continue. He tied the horse, put a sandwich and a hand ax in his gear and started on foot through the deep crusted snow. He found the break where a tree had blown across the line four and one-half miles beyond where he tied his horse.

Repairs were made before he decided to make a lunch of the sandwich. Unfortunately it had slipped out somewhere. When he started back, he found the midday sun was making the snow slushy and allowing him to fall through the crust to his arm pits. Soon he was hungry, wet, tired, and weak. He used his light ax to cut some aspen to make temporary emergency snowshoes. When he reached where he had tied the horse, he made a fire, stripped and dried his clothes before beginning the return journey.[198]

Under such circumstances it was no wonder there was much concern in the Forest Service about the physical hardyhood of rangers. They indeed had to be men who could perform hard work in trying conditions, and most could. William L. Mace observed that when he arrived on the Dixie in July 1916, all the rangers were over six feet in height and weighed over 200 pounds.[199]

Another major technological advancement besides the further extension of telephone lines was the automobile. Until 1913 the Forest Service employed a private horse policy wherein each ranger was to equip himself with a horse or horses and equipment. By the end of World War I, some Forest Service personnel owned their own automobiles. In what was officially encouraged as almost an extension of the private horse policy, forest personnel frequently placed their private vehicles at the disposal of the government. Rangers who owned cars were

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[198] Dixie National Forest Historical Documents, Vol. II.

[199] *Old-Timers' News*, Vol. II, No. 4, February 1960, pp. 14-20, found in Dixie National Forest Historical Documents, Vol. I.

Ranger William Hurst, Panguitch, Utah, on duty with his pickup truck. (Photo William Hurst, II, Bosque Farms, New Mexico.)

Ranger William Hurst on Queen on the Forest. (Photo courtesy William Hurst, II, Bosque Farms, New Mexico.)

expected to use their own vehicles. William M. Hurst found it necessary to have a low range gear put in his pickup to increase its power for all the use it was receiving on the Dixie National Forest. William L. Mace covered 2,000 to 2,500 miles a year in his personal car doing Forest Service business.[200] On some ranger districts, no automobile mileage was allowed even though private vehicles were used.[201] For the first time in 1918, the ranger was allowed an expense of $20 for the year for auto mileage from Panguitch to Tropic and Red Canyon areas.[202] Total travel expense for the fiscal year of 1918 was $309. In February of 1917, per diem was introduced and for 1918 the per diem totaled but $325.[203] It was not until 1926 and 1927 that cars and trucks made their way into official use on the forest.

As a human organization, the Forest Service began small and has shown a continuing tendency to grow. The development of the southern Utah forests from 1911 to 1930 graphically demonstrated this trend. A better definition of purposes and objectives, consolidation, technological advances and the growth of personnel in numbers and expertise enabled the Forest Service to vastly intensify forest administration. These years were filled with change and adaptation and steps toward modernity in forest management in southern Utah were realized.

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[200] *Ibid.*, and Dixie National Forest Historical Documents, Vol. II.

[201] Dixie National Forest Historical Documents, Vol. IV.

[202] *Ibid.*

[203] *Ibid.*

Chapter 7

THE DEPRESSION ERA: 1930 TO WORLD WAR II

There perhaps have been no changes in overall Forest Service administration since its inception which could accurately be described as revolutionary. But the Great Depression brought a number of significant changes in administration, perhaps as many as any other era, and some perhaps were near revolutionary in their significance for the Dixie National Forest and the Powell which was later to become a part of the Dixie.

Times had been bad for Utah agriculture, stock raising, mining, and timber interests through much of the 1920's, but the Great Depression resulted in the most adverse conditions these industries had yet experienced. As if depression itself were not bad enough, drought was added to low prices and poor demand. Due to the stagnation and decline of basic southern Utah industries during the 1920's, southern Utahns were experiencing economic depression long before the rest of the nation was shocked by the New York Stock Market crash in the fall of 1929. With the national crash came additional price declines and further lost markets.

Stockmen complained that expenses had increased to the extent that the costs of operating on a small scale were just as heavy as operating on a large scale. Where their expenses used to be only their time, it had now become their time plus costs of feed, increased taxes, transportation, marketing, etc. Business had slowed and unemployment had increased. Many businesses which used to furnish stockmen with supplies had gone out of business or into other lines. Taxes had become delinquent largely because stockmen could not sell their stock. Some stock had gone for taxes. Banks that financed the livestock industry faced difficulties because notes and mortgages on livestock had gone unpaid and foreclosures had increased. Many financial institutions had obligations which they could not meet and were thus forced to close their doors. Land values had decreased and as a security land was a glut on the market and could no longer furnish the security to borrow money. As a result, many men could not find sufficient funds to operate. Ranches that once flourished were ghosts of yesterdays. People were being forced to look to other resources for a livelihood and support.[1] Under these circumstances, resource use on the forest tended to decline. Coal production was significantly reduced, what had been a small timber harvest shrank even lower and numbers of sheep and cattle grazing on Forest Service lands tended to decline as well.

During the ensuing years of the Great Depression, there was a greatly increased involvement of federal agencies as the New Deal created programs to bring relief, recovery, and reform. The New Deal called upon the National Forest Service to play an important role in these plans. Shortly after his inaugural in 1933, Franklin D. Roosevelt sent Congress an urgent request for legislation to put unemployed young men to work in conservation jobs. FDR and his advisors had been considering this plan for several months and so when Congress passed the Emergency Conservation Work Act on March 31, 1933, they could move swiftly to put the program into place.

Within weeks the first Civilian Conservation Corps camp was occupied and by July 300,000 young men were at CCC camps all over the United States. At first the Forest Service was the sole CCC employer and it continued to employ about half the enrollees. Forest supervisors were willing and able to put large numbers of men to work. They had early begun to plan how they would use additional manpower to carry out long-range plans for forest improvements. For years the Forest Service had been short of funds and manpower for tree planting, timber stand improvement, recreational development, building of telephone lines, firefighting, road and trail building, and scores of related jobs on the forests. Quite naturally the Forest Service responded eagerly to this opportunity. Its camps were the first established and often the last closed down, some of them existed from 1933 to the end of the CCC experience in 1942.

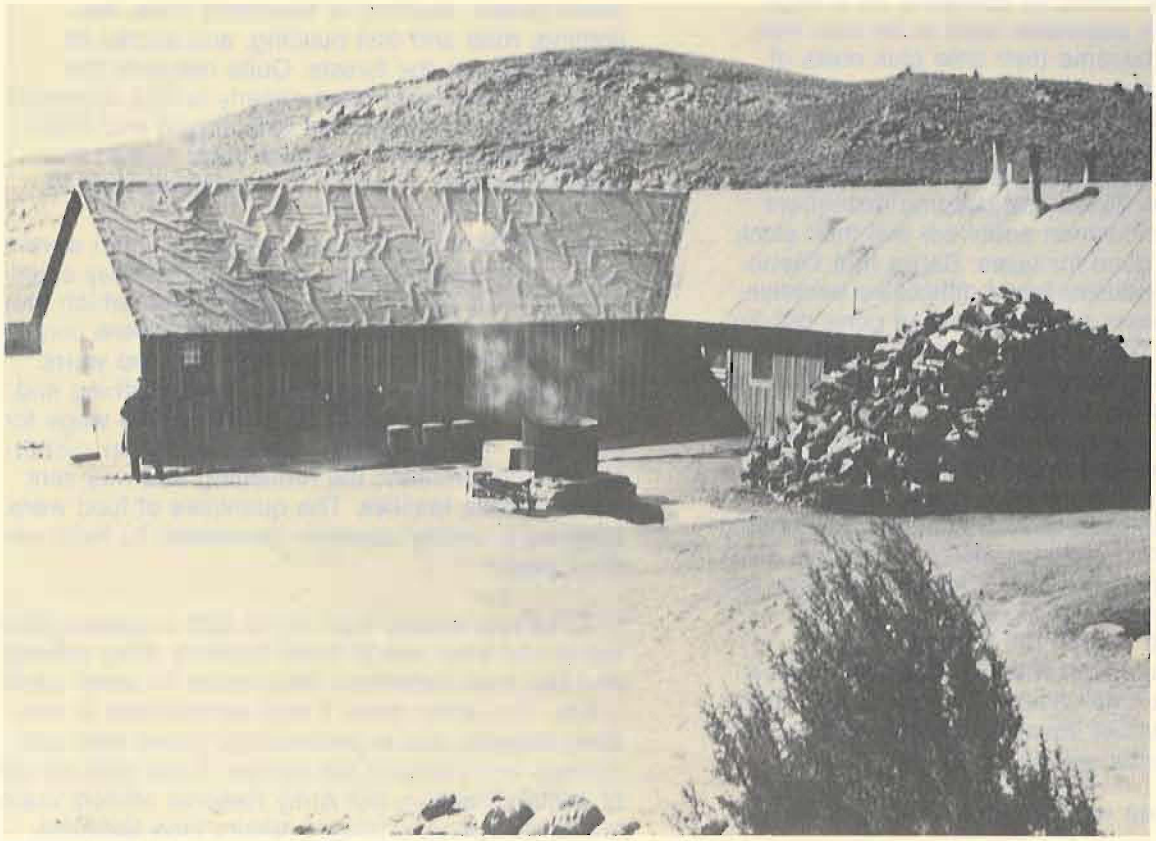
Initially CCC enrollees were unmarried men seventeen to twenty-one years of age. At first they could sign up for a period of six months, after which they were allowed another term. Later they were permitted to continue in the Corps for up to two years. The pay was $30 a month plus food, clothing and shelter which seemed to be a reasonable wage for the times. The enrollees were given $5 per month for spending money; the remaining $25 was sent home to their families. The quantities of food were planned to satisfy appetites developed by hard outdoor labor.[2]

CCC camps usually had 150 to 220 enrollees. Each camp had from one to three Reserve Army officers and technical personnel responsible for work supervision. The army, since it was experienced in handling recruits, was to process the young men and operate and maintain the camps. There was no drill or military training, but Army Reserve officers maintained discipline, arranged leisure time activities,

[1] Interview with Joseph A. Terry at Enterprise, Utah October 21, 1935, found in Forest Service Historical Documents.

[2] Dixie National Forest Historical Documents, Vol. I and VI.

Typical CCC camp of Southern Utah. (Photo courtesy Lynne Clark Photography Collection, St. George, Utah.)



CCC barracks in Southern Utah. (Photo courtesy Lynne Clark Photography Collection, St. George, Utah.)

and provided suitable food, clothing, and shelter. Foresters, engineers, and experienced foremen supervised much of the work. There were a few local experienced men known as LEM's who assisted in the supervision. Some of these were men who had previous work experience with the Forest Service.

The hiring of technical personnel was at first under political control. The project supervisor for each camp was selected from a list of men approved by the District Congressman. These jobs were much sought after since they paid rather well at $1,200 to $1,800 a year. Sometimes the project supervisors made more money than the local forest ranger to who they reported. Obviously the forest ranger had more responsibility having to deal with land acquisition, timber sales, fire suppression, telephone lines and services, fire lookouts, public information, special-use permits, complaints, and a host of other issues. He was the backbone of forest administration. Generally the forest ranger had the greatest influence on the image that the local people held of the Forest Service. He also dealt with people who had recreational interests in the forest. For these reasons salary equalization eventually came about. Forest rangers saw their salaries increase and their jobs become more desirable. The Forest Service began to be considered a more attractive occupation, and some of the CCC supervisory personnel later became Forest Service employees subject to Civil Service regulations.

The CCC experience was important in enhancing Forest Service employment. Previously Forest Service personnel were mainly self-educated individuals generally from rural backgrounds born and raised in the mountain west. Ordinarily the early Forest Service employees had little or no formal forest or range education.[3] The bulk of the employees on the Dixie and the Powell National Forests were born and raised in southern Utah, and when they retired, they tended to remain in the communities of Richfield, Monroe, Beaver, Escalante, Bicknell, Panguitch, Cedar City, St. George, etc.[4]

The CCC forest work attracted much public attention and was quite favorably received by the American people. The general public was suddenly more aware of and more interested in the Forest Service and its activities. Forest lands were providing thousands of jobs, and the Forest Service as a forest resource manager was being greatly enlarged by the New Deal. As forests were consolidated and enlarged, employment for a small army of specialists such as surveyors, timber experts, land purchase agents, etc. was created. After a term in the CCC, job placement for the enrollee was important. Sometimes the Forest Service was able to arrange regular jobs under Civil Service for some of the outstanding CCC enrollees.

Many of the CCC boys were transplanted from the East to the sparsely populated western states, where most of the national forest lands were located. The Forest Service thus became responsible for job related training. The Forest Service supervisors generally broke each job into a number of simple steps and then the enrollee went through the task step-by-step until he understood how to do it. A pamphlet entitled "Woodsmanship for the CCC" was printed by the Forest Service and issued to each enrollee. It explained clearly, with many illustrations, how to use an axe or crosscut saw safely, and how to recognize potential hazards such as poison ivy.

Other materials were developed to teach enrollees the basics of firefighting. CCC enrollees became the first line of fire defense. Besides the basic firefighting instructions they were indoctrinated in the Forest Service dictum that fires should be prevented. The Dixie and the Powell were rated asbestos forests, that is forests with a low fire hazard. The average was 4-6 small fires annually on each forest with most being lightning caused.[5] Nevertheless, the CCC boys were still the first line of fire defense.

In addition to forest experience, CCC enrollees were provided an opportunity to acquire an education. Serious efforts, usually successful, were made to teach the fundamentals of reading and arithmetic to those needing remedial help. There were also a wide variety of other courses including vocational courses and academic classes. Many were given training and valuable on-the-job experience with heavy equipment and in white collar clerical posts.

The New Deal Forest Service activities resulted in awareness. This underlined the need for experts with training. Some were trained as future full-time employees. There were also improved wages up to the levels of project supervisors thus making Forest Service work more attractive. The result was the emergence of a new group of forest officials and employees. Although the majority of the new group were also western born and many had rural roots they were now more typically better trained and better educated with a greater degree of specialization. Now new Forest Service officers were generally formally trained in forest and range management at colleges and universities. Additionally, the training experiences with the CCC boys were carried over to a series of training experiences to upgrade the skills of some full time Forest Service employees.[6]

The Forest Service was playing an important role

[3] Dixie National Forest Historical Documents, Vol. IV and V.

[4] *Ibid.*, Vol. I.

[5] *Ibid.*, Vol. IV.

[6] *Ibid.*, Vol. III.

and was itself an immediate beneficiary of much of the CCC effort. Some of the residents of the local communities were not always as sure of the immediate benefits. The arrival of so many young men in rural southern Utah was bound to create some tensions. The first CCC recruits were generally unemployed youth from large towns and cities from heavily populated urbanized states such as New Jersey, New York, and other states with high unemployment rates who were accustomed to different standards of behavior and a different way of life. The natives and these "outsiders" sometimes regarded each other as strangers.

Between 1933 and 1941, CCC camps were established in the vicinity of Escalante, Grover, Teasdale, Veyo, Parowan, Leeds, and Cedar City. The Dixie and Powell averaged three spike and summer camps annually.[7] Sometimes these camps would send truckloads of young men to the nearest town for recreation. The boys usually were free to wander about town to spend their limited pocket money in the stores and to visit the local movie theater. Some of the smaller more isolated camps went almost unnoticed except by those locals who were employed there or who did business with the camp. Larger camps, and those closer to towns, made their presence felt more continually. Eventually the camps came to be considered beneficial because of their contribution to the local economy.

The camps themselves were usually roughly built collections of wooden buildings, often unpainted. One building or sometimes a series of small cabins, provided quarters for the officers in charge of the camp, for the project supervisors in charge of the work and the camp educational advisor. The largest building in a camp would be the kitchen and dining hall, with a recreational room either in the same building or nearby. The boys were often housed in tents, but in more permanent locations they were housed in rough wooden barracks, sometimes with bathroom facilities attached. Some of the lucky camps had separate bath houses. Oftentimes there were several sheds for trucks, road machinery, and storage. These buildings were heated by wood or coal burning stoves.

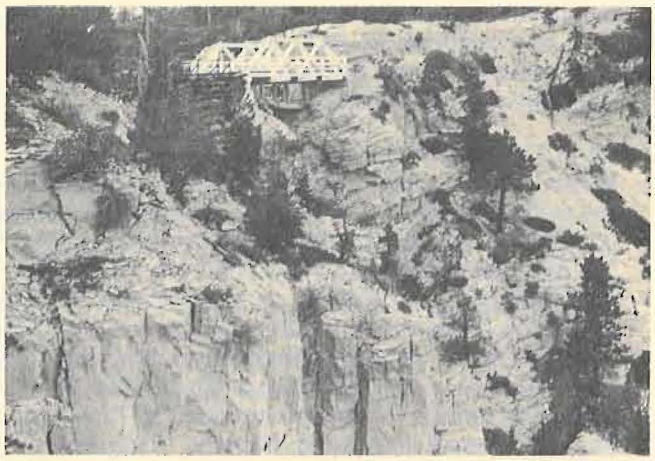
One of the biggest jobs undertaken by the CCC was road and trail construction. The enrollees built high-quality roads in some areas to open up the forest for timber harvesting or recreation. They also built truck trails or fire roads. This did much to open up the forest for recreational use by hunters and hikers. Early-day wagon roads underwent considerable improvement on the Dixie. The Pinto-Pine Valley-Central roads were drained and graveled. The road from Enterprise Reservoir to Moody Wash was improved. A new road was constructed to Oak Grove and a campground constructed there along the foot of Pine Valley Mountain. Another road was built along the foot of Pine Valley to the Cottonwood Ranger Station and another from Highway 91 to Browse.

On Cedar Mountain a road was built up Second Left Hand Canyon (Center Creek) and over the summit to Castle Creek to connect with another CCC built road from Cedar Breaks to Brian Head and to Panguitch Lake. Existing roads to the Mammoth and into Little Valley were improved. A road was built up Strawberry Valley to the Strawberry Point Lookout. On what was then the Powell a road was built up the East Fork of the Sevier River to the Tropic Reservoir. The road from Utah Highway 24 to the Aquarius Ranger Station was improved as well as construction done on the road through "The Gap" to Cyclone Lake.[8]

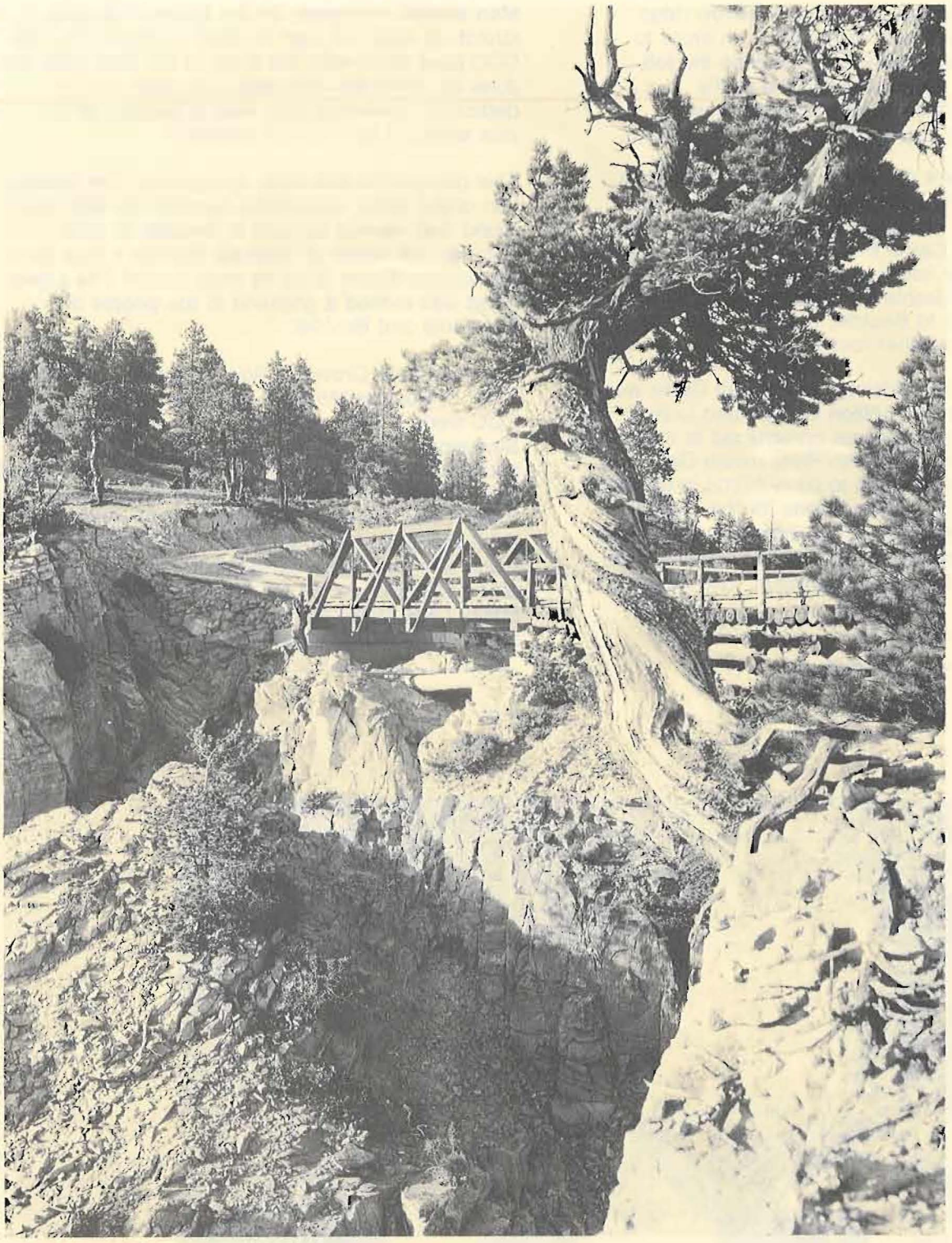
The greatest stride in improvement was the construction of a road from Escalante to Boulder and from Grover in Wayne County to Boulder. The upper road from Escalante to Boulder, via "Hell's Backbone" was opened in 1933. The outstanding

[7] Civilian Conservation Corps-Utah, Dixie National Forest, summary report in Dixie National Forest Historical Documents, Vol. VI.

[8] *Ibid.*



Hells Backbone bridge, built by the CCC in 1933. (Dixie N.F. photos.)



Hells Backbone bridge. (Dixie N.F. photo.)

obstacle was to bridge the top of a narrow ridge between Salt Creek and Sand Creek. In order to keep the entire crew busy and complete the job, Lionel Chidester, the foreman at the Hell's Backbone Bridge site, started the bridge work months before an approach road was constructed.

The Liston Brothers packed in via mule pack train the necessary supplies including lumber, cement, and even sand. The bridge was completed before the CCC boys of Camp F-18 at Hungry Creek left in October for winter camp in California.[9] This road to Boulder became usable in the fall of 1933. It was the first auto road to Boulder, but was considered only a good dry weather road.[10]

The lower road to Boulder by way of Calf Creek was sometimes called "the Million Dollar Road to Boulder."[11] A concrete bridge was constructed at the crossing where the Escalante River meets Calf Creek which was designed to allow floods to go over the top. Since CCC appropriations for the construction were exhausted, the bridge expense was shared by the Forest Service, the District Five Grazing Unit and the Garfield County Commission. The cost was $1,750.[12]

[9] *Ibid.*, and Vol. IV, as well as Griffin pp. 191-192.

[10] *Ibid.*, and Griffin p. 193.

[11] *Ibid.*

[12] *Ibid.*

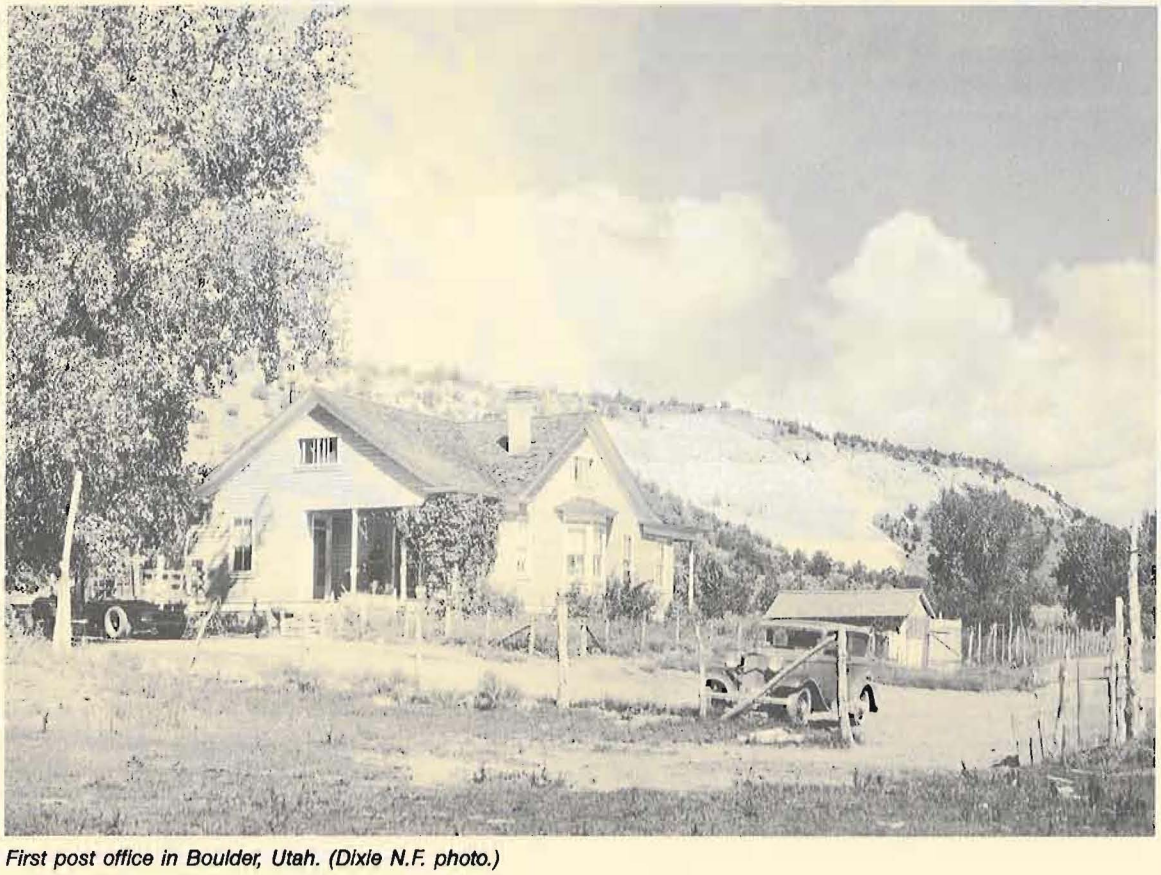
Men worked constantly on the twenty-nine mile stretch of road. On April 3, 1940, at 10:57 a.m., the CCC boys celebrated the firing of the final blast. On June 21, 1940, the road was completed and a dedication ceremony was held in Boulder which was attended by over 600 people.[13]

This celebration was most appropriate. The completion of the lower road made possible the first year-round mail service by auto to Boulder in 1940. Through the winter of 1939-40, Boulder's mail service had continued to be by mule train.[14] The Lower Road was indeed a godsend to the people of Escalante and Boulder.

The road from Grover to Boulder around the "East End" of Boulder Mountain had been begun with CCC work in 1933. It was the men of Camp F-19 at Singleton Creek located about fifteen miles southeast of Teasdale and Grover under direction of Superintendent Parley Jensen who constructed this road. It was, however, not well finished when the CCC was pulled off this project. NIRA labor by 1936 made this road more serviceable. Later work was also necessary on the CCC constructed above Posey Lake, through the Gap to Cyclone Lake. The forest in cooperation with Pearson and Croft

[13] *Ibid.*

[14] Woolsey.



First post office in Boulder, Utah. (Dixie N.F. photo.)

Lumber Company extended this road across Griffin Top and down to intersect with the main road.[15] The actual CCC fund expenditure for roads on the forest amounted to $360,000 with the many bordering and approach roads costing a great deal more.[16] Commencing in 1935, W.P.A. and E.R.A. crews also built several improvements on the forest including roads.[17] It is virtually impossible to overestimate the impact of New Deal agency road and trail construction on the Dixie National Forest, the users, and the surrounding communities.

The CCC boys also constructed and improved recreational facilities. This seemed to be a natural outgrowth of road building. Since the new roads and automobile ownership were making the forest more accessible for recreation, it seemed appropriate to put some of the CCC boys to work building campgrounds. These campgrounds came to include shelters, toilet facilities, picnic tables, fireplaces, parking lots, water supply systems, garbage bins, and playgrounds. A related activity was making and erecting signs to direct visitors to the facilities and to points of interest.

At the inception of the CCC program, Pine Lake was the only improved campsite on the Powell National Forest land.[18] There were only five on the Dixie. Before the conclusion of the program, the CCC had built or improved fifteen different locations and completed some 450 individual camping units on the Powell and Dixie National Forests. The approximate cost of this endeavor was $260,000.[19] In 1936 alone, the CCC's on the East Division of the Powell constructed five camp service buildings, seventy-five camp tables, twenty-five garbage pit covers, and one power house.[20]

The Forest Service's avowed interest in "making national forest recreation resources play a more definite part in the economic and social welfare of tributary communities and of the nation at large,"[21] did not go unnoticed or unopposed. Secretary of the Interior, Harold Ickes, felt very strongly that all federal recreation areas should be managed and controlled by the National Park Service.

[15] Griffin, p. 194.

[16] Civilian Conservation Corps-Utah, Dixie National Forest, summary report in Dixie National Forest Historical Documents, Vol. VI.

[17] Dixie National Forest Historical Documents, Vol. IV.

[18] *Ibid.*

[19] Civilian Conservation Corps-Utah, Dixie National Forest, summary report in Dixie National Forest Historical Documents, Vol. VI.

[20] *Ibid.*

[21] Memorandum July 11, 1932, A. D. Morse, Acting Regional Forester, subject "Recreational Confidential."

To Ickes, the role of the Forest Service should be confined to growing trees. But with the labor available to develop picnic areas and campgrounds, the Forest Service was not about to back off its intention to give increased consideration to expanded development of forest recreational potential. The Forest Service position was that "recreation was a very important place in national forest management."[22] People were exchanging money for

[22] *Ibid.*

Brian Head Peak overlook, built by the CCC. (Dixie N.F. photo.)

Panguitch Lake campground amphitheater, built by CCC in 1934. (Dixie N.F. photo.)

recreation as they would for a commodity such as lumber or wool grown on the forest. It became a cold-blooded business proposition on one hand and a social service on the other.

The Forest Service did not wish to imitate the National Park Service. In fact the forest officials did not attempt to resist the transfer of Cedar Breaks Monument on August 22, 1933, from the Forest to the Park Service.[23] Nevertheless, there was a strong feeling that the service had an opportunity and an obligation to develop its own recreational policy which would be unique. Feeling that the Forest Servie had to show that it was just as capable of administering outstanding scenic features in the public interest as the Park Service, it became the duty of all forest officers to make the national forests contribute to the fullest degree to recreation.[24]

From a public relations standpoint, it was evident that the Forest Service was judged by what the public saw on its trips through the forests. The average man did not worry a great deal if his timber supply was being exhausted, but tell him that his fishing streams were drying up or that the trees of his favorite campground were being cut or killed and he would soon take notice and lend his support to remedy the situation. The correct use of recreation could even serve the Forest Service in calling attention to the damage done to the mountains by overgrazing and misuse in previous times, and assist in correction.

The CCC gave the Forest Service the opportunity to telescope many years worth of recreational improvements into a few years. It certainly took advantage of this opportunity. The CCC work at recreational sites and campgrounds in the Dixie National Forest did much to enhance the forest's beauty. This seemed to be only right once their work had served to make the forest more accessible.

In 1930, there were five developed campgrounds located at Pine Valley, Sunset, Navajo Lake, Duck Creek, and Parowan Canyon. There were about 40,000 recreational visits to the Dixie National Forest in that year.[25] In 1935, the visitations had increased to 56,909. The main attractions were Zion's overview, Navajo Lake, Pine Valley, Aspen Mirror Lake, Panguitch Lake, Mammoth and Duck Creeks, Brian Head, Blow Hard Point, Vermillion Castle, and Mt. Charleston on the Dixie's Nevada division. At these locations the visitors found up-to-date camp-

[23] Dixie National Forest Historical Documents, Vol. I.

[24] Memorandum July 11, 1932.

[25] *Kanab Weekly News*, July 17, 1931.

Playground at Webster Flat Recreation Area. (Dixie N.F. photo.)

Outdoor amphitheater at Duck Creek Recreation Area. (Dixie N.F. photo.)

grounds with ready access, toilets, water systems, tennis courts, shelters, wading pools, swings, horseshoe courts, volleyball courts, teeter-totters, etc.[26] Recreation was now more firmly established as one of the many uses of the forest.

Closely allied to recreation, in fact a part of it, was game and wildlife management. There were numerous streams and lakes with good fishing on the forest and these all came in for their share of acclaim as the Forest Service continued its emphasis on recreation. Duck and waterfowl had always been numerous on the mountain lakes in the summertime and the best sage chicken grounds in the state were within and adjacent to the Powell National Forest.[27] But the main game animal in Utah was the mule deer. Both antelope and deer were regarded as numerous at the time of settlement. Later the game became scarce and about 1900 became almost extinct in some areas of the forest. In 1912, the Dixie unit (Pine Valley Mt.) was closed to hunting and remained closed until 1927. During this period the deer increased rapidly and by 1935 they exceeded the carrying capacity of the range in some locations.[28]

Ranger Swapp checking browse in overused deer range. (Dixie N.F. photo.)

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[26] Dixie National Forest Historical Documents, Vol. VI.

[27] *Ibid.*, Vol. IV.

[28] Range Report October 15, 1935, found in Dixie National Forest Historical Documents, Vol. VI.

By 1930, the Dixie National Forest officials were assuring sportsmen who believed that most of the bucks had been killed off that there were adequate numbers. A range ride would convince anyone of that fact.[29] That fall 1,500 bucks were taken in the general hunt from the Dixie.[30] The Powell was a different story, however. In the 1930 general hunt, only 170 bucks were killed by 470 hunters.[31] These figures would bear out the general conclusion of residents and stockmen that in Garfield and parts of Piute and Wayne Counties the deer had not come back as well as in Washington, Iron, and some parts of Kane County. The two divisions of the Powell, the Powell with 702,470 acres and the Sevier with 372,357 acres, had not produced many bucks.[32]

Deer hunting camp on the Markagunt Plateau area. Left to right, Dee Prichard, Robert Mitchell, Marvis Rasmussen, Jack Dalton, Mandell Rasmussen, Homer C. Parcells, Alden Robb, Ward Mortensen, Stan Nieldo, Claude Geno. (Dixie N.F. photo.)

On the two divisions of the Dixie that lay within Utah, the story continued quite different. The Sevier Division of the Dixie lay in Iron and Kane Counties and covered the west portion of the old Sevier Forest. The Dixie Division of the Dixie National Forest covered Pine Valley Mountains and contiguous areas west to the Utah-Nevada line. In these two divisions there were over 800,000 acres in the forest.[33] On these divisions the deer herds had continued to increase to the point that it caused concern for the stockmen and the Forest Service. In 1934, the grazers petitioned the Forest Service to save the range from the deer. They regarded deer as the "greatest menace to the livestock industry in southern Utah."[34] The numbers were growing annually in a seemingly unregulated fashion, except for a "few desultory efforts" at regulation on Pine Valley. The great number of deer migrated to the summer range much too early to suit the grazers who maintained that they were willing to accept "reasonable" numbers of game; however, the herd had reached the point that "either deer or livestock must give way."[35]

Even though the deer ran on the forest and the petition came to the Forest Service there was a limited amount the Forest Service could do. Game management was a joint venture. Forest lands are subject to state laws regulating hunting and fishing. Limits on the hunting season, the hunters' bag and hunting and fishing requirements are set by the state. The purpose of such controls is to manage and improve hunting and fishing in the forests and to preserve the possibility of such sports in the future. Even though the game might reside on federal forest lands and the Forest Service was expected to assist in game management, there were no federal fees charged for hunting and fishing in the national forests and the Forest Service could only use persuasion with the state game officials in the setting of game rules and regulations.

The Forest Service assisted in game management through its improved fire control since fires were devastating to habitat and game. It also worked to prevent pollution and trash problems; Forest Service employees were expected to enforce fish and game laws; and finally, where game had been shot out or strayed out of some areas, restocking could and did take place. Transplanting had taken place with elk on the Dixie National Forest as early as 1923,[36] but with the assistance of the CCC boys in the 1930's, the transplanting of wildlife was accelerated. Restocking took place with wildlife from overpopulated areas being transplanted to understocked areas.

The Forest Service also worked with the Fish and Game Department to regulate the herds through special hunts and issuance of doe permits. This created some contention with the Fish and Game Department as the state generally resisted the idea of harvesting does. Nevertheless, during the 1934 and 1935 hunting seasons, the Forest Service was able to convince the state that overgrazing and an ever increasing supply of deer necessitated the issuance of hundreds of doe permits on the Dixie National Forest. The result was that hunter pressure increased and hunter success was high for both the buck and doe hunts. Over 3,000 out-of-state hunters hunted the forest lands of the Dixie in each of these two seasons with 70 percent success. In 1940, in conjunction with the Utah Fish and Game Department, a more rational approach to planning

[29] *Ibid.*

[30] *Kanab Weekly News*, July 17, 1931.

[31] Dixie National Forest Historical Documents, Vol. IV.

[32] *Ibid.*

[33] *Ibid.*, Vol. VI.

[34] *Ibid.*

[35] *Ibid.*

[36] *Ibid.*, Vol. I.

[37] *Ibid.*, Vol. VI.

and regulating the deer harvest was arrived at. Dixie National Forest officials and Game officers agreed to take a cooperative deer census with the counts to be made the first weeks of March. A deer census would provide better information as to how many deer the range could support and how many existed. The harvest could be adjusted accordingly.[38]

Since both game and livestock competed for the grass and forage on the forest, grazing conditions remained a major Forest Service concern. The greatest strides in range improvements were commenced in 1933 again in conjunction with and coinciding with the creation of the Civilian Conservation Corps. The range rehabilitation work of the 1930's went far towards repairing damage done by overgrazing both before and after the creation of the Forest.

When the settlers first arrived, the density of vegetation has been surmised to have been in the neighborhood of 7/10. The dominant species included: fescue, blue stem wheat, giant rye, nodding brome gramma, red top, mountain timothy, bendlers blue grass, snowberry, serviceberry, chokecherry, gooseberry, currant, elderberry, yarrow, dandelion, columbine, aster, sego lily, Indian paintbrush, lambs quarter, alfilayia, largo and larkspur.[39]

[38] *Ibid.*

[39] Special Range Study October 19, 1935, by William M. Hurst, found in Dixie National Forest Historical Documents, Vol. V.

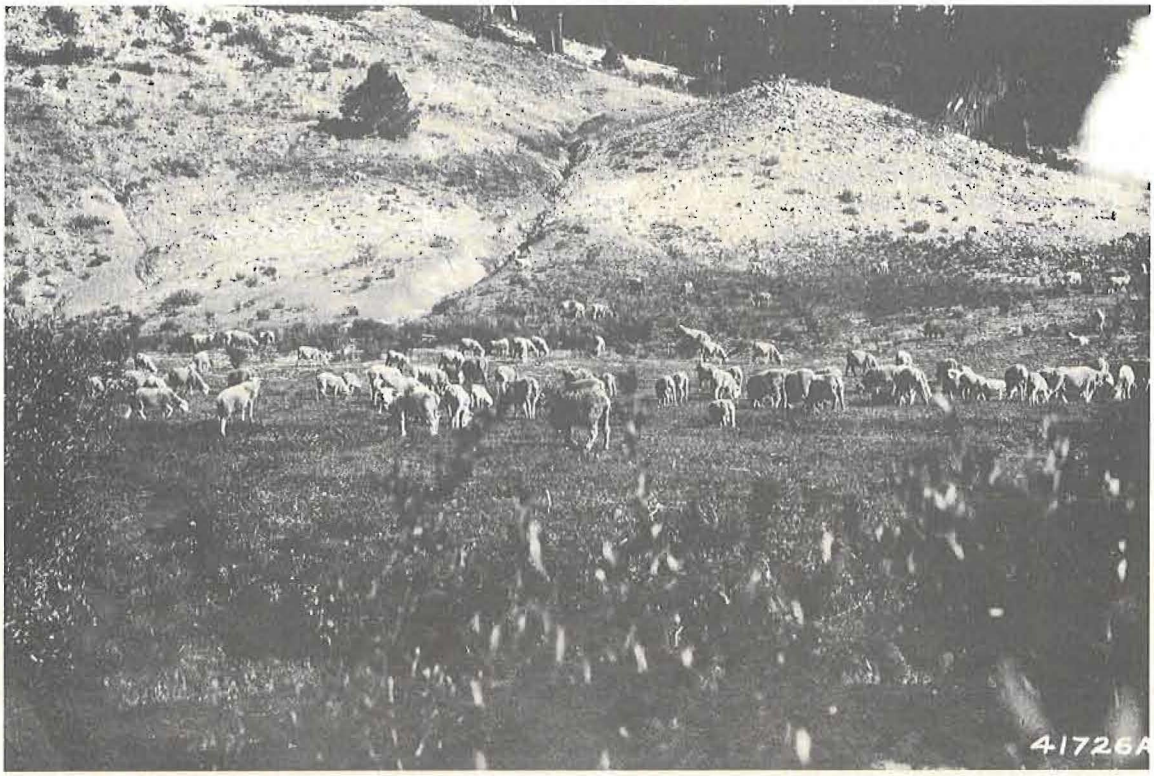
Farming and stock raising had been a principal activity since settlement. Overgrazing before the establishment of the Forest had created a need for range conservation, but little had been done in the early years of Forest Service administration. Depletion of the range at the time of withdrawal in 1905 was judged to range from 25 to 100 percent.[40] In 1905, 16,600 head of cattle and many head of sheep were permitted on the Dixie. This was far in excess of the carrying capacity of the range.[41] The seasonal grazing for cattle in 1905 was from April 1 to November 15 and even as late as November 30, in some instances. Sheep were allowed on the forest on May 1 and taken off by October 31 in 1905.[42]

The Forest Service continued to allow too many sheep and cattle on the forest. Officials were slow to make significant grazing reductions primarily because the principal resource in southern Utah was the livestock industry. Between 1914 and 1932, there had been a gradual reduction of permitted cattle but sheep had increased. Rather than reduce the overall numbers of livestock grazing the forest, the Forest Service attempted through the medium of "better range management practices" to hold as many livestock on the range as possible. The

[40] *Ibid.* Special Range Study October 23, 1935

[41] *Ibid*

[42] *Ibid.*



Sheep at Long Valley. (Dixie N.F. photo.)

primary practice was to reduce the grazing season. The cattle grazing period was reduced with some allowed on the lower forest areas on May 1, in some other areas it was May 16, but the majority came on the forest on June 1 and terminated grazing October 15. A similar seasonal reduction came to sheep grazers also.[43]

By 1935, range conservation officers were concluding that if grazing permits had been reduced in 1910 to the carrying capacity of the range, the depleted range would have recovered.[44] But since this had not been done other steps needed to be taken. Vegetation density had been reduced to between 3/10 and 5/10,[45] and few areas with no depletion could be identified.[46] New emphasis was placed on range and grazing reconnaissance. Extensive reconnaissance were made in 1930, 1935, 1936, and 1939.[47] These confirmed the depleted condition of the range and helped in planning and planting programs.

In 1925, the Forest Service had initiated a ten-year contract plan between permittees and the Forest. The first of these ten-year grazing contracts ended with the 1934 grazing season. With the inception of the ten-year contract some minor reductions in permits had taken place, but during the contract term little or no reduction in numbers of stock had occurred. Conditions on the forest had remained at a standstill or in some instances even declined.[48] The Forest Service was determined to now make some significant reductions in order to rehabilitate the range. With proper stocking and moderate grazing, it was felt that forage plants would produce even under adverse climatic conditions such as those of the drought years in 1932, 1933, and 1934. Some fenced areas that were not grazed did relatively well during the drought. However, on the open range up to 50 percent of the stock died due to the drought.[49] With reductions in stock and better weather conditions those sheep and cattle left on the forest would hopefully do better, since some maintained that the weight gains of the livestock had generally depreciated 10-25 percent over time.[50]

When permit reductions came, the stockmen complained and filed protests. In most instances range surveys indicated evidence of heavy utilization and overstocking with reductions being fully warranted.

[43] *Ibid.*

[44] *Ibid.*

[45] *Ibid.*

[46] Map of forest depletion and restoration October 14, 1935, found in Dixie National Forest Historical Documents, Vol. VI.

[47] Dixie National Forest Historical Documents, Vol. IV.

[48] *Ibid.*, Vol. V.

[49] *Ibid.*, Vol. IV.

[50] *Ibid.*, Vol. V.

Where lambing privileges existed on the forest it was suggested that they also be eliminated at the first opportunity.[51] There, however, was a pronounced sentiment among the old-time grazers that overgrazing and overcrowding was not responsible for the present condition of the range. They blamed drought, jackrabbits, grasshoppers, insects and blight. It was only natural that they would not want the responsibility to rest upon their shoulders. It was easier to attempt to shift the burden to God and Mother Nature.[52] Nevertheless, the Forest Service held to its contention that grass and browse had been killed by overgrazing.

Responding to the hard times and petitions, the Forest Service did agree to reduce grazing fees and allowed permittees to postpone payments, but not cancel them. Grazing fees were set at 16-19 cents per head per month for cattle and 20-23 cents per horse and 4-1/2 cents for sheep. These fee schedules produced an average annual revenue of $20,000.[53] In 1934, Escalante stockgrowers petitioned first through Congressman Abe Murdock and then by resolution to the Forest Service for cancellation of delinquent grazing fees. The Forest Service denied the cancellation request because it was found that of 155 permittees only 36, or 23 percent were delinquent. Eight owed less than $10, eleven owed between $10 and $25, and seventeen owed more than $25. The five signatures on the petition included the men who were 1, 2, 3, 5, and 6 in size of grazing permits and in amount due. The Forest Service felt it would be unfair to those who had paid to cancel, and it would also be a situation in which the large grazers had used the little men to accomplish their purpose.[54] While the Forest Service would not allow cancellations, it was a tolerant creditor, and payments continued to be postponed.

Another new method of range management emphasized in the 1930's was commensurability standards. This required the ownership of land by the permittee. In some areas, acreage proposals had been suggested as the standard, but the Region Four officials in Ogden and Dixie National Forest supervisor and rangers did not like it because some land was more productive than others and acreage did not tell anything about the capability of a grazer to feed his stock when it was off the forest. Some land might produce six tons of hay per acre as opposed to some producing one ton. The standards that were set were designed to fit the peculiar needs of the locality, keeping in mind the customary practice of livestock operations in the locality. The new standards provided that if a range permit had

[51] *Ibid.*, Vol. IV.

[52] *Ibid.*

[53] *Ibid.*, Vol. I.

[54] Letter of February 14, 1934; February 24, 1934; and March 2, 1934, found in Dixie National Forest Historical Documents, Vol. IV.

been acquired through prior usage no commensurate ranch property would be required, but the user was subject to a heavier allotment reduction if he did not meet commensurability standards. If first time use was being sought either through a new grant or purchase of an existing grant, it became mandatory to own commensurate ranch property in proportion to the guidelines. Examples of the standards on the Dixie provided that a grazer of 1,000 head of sheep must own sufficient crop-producing land to grow at least 60 tons of hay or ten tons of hay and sufficient spring and fall range to provide for the permitted sheep for at least 40 days during the spring and fall period. These standards varied from division to division on the forest.[55]

Another major range management technique of the 1930's was planting and reseeding. Experimental plots had been planted on the Dixie National Forest as early as 1910, but these had not been successful. Continuing research and study were carried on until the days of the CCC when the first significant plantings were made.[56]

To determine effectiveness, plots were fenced on the Dixie National Forest. In all there were thirty-two fenced areas, one of them having been fenced for twenty-three years. The ground cover at this site had regenerated to 7/10 density while that on adjacent range outside the plot remained at 3/10. In areas where the range had been fenced for only two of three years there was evidence of greater density and better varieties of forage plants were beginning to re-establish themselves. From these studies it was concluded that the range was producing only 55 percent of its potential. Even at that the Forest Service areas were much more productive than the open public domain. There was a "distinct line of demarkation" in forage growth, density, and variety.[57]

In 1933 and 1934 with CCC labor 2,184 acres of the Dixie National Forest were artificially reseeded. Blue grass was planted on 1,723 acres that was 25 to 50 percent depleted. Brome grass was planted on 233 acres of weedsage type that was 50 to 75 percent depleted, and on another 228 acres of sage-weed type 50 to 75 percent depleted.[58]

Several reseeding methods were employed and studied for expense and effectiveness. The methods included plowing contour furrows then sowing and harrowing; broadcasting seed with sheep trampling; broadcasting without harrowing or trampling; broadcasting and covering by brush harrow; and broadcasting and covering by hand rake. Broadcasting and trampling with sheep proved the most successful. Contour plowing and harrow was second most productive, but it was also the most expensive. The cost of all processes was rather minimal and so another 6,400 acres was reseeded in 1935 to shortcut Mother Nature since natural seeding would require ten to fifteen years under the existing conditions.[59]

By 1938 several successful range reseeding areas were in existence. These included Upper Valley, Johns' Valley, Cameron Wash, Reed Ranch, Duck Creek, Pine Valley, and Jones Corral.[60] At this point approximately $3,000 of CCC funds had been used in these successful planting experiments.[61] During the 1938 year, 650 acres were reseeded on the Dixie from which outstanding results were obtained at sites on Bowers Flat, Uintah Flat, and Strawberry Valley. At these locations crested wheat and smooth brome grass provided an excellent stand of forage where little but unpalatable species existed before reseeding.

Both of these species proved beneficial in providing early spring feed. They usually required only one or two years protection from grazing to establish whereas some other varieties required three, four, or more. The crested wheat grass was especially adapted for early grazing since it usually was ready for grazing two to three weeks earlier than native

[55] Memo of April 10, 1936, Ogden Office to Forest Supervisors, found in Dixie National Forest Historical Documents, Vol. VI.

[56] *Ibid.*, Vol. VI.

[57] *Ibid.*, Vol. V.

[58] Special Range Report, October 23, 1935, found in Dixie National Forest Historical Documents, Vol. V.

[59] *Ibid.*

[60] *Ibid.*, Vol. I.

[61] *Ibid.*

Hyrum S. Kunz, Superintendent of the CCC Camp and inventor of the original "Dixie Harrow" in which he used to clean off brush and loosen the soil for reseeding. Cedar Mountain, 1939. (Dixie N.F. photo.)

forage species.[62]

Fall planting as a general rule had proven to be more successful for the Dixie National Forest than spring planting. The biggest hazard in reseeding was a dry period of a month or more following germination. Protracted dry periods are less likely to occur in the fall than in the summer on the Dixie National Forest. As a general rule, best success could be anticipated with planting made in late August, September, or early October. Plants which sprouted in early fall and made a fair growth before winter usually develop into good, vigorous and well rooted plants by the next growing season, while late fall germination produced only slender, shallow, rooted seedlings which were much more likely to succumb to a dry summer.

Another consideration in reseeding was the fact that the seeded areas needed to be given protection from grazing livestock for the first two or three years or until the new plants were well established. Unless proper protection from grazing stock could be afforded, reseeding was not successful. On sheep ranges, herding could be successful in keeping the sheep from the seeded areas. On cattle range, fencing to exclude livestock was necessary. The fencing could be done with electrical or temporary fencing. Grazing permittees were generally cooperative in adjusting their livestock management to give the seeded areas the needed protection to allow the new plants to become established. Some took partial non-use of their summer range in order to retire parts of the range from grazing pending rehabilitation.[63]

Many denuded areas tended to be natural congregating places and in these areas, even after revegetation was well established, protection was needed to prevent their becoming overgrazed and trampled again. Early failures in some of these locations led some to question the efficacy of the program. With proper protection, reseeding succeeded at the congregation points as well as elsewhere.

Due to protection concerns in 1939, some reorganization of grazing was accomplished, most notably on the Navajo Ranger District. In the reorganization, cattle were taken from some areas designated as sheep allotments and segregated to themselves on other allotments where sheep were eliminated and thus common use was reduced. This reorganization simplified the fencing and herding needed for reseeding protection.[64] At the same time CCC boys constructed many allotment and drift fences for purposes of controlling and managing stock numbers, and seasonal use on various herd units.[65]

The reseeding endeavors led to other discoveries. At the Duck Creek CCC camp, a heavy spike tooth harrow was constructed and used with such great success that its use was suggested for other forests. It consisted of a draw bar made from a 15-foot timber 6 inches by 8 inches to which were attached round Douglas fir logs from 13 to 18 inches in diameter. The number of logs attached depended upon the available pulling power and the width of the strip one desired to cover. These round logs with staggered teeth of one-inch drill steel set about every 10 inches along their length were

[62] Civilian Conservation Corps-Utah, Dixie National Forest, summary report in Dixie National Forest Historical Documents, Vol. VI.

[63] *Ibid.*

[64] *Ibid.*

[65] Report by Wilford Bentley, Forest Ranger, November 12, 1940, found in Dixie National Forest Historical Documents, Vol. IV.

Dixie harrow at work on Panguitch Lake reseeding project. Grass seed is broadcast in front of the harrow. (Dixie N.F. photo.)

dragged lengthwise behind the draw bar. They were attached to the head of the bar by means of eyebolts and chains of about three-foot length. This means of attachment gave a swivel effect and some flexibility to the logs to prevent clogging with brush but allowing for one or more of the staggered rows of teeth to be always in the ground. To pull this unit required at least a fifty horsepower tractor.[66]

The activities in range management in the 1930's proved to be beneficial to the forest and forest users. The forest range was far better than any other section of the public domain. The carrying capacity of the range was being more precisely determined and maintained, better range techniques resulted in better grazing and better administration of the summer range. Partly due to the Forest Service successful administration of its portion of public lands, on June 28, 1934, Congress passed the Taylor Grazing Act to create within the Interior Department regulation and control of grazing on much of the rest of the nation's public domain.

Numerous improvements such as fencing, water developments, and stock driveways were also developed during the 1930's largely through the CCC program. The value of these improvements was near $99,500 for the Dixie National Forest.[67] This work also went far towards repairing the damage done to our mountain watersheds by overgrazing.

Much work on watershed improvement was accomplished. Because of overgrazing, devasting floods had occurred. In the preceding 25 years many places experienced some rather serious erosion. Some of the worst were at Long Valley Wash, John Cameron Draw, Spring Hollow, Pole Canyon, Three Mile Creek, and Sandy Creek.[68] Erosion and floods led to serious breakdown of ranges continuing until washes and gullies were created. Flooding resulted in heavy property damage. Fertile farms washed away or were covered with rocks and debris. Meadows also washed away, were drained and covered with debris such as sand and rock until they were made valueless. Real estate lost its value and its productivity.[69]

A particularly bad erosion year came in 1935. A severe winter with runoff followed three previous years of severe drought which made for destroyed and retarded plant life leaving the country susceptible to flooding.[70] Since the Dixie National Forest provides 75 percent of the flow of the Sevier River, it was especially necessary to make efforts and advancements in erosion and watershed control.[71]

Timber planting and water development activities were closely associated with range improvement and erosion and flood control on the forests of southern Utah. Some of the water developments such as one at Wild Cat were more associated with campground development, but some others were significant for range improvement and management.

The Big Ditch water development included a ditch designed to convey spring runoff to Big Lake. This would provide year-round water to 5,000 permitted sheep and 300 cattle opening up range that could now be utilized for grazing. The ditch was three feet wide and two feet deep.[72]

The Blue Grass Spring water development provided water in the fall months to 1,400 sheep and 100 cattle on the Brinkerhoff and Fanning allotments. Here 16 pine log troughs were built and an aspen fence erected around the spring with 25 feet of 1½-inch pipe run to the troughs. At the Can Hole water development, a rock and dirt dam about 7 feet high and 18 feet long was built to make utilization more uniform and prevent unnecessary trailing of 2,600 sheep and 200 cattle to portions of the range. There were also ten metal troughs and a small reservoir put in. At Dark Valley a dirt dam faced with rock 35 feet long and 5 feet high was built to conserve water during drought and dry periods of the summer. This dam would provide water for 3,500 sheep and 400 cattle. The Dog Lake ditch water development conveyed spring snow water and summer rain water into Dog Lake for storage. The lake controlled considerable forest range and made water more dependable for 4,000 sheep and 400 cattle. Two ditches, one at the south end of the lake of 280 yards length and another at the east end 400 yards long, were constructed to convey water to the lake.

At Dry Bench Reservoir and Tank, 1½ square miles of range were reclaimed for permanent grazing use by a dam 30 feet long and 6 feet high to catch runoff water. At Lost Spring, 14 log troughs, 4 pole fences around the spring, a cement dam across the ravine to catch water from the springs, and 60 feet of 1½-inch pipe running to the troughs were all constructed. This was the only water in a two-mile radius for 2,500 sheep and 300 cattle. The development prevented trailing of stock to other water. At Spring Gulch, water for a dry and unutilized portion of the range was provided by a pipe system to ten log troughs. This eliminated the trailing of 1,300 head of sheep and 200 cattle across a retarded and erosion prone and overgrazed portion of the range.

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[66] *Ibid.*, Vol. V.

[67] Civilian Conservation Corps-Utah, Dixie National Forest Summary Report, found in Dixie National Forest Historical Documents, Vol. V.

[68] Interview with Elias Hatch, found in Dixie National Forest Historical Documents, Vol. V.

[69] Interview with Joseph A. Terry at Enterprise October 21, 1935, found in Dixie National Forest Historical Documents, Vol. V.

[70] Dixie National Forest Historical Documents, Vol. V.

[71] *Ibid.*, Vol. IV.

[72] *Ibid.*

At Monument Lake a dam 20 feet long and 5 feet high was built to form a natural reservior. A ditch one-half mile long was built to convey spring runoff and to catch the runoff from heavy summer rains. This reservior supplied water to 2,400 sheep and 300 cattle on a portion of the range that had not been fully utilized due to a lack of water. At Philo Lake a dam that had first been built by permittees was improved with an addition that extended 5 feet higher and 30 feet longer. This would impound spring runoff at Philo Lake which under previous conditions would run dry and cause a concentration of the 4,500 sheep in the area at other water sites.

Rock Lake was a natural lake bed but it had little natural drainage. It would run dry unless supplemented. The Rock Lake ditch one-half mile in length was made to conduct runoff to Rock Lake for watering 2,400 sheep and 300 cattle. At Indian Gulch the natural stream was too small to water the 1,200 sheep and 200 cattle permitted in the area. Two small dirt dams faced with rock were built across the natural channel to create two small ponds. At Salt Lick Spring a small clay dam had been erected in 1934 during the drought emergency. This emergency dam which proved beneficial in providing water in the fall months to 1,400 sheep and 150 cattle was washed out. Because it had proven so beneficial, it was replaced with a larger clay dam across the ravine to hold water in the pond when the stream was too low for stock in the natural channel. The spring was also cleaned out to improve its flow.[73]

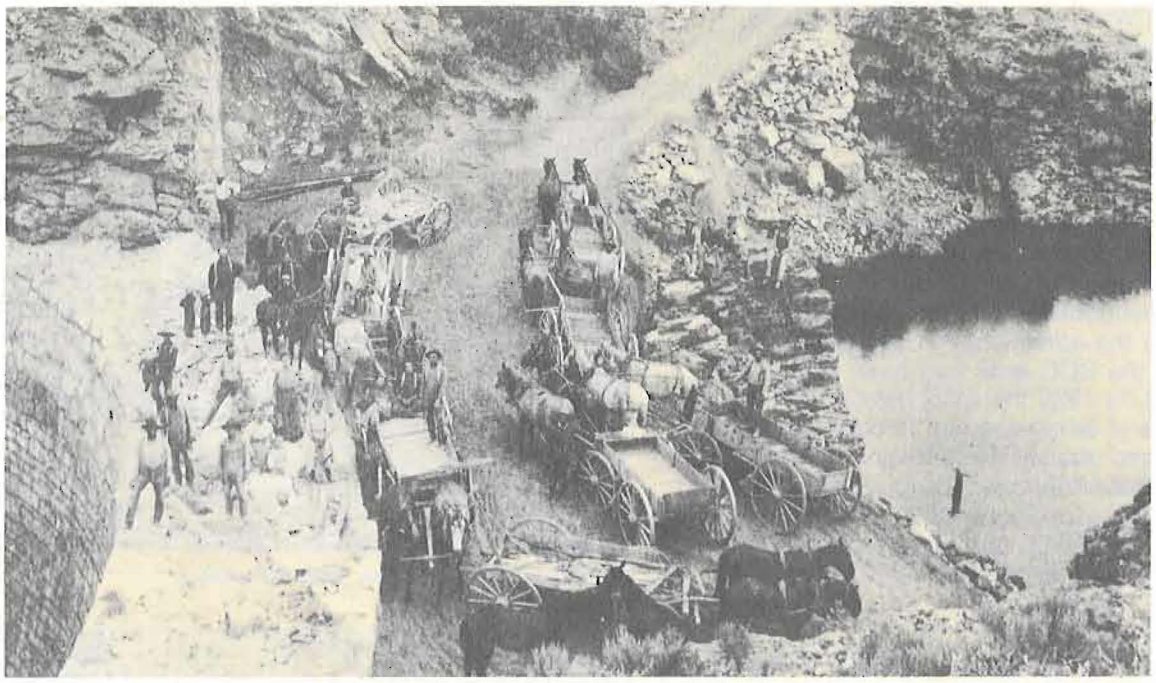
It is virtually impossible to overestimate the impact of these improvements on the forest. The Forest Service had been instructing stockmen to keep their animals constantly moving and to avoid allowing them to congregate too long at watering spots or bedding places. These water improvements made these instructions more practical and possible. The implementation of these measures helps greatly in the improvement of the range forage production.

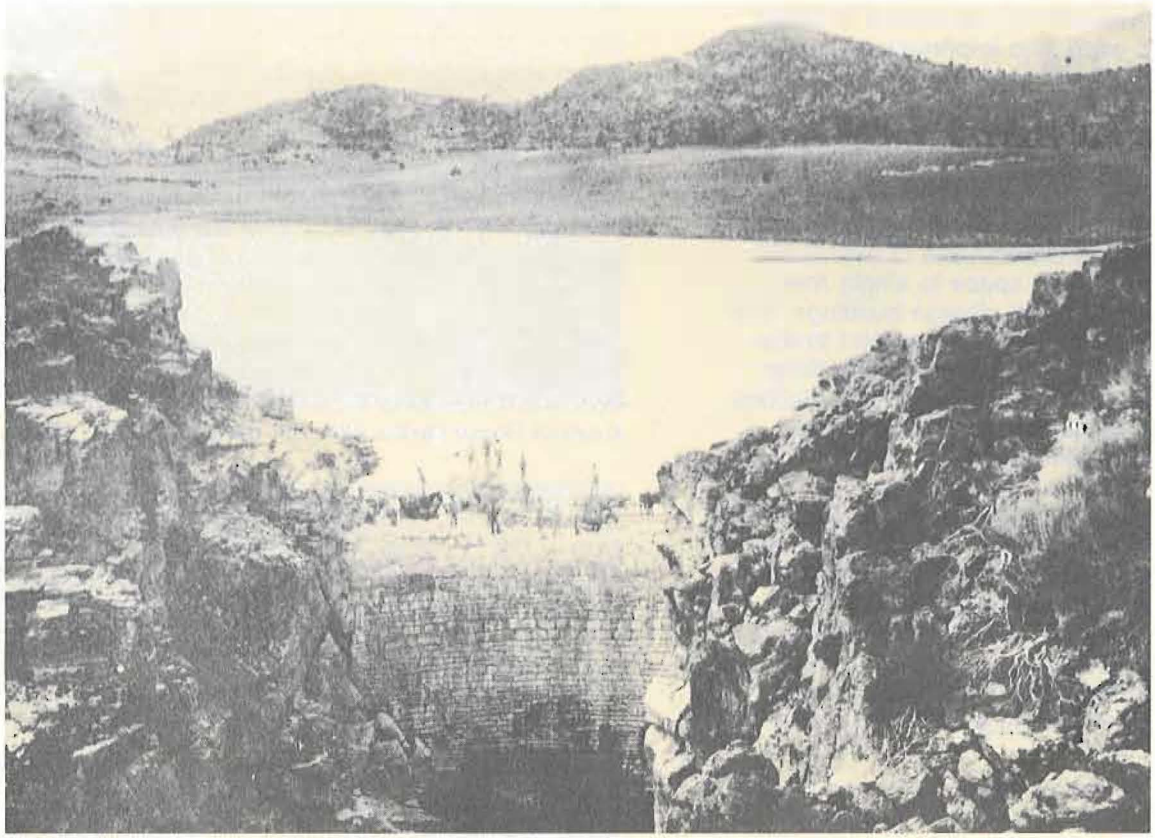
Forest management in the 1930's had resulted in restoring damaged range and watersheds, flood prevention, fire prevention and better management of rangelands in general. The federal government also came to the aid of farmers in an additional way by taking land out of cultivation and restoring it to more economical use. The Widtsoe project which was a part of this effort came to involve the forest through range control and reforestation. Forest administration was changed somewhat by the work of these activities of the Resettlement Administration and the Soil Conservation Service.

The Resettlement Administration embarked on a project to purchase marginal farmlands and to move the farmers to more suitable lands. Widtsoe became a major undertaking of the Resettlement Administration. The land was purchased, revegetated and administered by the Soil Conservation Service for a time and then placed under Forest Service administration. The Depression was an ideal time for such an undertaking, since land prices were low and opposition to federal activity had virtually disappeared. Many who might in other times have opposed such a project were happy to unload their unproductive lands onto the federal government and salvage what they could. The land policy of the AAA to acquire "submarginal" farmlands and to resettle the former owners on more productive farms, generally went forward with

[73] *Ibid.*

Building the dam at Oak Creek Reservoir, Boulder Mountain. (Dixie N.F. photo.)





Building the dam at Enterprise Reservoir. (Photos courtesy of Lynne Clark Photography Collection, donor Andy Winsor.)

little opposition at Widtsoe. In the summer of 1935, the government bought the property of the 17 families and resettled the clients, mostly in Utah County.[74] The few abandoned farm houses came to provide a melancholy contrast to the white and green Forest Service buildings.

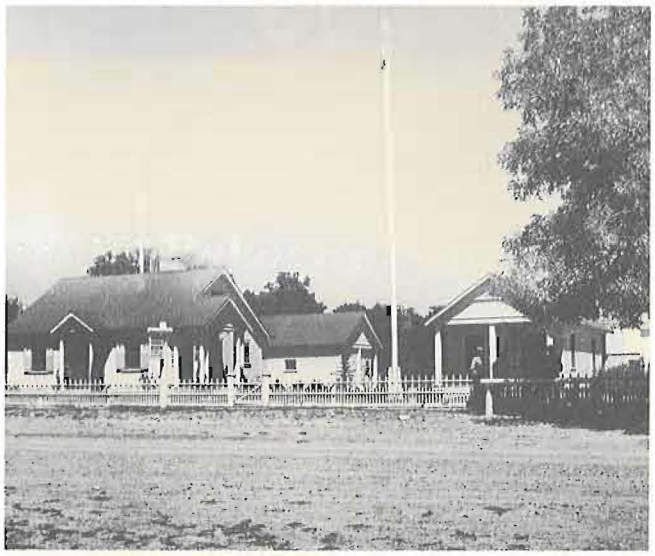
Such expansions as the Widtsoe addition to the Forest could be handled rather readily by the Forest Service by the 1930's. Work plans, improved travel, especially with automobiles and improved telephone service had made the administration of larger areas possible.[75] Again the CCC work had been vital to the improvements. In 1936 the CCC boys constructed five miles of telephone line through Red Canyon and cut and planted the telephone poles for the Powell Forest telephone system. They also constructed 17½ miles of Escalante to Widtsoe telephone line replacing the old tree and pole line sections with new poles and a standard Forest Service grounded system line.[76]

Telephone lines were being extended to the more remote areas, trucks, autos and mechanical equipment were replacing the horse for many operations and the radio was also introduced to the Forest Service. These advancements all helped in forest administration and were also important in fire detection and control.

New ranger and guard stations were also a factor in improved forest administration. Here again the CCC's were most beneficial. On the Dixie they built buildings for the Forest Service ranging from three bedroom dwellings and warehouses of over 2,000 square feet of ground floor space to single room overnight quarters and small storage buildings. The CCC program contributed wholly or in part to the construction of some 51 Forest Service buildings with a cost of about $119,000.[77] The ranger stations at Panguitch Lake, Duck Creek, Escalante and Panguitch were all constructed by the CCC.[78]

Tree planting was another much publicized CCC activity. CCC crews did much timber stand improvement, removing diseased or damaged trees and less valuable species to give more room for the development of desirable timber. On the Powell in 1936, there were 348 CCC boys in camp on the forest, 41 of these men were assigned to timber stand improvement, including pruning stands of young ponderosa pines.[79]

Duck Creek Ranger Station. (Dixie N.F. photo.)



Escalante Ranger Station. (Dixie N.F. photo.)

Panguitch Lake Ranger Station. (Dixie N.F. photo.)

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[74] W.P.A. Writers' Project, p. 339.

[75] Dixie National Forest Historical Documents, Vol. I.

[76] *Ibid.*

[77] Civilian Conservation Corps-Utah, Dixie National Forest, summary report found in Dixie National Forest Historical Documents, Vol. VI.

[78] Dixie National Forest Historical Documents, Vol. I.

[79] *Ibid.*, Vol. IV.

Cedar City CCC Camp. (Photo courtesy of Carl Hazel, Cedar City, Utah.)

On the Boulders was one of the largest belts of Engelmann spruce timber in the United States with about 270 million board feet. Beginning in the mid-1920's and for the next 10 to 12 years a large percent of this timber was killed by beetles. Bug control and removal of diseased trees also became an important forest management activity of the 1930's.[80]

One forest activity declined in the depression years. The peak timber production had passed for a time. A rapid drop in prices for lumber and related forest products proved devastating. Many sawmills, most of them small, disappeared between 1929 and 1932 before some degree of stability was restored to the industry. Since the inception of the Dixie National Forest, timber production had not been of major consequence. The forest did contain over half a billion board feet of merchantable timber and a great deal of cord wood. An annual yield of 8 million board feet could be cut without depleting the supply. The timber cut in the 1930's did not even approximate that amount.[81]

On the Powell it was believed by some that timber production could "take precedence over all other uses." It was estimated that the Powell contained 1¼ billion feet of living timber over 12 inches in diameter.[82] Twelve to 14 small sawmills operated on the Powell during the depression years cutting from 1,000,000 to 1,200,000 board feet annually.[83] There were also an average of about 900 users taking 3½ million board feet of dead dried timber from the Powell annually for fuel and fencing.[84] Overall, however, the timber production in the 1930's remained considerably less than the annual increment.

The increased federal activity of the 1930's, including the CCC program, had real advantages for the Forest Service and the forest users. The programs were also beneficial to the men who worked on them. The work was constructive and needed. On the whole these programs brought multiple benefits. Thousands of the unemployed were gainfully employed in programs which provided wages, education and a sense of accomplishment. Activities such as those of the CCC contributed much to human dignity in a time of dire economic need. The work on the forests within a few years helped to rectify and restore much that had been lost by years of inadequate budgets, shortages of manpower and neglect. The forests were improved and management improved as a result of the activities of the federal government during the Great Depression.

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[80] *Ibid.*

[81] *Ibid.*, Vol. I.

[82] Ibid., Vol. IV.

[83] *Ibid.*

[84] *Ibid.*

Chapter 8

WORLD WAR AND ITS AFTERMATH: THE FOREST IN THE 1940's AND 50's

With the outbreak of war in Europe in September of 1939, new and increasing demands wre placed on the nation's manpower and resources. These demands were further accelerated when America entered the war in December of 1941. Wartime production and mobilization revitalized the national economy. By 1944 half the population was engaged in war-related production and full employment had returned.[1] Both prices and wages rose. Under these new conditions emergency New Deal programs were phased out including the popular and effective CCC.

The wartime emergency ended the despair of the Depression, replacing it with a booming economy. The natural resources of the forests of the west were now in high demand. However, labor supplies to marshal the resources were short. With the emphasis on military material production, certain aspects of pre-war forest management, such as recreation and conservation, were momentarily deemphasized. The nation grappled with shortages of manpower, money, and materials; certain critical resources such as some food items and fuel were rationed. As Forest Service employees were called into wartime service and as funds and facilities became scarce, a number of Forest Service activities declined considerably. Much of the research of the New Deal Era was decreased or temporarily terminated. Many recreational facilities tended to fall into disrepair.

While some Forest Service activities declined considerably, others such as grazing management and timber resource management increased. The wartime shift in national priorities greatly impacted forest management. Resource use expanded dramatically, although the tendency to overstock forests with livestock for meat production was not as dramatic or shortsighted as it had been during World War I.

An added wartime responsibility shouldered by the Forest Service employees was the guarding of the forests against possible sabotage and destruction. A major source of concern was Japanese incendiary balloons which were sent aloft to ride the jetstream winds to the forests of the Western United States where they were expected to cause havoc and destruction. In 1945 one of these devices was sighted over the Pine Valley range on the Dixie National Forest. Fortunately it was tracked and quickly extinguished when it descended into the forest.[2]

Another major impact of the war on forest management was the demand placed on the Nation's timber resources. Wood was needed to build bridges, barracks, ships, aircraft and above all packing crates for shipping supplies overseas. Vital wood products included cellulose for explosives, wood plastic, rosin and glycerol. Wood was classified as a critical material by the War Production Board, and the heaviest demand for wood fell on the Douglas fir forests of the American West. These heavy wartime demands led to heavy forest cutting.[3]

With unceasing demand for lumber, production more than doubled on the Dixie and Powell National Forests.[4] Sustaining the production levels achieved in 1942 and the first half of 1943, however, proved difficult. Labor proved to be the most potent factor in lumber production. As loggers and mill hands were inducted into the armed forces creating the possibility of a manpower shortage in this vital resource area, local draft boards began granting deferments to lumber employees. However, they tended to pick them up almost immediately if they were released from employment by shutdown for whatever temporary reason.[5] An order freezing woods and sawmill laborers did not prove entirely effective in southern Utah. As defense industry employment heated up on the west coast, many men left, some from the lumber industry, seeking employment in the better paying defense industries.[6]

Not only was labor critical in timber production, but also securing sufficient gasoline from local rationing boards proved to be a critical issue in keeping mills operating at full capacity. By the last quarter of 1943 labor and fuel problems had combined to reduce production to just 75 percent of the previous quarter; even at that production as still twice the pre-war levels. There were, however, two of 19 mills closed on the Powell during the quarter due to labor and fuel scarcity.[7]

Some of the labor problem was blamed on the tendency of loggers to continually change jobs to "just get a change of scenery." This caused one ranger to complain that, "I have yet to see a logger who was very stable."[8] Despite the demand for lumber products, the shortage of mill hands created

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[1] Frank Freidel *American in Twentieth Century,* (New York: Alfred A. Knopf, fourth edition, 1976), p. 223.

[2] Interview with Phil Johnson, Interpretive Services, History, HOST, Region Four Office, Ogden, Utah, conducted on October 18, 1984.

[3] Dixie National Forest Historical Documents, Vols. I and V.

[4] *Ibid.*

[5] *Ibid.*

[6] *Ibid.*

[7] *Ibid.*

[8] *Ibid.*

considerable buildup in log inventory in southern Utah. Therefore, there was some effort devoted to promoting continual sawing and to importing professional lumber men into the area to help meet the war production requirements.[9]

Lumbering in southern Utah had always been essentially a pioneer operation. In 1940 much logging was still done by horse and all sawing was done near the timber stands, often by mills at the foot of the canyons. The stimulus of wartime demands brought the emergence of heavy mechanization into timber operations on the Dixie National Forest. Instead of a dozen or so mills located in canyon mouths, the forest now began to have some bigger companies and larger mills. The first of the larger mills was installed in the Pine Creek area near Posy Lake in the spring on 1943 by T. H. Alvey and his son Forest.[10] Wartime demand had helped to move the lumber industry into increasing importance in the southern Utah economy.

[9] *Ibid.*

[10] Woolsey, p. 119.

Alvey Sawmill owned by Forest Alvey. (Photo courtesy of Dana Alvey, Cedar City, Utah.)

Forest Alvey and his horse. (Photo courtesy of Dana Alvey, Cedar City, Utah.)

The small mills which had dominated southern Utah's timber industry reflected both the Forest Service policy and the generally scattered and small volume timber stands that characterize much of the forest. About 90 percent of the timber prior to the war was disposed of in sales of less than $500 each. These small sales were intended to take care of the little man, but they also made timber sale supervision and coordination difficult.[11]

The longer the war went on the greater the demand for servicemen and the more difficult forest timber administration became. As more and more Forest Service employees were drafted or enlisted, some critical aspects of timber management were neglected. Timber stand improvement work, cleanup and road repair work after timber sales were not being properly carried out.

The heightened wartime demand for timber products was further stimulated by the war's impact on mining. As prices of coal and precious metals rose, the demand for mine props increased dramatically. This enhanced market proved to be fortuitous for one aspect of timber management in southern Utah. The black pine beetle had attacked pine stands in southern Utah several times beginning in 1919. A major outbreak occurred from 1936 to 1943 which took about 13.7 million feet of timber.[12] The mining activity created a demand for mine props which could be met from the smaller sizes of dead timber, especially dead spruce. Mills in Wayne County were soon cutting two million feet of bug infected timber a year converting it to mine props.[13]

Despite this usage and the critical labor shortages, the Forest Service had no intention of allowing the bug infestation to go unchecked. Early treatment called for simply cutting the infected trees and burning them. Soon spraying with various chemicals mixed with diesel oil was introduced. The smaller trees could be sprayed standing while the larger trees were cut down and sprayed. There was a considerable amount of work involved in bug control and each year approximately 15 men from the local communities were given work from early spring until mid-winter.[14]

Fire prevention and firefighting was always an important aspect of Forest Service timber management. Wartime spending priorities resulted in sharply limited firefighting funds. Fortunately in southern Utah few fires broke out. Some summer patrol men

[11] Dixie National Forst Historical Documents, Vol. V.

[12] Woolsey, p. 150.

[13] *Ibid.*

[14] *Ibid.*

were hired where available to engage in fire prevention activities. The Forest Service also enlisted the patriotism and cooperation of private citizens and land owners to assist in the reduction of fire hazards and to assist in firefighting. The goal was to get into fires while they were still small and contain them quickly. Newly available information was helpful in this endeavor. By 1940 Forest Service documents contained detailed information about topography, precipitation rates, fuel types along with other information which could help rangers report and combat fires. Directives from the supervisor and the Regional Forester emphasized the need to strictly enforce fire laws and to work closely with state and local officials to combat man-caused fires.[15]

The war years were important years of growth and development of the timber industry in southern Utah. Both the labor-short lumber industry and labor-short Forest Service tried manfully and with varying success to manage the forest and to meet demands of the War Production Board for lumber.

Food shortages in general and meat shortages in particular created the potential for demands to increase range permits to meet shortages. However, Forest Service officers were not inclined to accept another round of range abuse in order to meet wartime demands. Until the 1930's, range use added up to continual depletion or at best, almost imperceptible improvement on much of the range. But significant advances had been made in the 1920's and 1930's in terms of the ability of the Forest Service grazing officers to actually assess all the contributing factors of forage production. During these two decades the practice of opening the range to a succession of new beginners had been curtailed and more and more permits were retired and others reduced in an effort to restore overused range lands. The reductions on the Dixie had been evolutionary rather than revolutionary and far from wiping out the livestock industry had helped in reaching a more appropriate equilibrium between livestock and grazing capacity. Term permits, which ran for five- and later 10-year periods, were given reductions at the end of the term almost as a matter of course. Often these reductions varied from 10 to 20 percent. But even so, when America entered World War II, it was estimated that 55 percent of the Dixie Forest range was still over obligated and 60 percent of the over obligated allotments were overused.[16] A considerable amount of the southern Utah range still evidenced depletion and some remained badly depleted.[17]

Grazers and Forest Service officials began to suggest that in order to avoid further stock reductions, the deer herds needed to be more closely regulated and steps would be necessary to reduce herd size. In the decades of the 20's and 30's, a 35 percent reduction in livestock had taken place on some ranges for purposes of range and watershed protection. Additionally the grazing season had been shortened and animal month use reduced. However, in the same period the numbers of deer may have increased as much as 1,000 percent in some localities. Indeed the herds had increased to the extent that deer were dying of malnutrition on the winter range. It was certainly true that the winter range was the chief bottleneck in regulation of deer herds. Grazers and forest officials believed that the deer population should be considerably reduced. Since mature deer consumed 100 percent of the forage of a sheep, deer herd reductions seemed an appealing alternative to more restrictions on livestock permits.[18]

Forest officials hoped for cooperation with Big Game Board of Control on the deer issue, and they hoped that the state would accomplish reductions and removals. However, suggestions were offered as to how this could be accomplished. Among the methods proposed were: reduced license prices; extended seasons; post-season special hunts; special doe hunts; a publicity blitz to get sportsmen in the field;[19] a staggered hunt, allowing each hunter more than one deer; hiring of paid professional hunters; and as a last resort, federal government removal.[20]

Forest Service efforts to reduce and manage deer herds received a setback in April of 1942 with the resignation of Mark Anderson as Director of Utah Fish and Game Commission. He was regarded as a real conservationist. In most regards he had been very cooperative. In order to secure the same cooperation from any successor it would be necessary to educate the public and to continue to apply pressure for deer removal.[21] Forest officials were instructed to take pictures of deer-damaged range to document degradation and to carry out a publicity blitz.[22]

Deer counts by 1944 began to confirm the fact that in southern Utah conservation measures were successfully reducing herds to a manageable level. Improved range conditions extended to winter ranges that had hitherto shown heavy damage. Many key forage species evidenced improved conditions. There remained some "sore spots," one east of Diamond Valley and another between Pinto Creek

[15] Dixie National Forest Historical Documents, Vol. IV.

[16] *Ibid.*, Vol. VI.

[17] *Ibid.*

[18] Memo from C. N. Wood, Regional Forester, to Forest Supervisors, June 18, 1942, found in Dixie National Forest Historical Documents, Vol. V.

[19] *Ibid.*

[20] Memo, C. N. Wood to Forest Supervisors, May 6, 1942, found in Dixie National Forest Historical Documents, Vol. V.

[21] Memo from John N. Kinney, Assistant Regional Forester, to Supervisors, April 30, 1942, found in Dixie National Forest Historical Documents, Vol. V.

[22] Confidential memo to Forest Supervisors, May 6, 1942, found in Dixie National Forest Historical Documents, Vol. V.

and Irontown on the north side of Kane Mountain. There were also small scatterings of "sacrifice areas" ranging from five-acre plots up to 50 acres where deer congregated on south facing slopes and in coves. Two units, Cottonwood-Bigelow and Kane Mountain, were still considered slightly overstocked; nine were regarded as properly stocked and three understocked by 1944.[23]

The deer were generally in good flesh on all units with a few small bucks and fawns being the exception on the two overstocked units. No dead deer from natural causes or starvation were seen. However, several cougar kills, mostly fawns, were observed. The cougar population seemed to have increased due to limited hunting during wartime. Jack Butler, a hunter from Kanab, and several dudes killed eight cougars in 10 days at the Wet Sandy Creek area and two more on the East Fork of Beaver Dam Wash for a total of 10 kills in less than two weeks.[24]

Jack Butler with his dogs. (Dixie N.F. photo.)

The deer population on the Dixie Unit had steadily declined from 15,750 head in 1941, to 12,912 in 1942, 9,020 in 1943, and 7,876 in 1944. An abnormally large harvest during the hunt of 1942 had definitely influenced the downward trend in the deer population. In 1943 a post season doe hunt had provided additional relief to winter ranges. With the deer herd so near to desired limits, doe removal in the future could be confined to problem areas such as the overstocked area east of Diamond Valley where the Forest Service was advocating a doe removal for 1944.[25] Where the deer herd had fallen below desired limits it appeared that cougars and poachers were the major culprits.

Overall the Forest Service was pleased with its efforts from 1941 to 1944 to reduce deer herds and thus increase forage for livestock. Substantial forage improvement was readily apparent in several areas. In fact their successful cooperation with the Utah Board of Big Game in reducing deer numbers so alienated the Wildlife Federation that it recommended the elimination of the Big Game Board. The Forest Service favored the retention of the Board because it managed deer herds on the basis of facts. The Board had been most cooperative in authorizing reductions through post season doe hunts, and its elimination would constitute a serious setback to game management.[26]

In 1942 C. N. Wood, Regional Forester, had stated that he would not consent to livestock allotment reductions until deer herds were reduced. There were now no material congestions of deer on the Dixie and no need to wait longer for allotment reductions.[27] This was fortunate timing for Lyle F. Watts who had entered the Forest Service in 1911 as a field assistant on the Sevier National Forest and became the Chief Forester in 1943.[28] He immediately began applying pressure to make range management the highest priority on the list of Forest Service objectives.[29]

Watts and the Range Committee on Range Protection felt that the policy and responsibility of the Forest Service had long been known but implementation had been too weak in too many instances. In the future, Regional Foresters would be held accountable for getting the job done promptly and effectively. Their charge was to maintain resources in prime condition where impairment had not occurred and without further delay to take every action that might be needed to restore the stability and productivity of forest ranges. There was to be more straight thinking about the problem, less talking and more action. Neglect of rangelands would not be tolerated.[30]

In the process of allotment reduction Watts rejected the notion of compensatory payment. Certainly

[23] Dixie National Forest Historical Documents, Vols. I and V.

[24] *Ibid.*

[25] *Ibid.*

[26] Memo from C. I. Olsen, Assistant Regional Forester, to Forest Supervisors, January 5, 1944, found in Dixie National Forest Historical Documents, Vol. V.

[27] Memo from C. N. Wood, Regional Forester, to Forest Supervisors, May 6, 1942, found in Dixie National Forest Historical Documents, Vol. V.

[28] Dixie National Forest Historical Documents, Vol. II.

[29] Lyle F. Watts to Regional Foresters, June 28, 1944, found in Dixie National Forest Historical Documents, Vol. VI.

[30] *Ibid.*

compensatory payments would facilitate adjustments, but the public should not have to "buy back" the right to protect its property or to redistribute the privilege to use its property. The Federal Government and the Forest Service should not be put in the position of recognizing vested rights.[31]

Nevertheless, the grazers felt that in many instances, in spite of the drastic cuts in grazing, they could discern little improvement in the range. They felt that compensatory payments were justified. As the livestock population decreased, the human population also decreased. On the Escalante District cattle permitted had gone from 8,500 head in 1922 to 5,500 in 1930, 5,454 in 1940, 5,073 in 1950, and 4,807 in 1960. Sheep had decreased from 23,200 head in 1922 to 21,250 in 1930, 15,600 in 1940. By 1950 there were but 5,896 and in 1960 only 1,400. The population of Escalante had been 1,161 in 1940 but only 702 in 1960.[32]

Along with the livestock reductions there had been reseeding efforts carried out with the goal to restore the range. Despite the war effort, between 1942 and 1946, over 1,500 acres on two units, one in the Upper Valley and the other on North Creek, had been successfully reseeded.[33] But despite these successes there was continued resistance by users to the Forest Service campaign to bring livestock use into balance with the realities of resource production. Adjustments in Utah's livestock industry in southern Utah remained painful and slow.

Another painful adjustment in some communities was the adjustment to a major forest administrative change in 1944 brought about by the consolidation of the Dixie and the Powell National Forest with supervisor's headquarters located in Cedar City. In preparation for the proposed consolidation, studies were conducted with a view to promoting efficiency and economy. The studies supported consolidation with the 1,056,278 acres, 23,217 alienated, 1,033,061 of actual forest administered lands, being transferred from the Powell to the Dixie.[34]

Hearings were held on the proposal. Garfield County residents generally opposed the move. The Panguitch Lions and permittees on the Powell submitted a counter brief at the July 29, 1944, hearing in Panguitch. In addition, the Boulder Grazers' Association, the Escalante Stock Growers' Association, the Jones Corral Association, East Fork Grazers' Association, Powell Woolgrowers' Association, the Powell Forest Advisory Commission and

[31] Lyle F. Watts to Regional Foresters, January 10, 1944, found in Dixie National Forest Historical Documents, Vol. VI.

[32] Wooley, p. 138.

[33] *Ibid.* p. 140.

[34] Dixie National Forest Historical Documents, Vol. IV.

Reseeding range land. (Dixie N.F. photo.)

the Panguitch J. C.'s all opposed the Forest Service proposal. Some Garfield County grazers proposed that if consolidation was to take place that the superisor's office should be anywhere except Cedar City, even if that meant putting it in Richfield.[35]

Despite the protests, the consolidation took place October 1, 1944, with the supervisor's office being placed in Cedar City. Forest Service studies headed by Regional Forester W. B. Rice clearly indicated that the most economical administration could be realized from Cedar City. It was more centrally located to service the 30,011 citizens which the 1940 census showed for the six southern Utah counties of Garfield, Iron, Kane, Piute, Washington and Wayne. Cedar City was definitely more centrally located to serve the two largest counties, Iron with 8,331 population and Washington with 9,269 citizens.[36]

Decisions relative to consolidation and location of ranger and supervisor offices had great impact on the small communities of southern Utah. Forest products industries and forest employment had come to dominate the scene in some towns. The presence of resource production, particularly grazing, made life in certain communities economically feasible. It was of little wonder that so much concern, consternation and competition was generated by the Dixie consolidation.

The Dixie Forest consolidation brought an end to the first National Forest of southern Utah, the Aquarius, established in 1903 and changed to the Powell in 1908. Its supervisors over the years had included George H. Barney, 1904-1922; Berry Lick, an acting supervisor in 1922; Wallace M. Riddle, 1922-1935; Leland Heywood, 1935-1936; Allen Folster, 1936-1941; A. L. Taylor, 1942-1944; followed by Robert H. Park, another temporary supervisor, and Albert Albertson, the supervisor of the consolidated forest.[37] through 1958

The Sevier, which had merged with the Powell in 1919, had seen Beaugard Kenner serve as the first supervisor 1905-1906, to be followed by T. C. Hoyt as acting supervisor 1906 to 1908, and then Orrin C. Snow 1908 to 1915 and finally J. Will Humphrey from 1915 to the 1919 consolidation as the Powell-Sevier.[38]

Supervisors on the Dixie up to 1944 included Ranger-in-charge Sylvans Collett, 1905-1908; Columbus J. Huddle, 1908-1909; James E. Jewell, 1909-1910; John Raphael, 1910-1916; William L. Mace, 1916-1926; Orange A. Olsen, 1926-1931; James E. Gurr, 1931-1936; Arnold R. Standing,

A. L. Taylor, Forest Supervisor, 1942-1944. (Photo courtesy A. L. Taylor, Mapleton, Utah.)

Leland Heywood, Forest Supervisor, 1935-1936. (Photo courtesy Smoot Seaman, Cedar City, Utah.)

Albert Albertson, Forest Supervisor, 1945-~~1949.~~ (Photo courtesy Smoot Seaman, Cedar City, Utah.) 1958

[35] *Ibid.*

[36] *Ibid.*

[37] *Ibid.*

[38] *Ibid.*

1936-1937; Blaine Betenson, 1937-1942; and Albert Albertson.[39]

World War II had brought change and adjustment for the Dixie National Forest and its users. The post-war period held continuing change and adjustment and new direction for the forest. The forest officials now had to cope with a major increase in demand for outdoor recreation and balance that demand with other forest uses and needs.

Fortunately, the Forest Service was able to adjust to new demands. Wartime military service had changed the outlook and the lives of many young men. The "G.I. Bill of Rights" offered college education to those who might never have considered it otherwise. Some men who had first come to know forestry as teenagers in the CCC were now able to go to college and study forestry. They were able to find employment in the post war era as forest staffs were increased in size and expertise. Accountants, engineers, wildlife resource specialists among other specialities were increasingly being added to the proliferating forest bureaucracy.

Increasing the efficiency of the expanding force of employees was the rapid development and adoption of mechanized equipment for various forest uses. But the increased volume of work led to a noted decline in personal contact between National Forest officers, especially district rangers, and the people who used and lived near the forest.[40] This emerging problem was to intensify in later years.

Suddenly recreation and conservation which had been de-emphasized during the war were returned to importance when the war mobilization wound down. It was now recognized that a tremendous backlog of maintenance and improvement work had built up during the war. It was considered urgent to reverse destructive logging practices which the war demand had encouraged. Land acquisition for National Forest lands had virtually ceased during the war. There was an administrative desire to acquire inholding and adjacent lands for management purposes including facilitating realization of the new emphasis on sustained-yield management for timber.[41]

Ironically, the recreational value of lands within or adjacent to the forest was now so high that Forest Service officers found they could rarely afford to purchase such tracts or to arrange exchanges.[42] By improving its own lands, the forest had enhanced the value of its neighbors' lands as well. Adjacent landowners benefited from rapidly rising land values and renewed emphasis on recreational demand and development. Although exchanges were more often than not maddeningly difficult they became the best way of adding land to improve forest administration.

After World War II recreational visits to the forest increased dramatically. Families used accumulated savings to buy cars as soon after the end of the war as they became available. Gasoline was no longer rationed. More and more people now took vacation trips into the forest. Campgrounds and picnic areas built by the CCC, and in some cases 10 or more years old, received increasingly heavy use. In 1946 rehabilitation funds were made available to repair some of the most obvious results of wartime neglect. But for the most part it was a decade before funds were available to deal adequately with public recreation demands.

Although the Forest Service had developed numerous recreational facilities and even though many questions were raised concerning basic policies, including the type and scale of new recreational developments to be pursued, recreation as a form of land use was not yet integrated with resource management plans for the forest. A comprehensive recreation plan was still in the future. The general policy in recreation on the Dixie was to favor more modest types of development, catering to persons of moderate means.[43]

One of the principal issues relating to post-war recreational development was the degree to which to Forest Service should develop recreational facilities. A major advantage of development was that the visitors could well become supporters of the forest and conservation. Tourists and picnickers could learn to more fully appreciate the beauties of the forest. Formerly this appreciation was reserved primarily to hunters, fishermen and a few backpackers. A major disadvantage of ambitious development was cost. Even picnic areas and camping grounds required money. Elaborate facilities and paved roads were big investments. Whatever the cost and however financed, what types of recreational developments were most appropriate? Most existing developments were small—consisting of picnic areas and campgrounds. Was not the outstanding beauty and natural scenic setting enough of an attraction for recreation seekers without expensive Forest Service development projects?

As people discovered the recreational values of the forest and used it, the Dixie National Forest officials found themselves pushed into recreational activity in self-defense. The forest officials attemped to manage recreation to minimize fire hazard, stream pollution and potential hazard to the recreationalists

[39] *Ibid.*, Vol. V.

[40] *Ibid.*, Vol. V.

[41] *Ibid.*

[42] Interview with Paul Fullmer, October 18, 1984.

[43] Dixie National Forest Historical Documents, Vol. V.

Car amphitheater at Navajo Lake. Governor Blood was speaking through a loudspeaker, approximately 3,000 people attended. (Dixie N.F. photo.)

themselves. As recreational visits soared, more funds were provided for development, but recreational facility overuse remained critical.[44] Policing and maintenance problems escalated and at times vandalism occurred.[45]

The recreational potential of National Forest lands was recognized by resort developers and promoters as well as forest officials. Local political leaders promoted the forest for its tourist and recreational potential, and officials continued to cooperate with the State of Utah in developing mountain roads to scenic areas in the forest.[46]

As a result of various pressures for emphasis on recreation, the forest officials brought out a recreational development plan developed in the early 1940's, probably 1941, for review and updating. Some effort and time was expended in the preparation of a detailed long-range plan, but little came of it at this time.[47]

One area of recreation which underwent a policy change was that of summer homesites on forest lands. The Forest Service had begun leasing sites for vacation homes near Navajo Lake about 1919. At first the demand was small since few families could afford second homes, few had the leisure time to warrant such an undertaking and the transportation to the forest was difficult. With greater affluence, leisure and improved transportation demand increased. Often the homesites occupied favored locations near lakes and streams which benefited only a few and detracted from the recreational value for many others. As pressure from recreationists increased, the Forest Service became more and more uncomfortable with the policy of encouraging the lease of lots and construction of homes. As a result, it was decided not to open new summer home areas.[48]

Finally in 1958 the federal government moved to increase funding for construction, maintenance and development of recreational facilities. Congress created the Outdoor Recreational Review Commission and began the appropriation of funds for Operation Outdoors which was designed to rehabilitate and improve existing recreational facilities and to also open new campgrounds. As a result, development and improvement work were stepped up considerably.

During the 1950's forest management focused on balancing the multiple demands of an expanding public with the needs of the people living in and adjacent to the forests. The Forest Service liked to contrast its philosophy of multiple-purpose use wherein the land could be used to serve a variety of economic functions to that of the Park Service which advocated a system of "single purpose use."[49] The parks were reserved for recreation and commercial utilization was prohibited or restricted. Forest officers saw the philosophies as being utilitarianism vs. aesthetic conservation. The Park

[44] *Ibid.*

[45] *Ibid.*

[46] *Ibid.*, Vol. IV.

[47] *Ibid.*, Vols. VI and VII.

[48] *Ibid.*, Vol. VI.

[49] *Ibid.*, Vol. V.

Service clientele had historically been an urban constituency desiring preservation of wilderness with an eye to stopping lumbering, grazing and water power and irrigation development while giving absolute protection to wildlife. Suddenly recreational overuse in the forest presented the Forest Service with the problem of defining whom the forest should serve.

Forest officers pretty well accepted the idea that the National Forest lands were a national possession and they belonged to "The People."[50] However, increasingly there were two distinct groups of people, often with conflicting interests, to whom the forest belonged. When the needs and interests of recreational users from outside southern Utah came into conflict with those of the local residents, whose interests should come first?

Recreational users from outside the area pointed out that the National Forests belong to all the people. Local citizens argued that the needs of those who reside permanently in the area and make their livings in or near the forest should have priority over the occasional recreationist visitors whose only purpose was pleasure. Forest officials hoped that the needs of both constituencies could be met and that they would not have to face the unpopular task of prioritizing various categories of multiple use.

In 1959 a report foreshadowed the creation of multiple use plans and the difficulties of multiple use management for the 1960's and 70's. Apparently the Forest Service was doing an inadequate job of selling the public on the principles of multiple-use management. The implication of multiple-use was that if properly managed the forest could be used for many things by many different groups of people. The difficulties of juggling the multiple purposes of the forest in supplying a steady supply of timber for small and large operators, for local industries, and for the population at large; building and maintaining roads; developing recreational opportunities; protecting wildlife and scenic areas; managing the grazing lands, and providing for fuel and mineral demands was becoming apparent. People wanted whatever they used the forest for to come first. Most of us have the tendency to make judgments on a very personal basis. Each person tends to evaluate the National Forest and its programs by how he or she is personally affected. Under these circumstances forest management on the Dixie was no longer as one dimensional as it may once have been.

It may well be that the most important development of the 1950's was the expansion of efforts in resource management. For example, there was an attempt to expand the timber cut in order to move the forest to a sustained yield basis. Improved fire control procedures, efforts to control outbreaks of forest pests, continued efforts to improve grazing regulation, continued efforts to control deer herds and the introduction of oil and gas resource management were all a part of the expanded resource management effort.

Standard Oil of California drilled a well in the Upper Valley of the Escalante District in 1948 to 1949 about 1½ miles northeast of the later and more successful Tenneco drill site. Oil was struck in the Mississippian Formation, but it was too thick to be considered of commercial value at the time. The Forest Service found it necessary to have the company burn a large pool of the thick oil for purposes of range and timber safety.[51]

The Dixie National Forest was required to determine an annual sustained yield cut. Historically the National Forest timber sale policy favored the small loggers. Small sales were regarded as a direct means of benefiting and influencing the local public. Even as the Nation approached entry into world war, a Forest Service internal document of August 1940 proclaimed that "much emphasis is put on making sales to the little fellow who has only the most meager equipment and can only raise a few dollars of advance payment."[52] Even though small portable mills remained prevalent with much seasonal and intermittent sawing employing but a few men, larger mills were becoming important on the Dixie.

In 1953 Wanless Alvey bought out his father, T. H. Alvey's enterprise, and in conjunction with his brothers added new equipment. Soon they had increased the capacity of their mill to 16,000 feet a day. In 1959 the Alveys moved their mill down to the bench above the field northeast of Escalante.[53] At the same time the Skyline Lumber Company of Paul Steed was becoming another prominent producer. Steed began by buying a stand of timber in Upper Valley from the Kadalis Brothers of Salt Lake City in 1946. He also purchased the old Carl Nelson mill from the Kadalis Brothers. Several times over the next 10 years Steed added major improvements to this mill. In 1956 he began to move his operation to a site just northeast of Escalante. It took a year to move and build on land he had acquired from Lorenzo Griffin, Wallace Roundy and Ushur Spence. This new location for the policy which now discouraged the operation of sawmills within the forest. The purpose of this emphasis was to reduce fire hazards to the forest. The new location also offered the advantage of warmer weather thus facilitating year-round operations, the central location facilitated the logging of timber stands all the way to the east end of the Boulder Mountain,

[50] *Ibid.*

[51] *Ibid.*, Vol. I, and Woolsey, p. 181.

[52] Dixie National Forest Historical Documents, Vol. V.

[53] Woolsey, p. 119.

and finally there was the accessibility of town with its conveniences.[54]

Escalante Town and Garfield County cooperated with Paul Steed in building an oiled road from the mill through a back street directly to the highway, thus shortening the distance that logging trucks had to travel from the forest to the mill and also keeping the logging trucks off main streets. Steed also developed springs on the property and created a log pond of 700,000-gallon capacity. Soon the company was logging eight million feet of timber annually.[55] The Forest Service policy of sustained-yield made this possible. There was much mature timber in the vicinity which needed to be logged for forest management purposes.

The sustained-yield emphasis made it critical that reforestation be increased. The relatively long summer periods without precipitation and the character of the soil were not particularly congenial to natural reforestation. Watershed and aesthetic considerations also made reforestation a critical issue. To facilitate planting and regrowth, terms of sales contracts included betterment clauses. Slash was machine piled and in many cases pretty much removed by home use wood haulers. After inspection to see that the contract had been fulfilled in terms of cutting, erosion control, road and piling procedures, a logged over area would be treated for pocket gophers and other pests in the fall and then planted in the spring. Cutting practices employed were those that appeared to be the best for encouraging natural growth.[56] Scientific principles were coming more and more to replace practical experience as the basis of the forest management programs.

The increased timber sales from the Dixie National Forest were important not just for the employment and profits they offered but also for their contribution to local governmental revenues. Under the Weeks Act, 25 percent of such revenues were returned to the states for recommended distribution to the counties for schools, and roads in amounts proportional to the National Forest acreage in each county. The size and number of timber sales had now become significant in Wayne and Garfield Counties. Payments per acre increased steadily between 1940 and 1960 but the amount varied from year to year giving support to criticism that the counties could not predict the amounts they would receive.

Timber management required continued efforts to control outbreaks of various forest pests. These were not just the bark beetle and blister rust, etc., but in the 1940's and 50's extended to the porcupine. The porcupine devastated the pines on Cedar Mountain. In 1952 one part-time employee alone killed 53. The rangers were forced to hang saddles off the ground to protect them from the porcupines. One ranger at Jones's Corral would leave the bedroom door open at night and when the porcupines came in he would shoot them. The Forest Service even resorted to hiring men to kill porcupines because they caused a split trunk in the pines which was most damaging to forest and timber production.[57]

Other pests included the bark beetle, blister rust and the spruce budworm which had become a major problem in stunting trees, with the damaged trees becoming particularly susceptible to bark beetle attacks.[58] Between 1950 and 1954 an estimated 2.6 million feet of timber was lost on the Dixie National Forest to bugs.[59] Even though some maintained that a certain amount of bug loss may have been beneficial in culling the forest, the Forest Service expended a major effort to control bug outbreaks. Historically the damage caused by bugs and insects far exceeded that caused by forest fires.[60] Crews logged infested timber and offered it for sale as railroad ties, mine props or firewood. Crews also doused the infected trees with fuel oil and then set them on fire. Where tall timber was infected the trees were first felled before they were ignited. To reduce the potential fire hazard the burning was carried out only in spring and autumn months. Spraying with the chemical insecticide ethylene dibromide eventually became the more frequently used treatment. In heavy infested areas such as the East Fork and some areas around Escalante, gup dumps were set up. At these sites the one to five mixture was stored.[61]

The Forest Service also moved in the post-war years to continue to improve the regulation of grazing. Based on the rather faulty belief that range conditions could be determined by the condition of the animals as they left the range, most ranchers and foresters in the late 1940's were of the opinion that the range was in fairly good shape. However, in the 1950's a focus on the condition of the land and forage rather than the condition of the livestock was implemented. Whereas at one time 80 percent of the plant life was allowed to be taken, now no more than 50 percent of the forage could be fed.[62]

As new methods and practices of range management and analysis were introduced, which supplied supporting data for livestock permit levels, the

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[54] *Ibid.*, pp. 119-120.

[55] *Ibid.*

[56] Dixie National Forest Historical Documents, Vol. V.

[57] Interview with Paul Fullmer, October 17, 1984.

[58] *Ibid.*

[59] Woolsey, p. 149.

[60] Interview with Sandin, October 17, 1984.

[61] *Ibid.*

[62] Dixie National Forest Historical Documents, Vol. IV.

Forest personnel discussing range condition. Left to right: Robert S. Salley, Monte Lewis, Thomas Phillips, Supervisor Albert Albertson and Reed Thompson. (Dixie N.F. photo.)

Forest Service and individual grazers began to work toward revegetation and rehabilitation of the range. Seven hundred acres were plowed and seeded on the Escalante District in 1959 and an additional 3,000 acres were seeded by broadcasting. Additionally 44 water developments were made and 18 miles of new fence erected to better control grazing on the range.[63]

The Granger-Thye Act of 1950 recognized the existing practice of the Forest Service in its promotion of the establishment and continuation of grazing associations. Cattle and sheep associations thrived in many areas of the Dixie. The cattle associations generally charged 15 cents per head of stock grazed on the forest. This revenue was used in handling salting, vaccinations, treatment of disease, quality and number of bulls, brand inspections, handling strays, fencing and water hole improvement as well as reseeding and other matters of concern to grazers.[64] Associations had been important in range management since the earliest days of the forest. The good ones assisted in coordination of many aspects of grazing. Some others were a headache to rangers and sometimes provided an organization of opposition to the forest officials. By the end of the 1950's many of the associations seemed somewhat less aggressive than earlier in resisting Forest Service range policies and practices, although they generally remained conservative and protective of their grazing interests.

Both the livestock industry and the Forest Service managers had come to accept and expect more intensive managment of grazing resources. Intensive analysis and intensive administration had a positive effect on resources and the long term grazing capacity of the range. By the 1950's what was known as "allotment analysis procedures" were coming to replace the earlier range surveys, substituting more intensive scientific evaluation and administrative routine. Topography, soil and plant types were thoroughly analyzed to determine the condition of the range on any allotment. From this information rangers and supervisors could move to reduce the numbers of stock on overgrazed forest areas. If land evidenced erosion or there was noted displacement of favored forage and grass species by weeds or shrubs, the range was regarded as in a state of decline and reductions would be initiated.[65]

It became apparent that large areas of winter deer range was again being depleted in the 1950's. Arguments by forest officers and conservationists convinced the Utah State Fish and Game Commission to implement an either-sex hunt. Even the adoption of an either-sex hunt in 1951 did not initially check the deer population explosion on some areas of the Dixie. Some herd units continued to increase faster than the range and the stepped-up

[63] Woolsey, p. 140.

[64] *Ibid.*, p. 149.

[65] Dixie National Forest Historical Documents, Vol. V.

Forest Supervisor Albert Albertson (far right) with permittees. (Photo courtesy Smoot Seaman, Cedar City, Utah.)

Forest Supervisor Albert Albertson (without hat) on a range reconnaissance trip. (Photo courtesy Smoot Seaman, Cedar City, Utah.)

hunting program could absorb.[66] Eventually either-sex hunting and improved rangelands brought the deer herds into balance. Chaining and reseeding improvement projects reduced the amount of browse replacing it with grass which was a less favored species for the deer and was a factor in bringing deer populations into control.

John Wesley Powell had maintained that the lands of the arid southern Utah area were neither desert nor garden. He also felt that these lands must be utilized, but gave a warning about that use based on the conditions of aridity.[67] The Forest Service by the 1950's was managing these lands so as to promote sustained and multiple use. Historically the Forest Service thrust had been commodity oriented and it remained so, but with better management practices. The practice began with J. Will Humphrey in 1916 at Bryce of having rangers write articles for newspapers and radio shows touting the beauties of the Dixie National Forest had continued and grown. Recreation had become almost as important as timber and grazing. Other forest uses were also beginning to compete with traditional timber and grazing operations.

As a human organization, the Forest Service had begun small and had demonstrated a continuing tendency to grow. As the numbers of employees rose, functions proliferated. With the management of a growing array of activities the forest's personnel tended toward increasing specialization. The maturation of the forest management and personnel helped improve control of grazing, improve watershed protection, fire control, etc.

By 1960 the Forest Service policy had come to be to achieve maximum productivity with scientific methods of control with the view of turning a profit for the government from the public resources of the forest. The next decades would see an intensification of this thrust. Surveys, management plans, and development were a part of this management program. Timber management is illustrative of this point. Basically timber operations had remained small, with markets being mainly local and for rough or "unmanufactured" lumber products, but some larger and more modern timber operations were now a part of the forest timber scene. Planting was increasingly emphasized in timber management as reforestation and sustained yield were becoming realities. Timber managers had learned much more about the rhythms involved in the 150-year growth cycle of timber stands.

The establishment of the Forest Service had initiated an era of regulation and adjustment in resource use. Only slowly had traditional forest uses yielded to the Forest Service campaign to bring forest usage into balance with the realities of resource production and the growing demand of other clientele for forest use privileges. Over the years a body of regulations had grown and a precedent had been established for policing and administering the forest functions. By 1960 the Forest Service had matured enough to enter into modern forest management. The emphasis had become and would remain protection of resources, multiple use, sustained yield, a constant willingness to re-evaluate methods and operations and a constant concern for public reaction and the maintenance of positive public relations.

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[66] Woolsey, p. 141.

[67] C. E. Dutton, "Report on the Lands of the Arid Region of the United States Including a Detailed Discussion of the Valley of the Sevier, and the Lands Drained by the Colorado River Tributaries," *Utah Historical Quarterly*, Fall 1962, Vol. XXX, No. 4, p. 352.

Supervisor Albert Albertson and Dixie National Forest Staff, 1960's. (Photo courtesy Smoot Seaman, Cedar City, Utah.)

Chapter 9

FOREST MANAGEMENT: THE MODERN ERA, 1960-PRESENT

As much as forest management had changed from the inception of the forest to the modern management of 1960, forest practices and resource conservation and management would witness many additional changes from 1960 to present. Much of this change was a result of dramatic shifts in forest clientele and preceived forest resource value and resultant forest usage. The years since 1960 saw recreational and environmental themes replace, in large measure, the earlier emphasis upon grazing and timber. Many changes in forest management practices were a result of public pressure and legislative fiat. Federal courts also played a larger role than ever before in influencing forest management.

In many ways the 1950's had been a decade of austerity in terms of appropriations for the Nation's forests. During the austerity of the 50's pressures on the National Forests had been building for expanded outdoor recreational opportunities. Another pressure for forest evaluation came from concerns about timber resources. Although in the immediate post-war years there had been a reduced timber demand, by 1950 there was a steady rise in timber harvest across the Nation to meet the demands for new housing construction. As a result of these concerns, two studies were undertaken which were to impact significantly forest management in the post-1960 period.

In 1952, the Forest Service, in cooperation with other federal, state and private agencies, began an inventory and assessment of the country's timber resources. The report of the investigation became known as the Timber Resource Review, or the TRR. Published in its final revised form in 1958 the TRR report found that in 1952 growth of sawtimber was almost equal to the cut. However, future timber demands were projected to rise dramatically. In the face of this projection, the TRR report expressed serious doubt about the ability of the Nation's forests to meet future timber demands. The report emphasized the need for increased National Forest production and more intensive timber management.[1]

In June 1958, shortly after the publication of the TRR report, the Outdoor Recreation Resources Review Commission, or the ORRRC, was established to inventory the Nation's recreational resources. Meanwhile, the Dixie National Forest, like many other western National Forests, was facing a multitude of problems connected with livestock grazing. Fortunately under the able direction of Albert Albertson the Dixie had successfully met many of these challenges. Additionally, many forests, including the Dixie, were receiving increasing requests for special uses of forest lands, including the reservation of more wilderness, a movement that had begun with the first wilderness area in the United States on the Gila National Forest in New Mexico in 1924.[2]

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[1] Dixie National Forest Historical Documents, Vol. VII.

[2] Phillip O. Foss, *Conservation in the United States,* (New York: Chelsea Publishers, 1971), p. 595.

Forest Supervisor Albert Albertson at Forest boundary up Cedar Canyon on snow shoes. (Photo courtesy Smoot Seaman, Cedar City, Utah.)

These combined pressures on the National Forests throughout the 1950's led to the drafting and eventual passage of the Multiple Use-Sustained Yield Act of June 12, 1960. The Act mostly reaffirmed long standing Forest Service policies and practices, and articulated the management ideals that the Forest Service had espoused for years, going back to Pinchot's phrase, "The greatest good of the greatest number in the long run." The Act specified that the National Forests were to be managed for a variety of purposes, and an effort was to be made to sustain the benefits of each purpose for the longest possible period of time. Although conflicts between purposes or uses were possible and probable they were to be resolved in the long-term best public interest. Five renewable resources or uses of the National Forests were stated in the Multiple Use-Sustained Yield Act: outdoor recreation, range (the grazing of domestic livestock), timber, watershed, and wildlife and fish. Mining and extraction were not mentioned since they were not considered a renewable use and were not felt to be in need of express encouragement. In essence, the Act declared that the National Forests do not exist for any single purpose and it implied that no one resource should be overemphasized at the expense of others.[3]

Passage of the Multiple Use-Sustained Yield Act of 1960 mandated an era of intensified multiple use management and forest planning. However, before the passage of the Multiple Use Act the writing of various types of use plans was required. Ranger Districts were expected to write plans for grazing districts. Management changes and new proposals required the writing of a multiple use plan by the forest officers. Prior to the Multiple Use Act these plans tended to be rather short and quite inadequate by present-day standards; nevertheless, the Multiple Use Act codified something the Forest Service was already undertaking.[4]

Because of the new legislation, the Regional Office in Ogden produced a Multiple Use Management Guide which divided the region into sub-regions. The Dixie was included in the southern Utah sub-region with the Manti-LaSal and Fishlake National Forests which constituted a sub-region of 4,800,000 gross acres with 280,000 of these acres in state/county or private ownership. It was then required that each forest would develop its own forest plan fitting its functions within the various geographical features of the sub-region and area.[5]

The Multiple Use Act was not without its critics. Much has been written about the ambiguities inherent in the Act. The Organic Administration Act of 1897 had provided for management of the forest until 1960. In that Act the stated purposes of the forest management were defined as forest improvement and protection, securing favorable water flows and a continuous timber supply. The Multiple Use-Sustained Yield Act stated that the five purposes delineated in that Act were "supplemental to but not in derogation of the purposes" stated in the Organic Administration Act. Some regarded the 1960 definition of multiple use as vague and simplistic. It was said that the criteria of flexibility in uses over time and continuous resource productivity could give "the unwary or ill-informed. . .the comforting illusion that if the uses are multiple enough there would be sufficient for everyone."[6] Moreover that Act gave little specific direction as to how the National Forests were actually to be managed, much less how conflicts among purposes were to be resolved. Some maintained that the multiple-use concept was a "facade behind which the Forest Service could operate to make decisions according to the relative strengths of clientele groups in a given area at a given time," or that the Act was a "blank check" to manage the National Forests as the Forest Service saw fit.[7]

Indeed the legislation was not so much a management tool as it was a statement allowing the Forest Service management flexibility while placating the multiple forest users. Undoubted the Act did express the fundamental approach of Congress and the Forest Service to managing lands under pressure from multiple interest groups and a fast growing national population. It was a recognition of all the uses to which forests could be put (except mining), and it represented an attempt to diversify land use—or prevent single use—wherever possible. It helped considerably in overcoming problems of scarcity and to resolve conflicts of interest. It was also a factor in Forest Service management becoming increasingly more complex through the 1960's to the present. More recent national laws have served to clarify the ambiguities of the Multiple Use-Sustained Yield Act, but have also added to the complexity of forest management.

The TRR report of 1958 had been one of the factors bringing about the passage of the Multiple Use-Sustained Yield Act. Pressure for increased timber yields had been building. Pressure to meet sustained-yield targets led to timber cutting in fragile areas on steep slopes or on particularly crucial watersheds where logging had adverse impact. In undertaking such practices it was argued that strong light was needed to grow trees well. Under policy directives to increase National Forest timber production, a more stringent need for economy and efficiency in harvesting, and with demand increasing, clearcutting in patches (also

[3] *Ibid.*, pp. 581-587.

[4] Dixie National Forest Historical Document, Vol. VII.

[5] USDA Forest Service Multiple Use Land Management Guide for Southern Utah Sub-region, Region 4, 1965, p. 1.

[6] Crofts, Edward C., "Saga of a Law," *America Forests 76* (June 1970), p. 17.

[7] *Ibid.*, pp. 13-19 and 52-54.

known as even-aged management) became a more prominent practice of timber management in the early 1960's. It was to be practiced primarily where mild climate, heavy rainfall and generally good soils would help insure rapid regrowth. It was also considered to be a good silvicultural practice in stands of valuable sun-loving shade-intolerant timber species such as Douglas fir.[8] Clearcuts or even-aged management were designed more for ease of access and logging rather than for aesthetic or environmental considerations. Nevertheless, the long-range objective was to preserve the remaining stands and to insure a steady annual yield. Selective lumbering and intensified reforestation efforts were implemented on the Dixie National Forest to achieve these objectives.[9]

Annual tree planting programs on an accelerated basis were implemented on the Dixie. Burned over areas and small areas that had been clearcut in timber harvesting were given first priority in the selection of planting sites.[10] Ponderosa pine seedlings were planted during April and May. The trees were produced at Lucky Peak Forest Service Nursery near Boise at an initial cost of one and one-half cents per tree. By 1985 the cost had risen to 15 cents per tree. The seed for the trees was collected on the Dixie and then planted the next year at the Lucky Peak Nursery. Two growing seasons with careful irrigation and fertilization were required to produce seedlings of plantable size. The trees were transported to Panguitch by refrigerated cars and stored in snowbanks until the April planting began. Because of extreme shock to the root system, a poor survival rate was observed if the trees broke dormancy before being planted. The snowbank storage provided the ideal conditions of temperature and moisture necessary to hold the seedlings in dormancy. Approximately 360,000 seedlings were planted each spring on the Dixie. About 35 people from surrounding communities were employed as hand planters. In addition six tractor drawn planting machines were used, but machine planting was limited to relatively flat areas where the soil was deep and free of rock. Hand planting was necessary on steep rocky slopes where the small crawler tractors could not operate safely. One man planting with a shovel could plant 300-400 trees per day while a three-man planting crew with machine could plant 4,000-5,000 trees per day, and usually about 400 trees are planted to the acre on the Dixie.[11]

The seedlings' first summer was the most critical. They were subject to damage from drought, rabbits, porcupines, deer, insects and disease. Perhaps the most serious obstacle to successful transplantation on the Dixie was the lack of adequate soil moisture to sustain seedlings through a drought year. After planting, surveys were made annually during the succeeding five years to determine survival and well being of the seedlings.[12]

Up until 1966 the planting of young trees on forest lands was done by the Forest Service personnel and crews of part time local employees. In 1966 the increasing size of the program necessitated the contracting of some of the planting. Of 1,380 acres to be planted, 485 acres were contracted with Chester Green of Coeur d'Alene, Idaho winning a bid to plant 350 acres at $29.20 per acre and Kenneth C. King of Antimony winning the bid for 135 acres at $22.88 per acre. By 1985 contracting costs averaged in excess of $100 per acre.[13]

As the Forest Service carried out reforestation efforts, it also stepped up its efforts to protect forests and ranges from vandalism and illegal cutting. In 1964 alone, perhaps as many as 10,000 trees were taken illegally from the Dixie and Fishlake National Forests in the southern Utah sub-region. Forest Service patrols were placed on continual vigilance and offenses—when discovered—were energetically pushed in the courts. Forest management felt it was important to protect the forests by demonstrating that no one would be permitted to flout laws with impunity. Firm action helped in solving the problem and soon officials reported little evidence of illegal tree-cutting on the Dixie National Forest.[14]

On January 13, 1965, the new long-term management plan for the usage of timber resources on the Dixie National Forest was approved. This plan established the annual allowable cut at 29,148,000 board feet plus an additional unspecified volume of dead spruce and other post or fuel material not included in the regulated cut. The allowable cut was apportioned to each ranger district on the basis of the area and volume of each type timber on each district. The annual cut was budgeted to those areas that had the highest priority from a risk and accessibility standpoint. The allowable cut for the forest included 4,195,000 board feet of Douglas fir, 8,866,000 board feet of ponderosa pine, 12,617,000 board feet of Engelmann spruce, 1,991,000 board feet of white fir and 1,479,000 board feet of aspen.[15]

The goal of the Dixie National Forest timber plan was to provide for an orderly harvest of the timber resources of the forest on a continuing basis while coordinating with all other uses of the forest and at the same time taking proper precautions to protect soil and watershed values. During the 10-year design of the plan, careful scientific management

[8] Dixie National Forest Historical Documents, Vol. VII.

[9] *Ibid.*

[10] *Ibid.*

[11] *Ibid.*

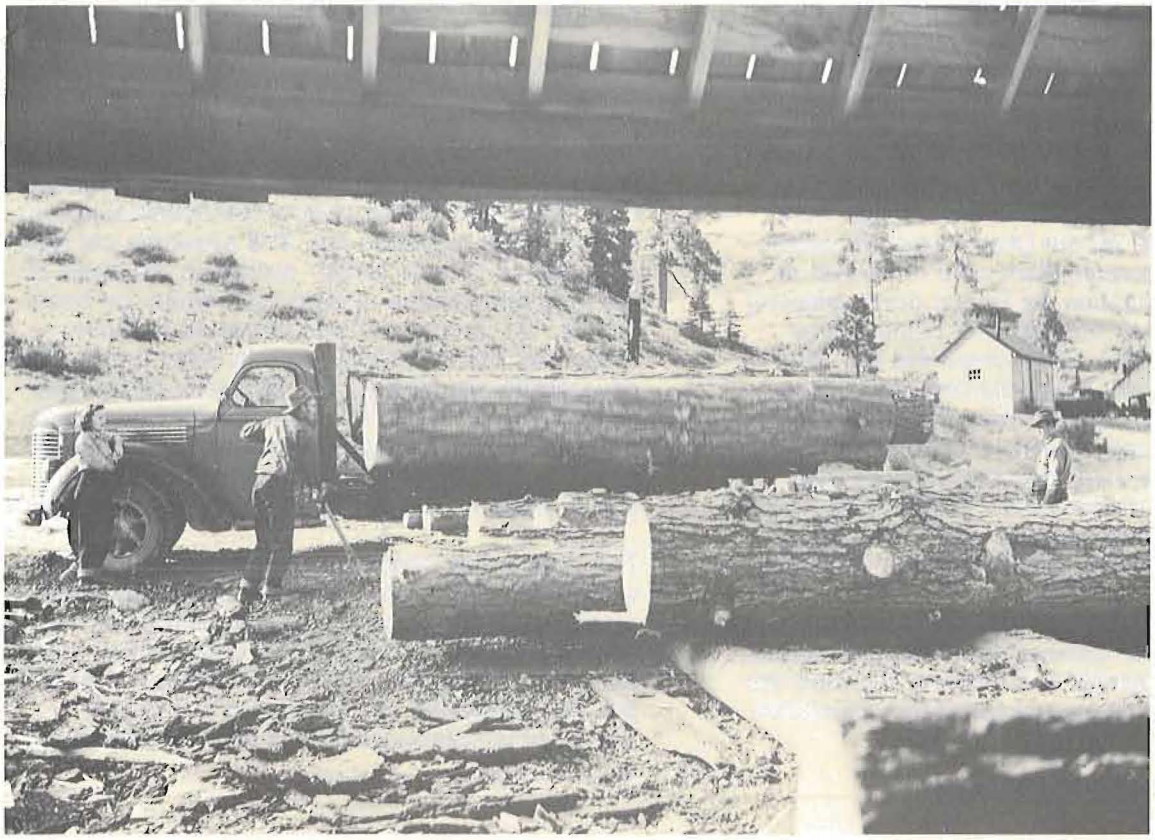
[12] *Ibid.*

[13] *Ibid.*

[14] *Deseret News,* November 29, 1965.

[15] Dixie National Forest Historical Documents, Vol. VII.

Large ponderosa pine logs loaded on logging trucks in the 1960's. (Dixie N.F. photo.)



Unloading logs at the Crofts sawmill at Swains Creek, Cedar Mountain. (Dixie N.F. photo.)

The Croft Lumber Company located in Swains Creek on Cedar Mountain. The Dixie National Forest provided fine yellow pine logs to feed this thriving mill giving a number of men employment. (Dixie N.F. photo.)

would be needed to realize the full potential of the timber resources in the face of rapidly increasing demands being made for all classes of timber and use on the National Forest lands.[16]

It was the objective of the plan to provide material for the timber industry to the full extent of the annual allowable cut on a continuing basis while maintaining residual timber stands in a thrifty growing condition while providing for optimum development of other forest resources and uses.[17]

The timber industry had become an important segment of the southern Utah economy. Some of the larger sawmills in the state were located at Panguitch and Escalante and other significant mills were operating at Parowan, Bicknell, Teasdale, Torrey and Widtsoe in 1965 when the forest timber plan was completed. More than a dozen wood-using plants obtained all or major parts of their raw timber supplies from the Dixie.[18]

The Kaibab mill at Panguitch was the largest mill in Utah in 1965 and the Steed mill at Escalante had become increasingly significant. The Wanless Alvey mill at Escalante had been sold in 1961 to H. M. Draper & Son of Salt Lake City, but in the fall of 1962 this formerly significant mill burned down. The Skyline Lumber Company of Paul Steed grew rapidly to fill the void created in the lumber industry at Escalante. By 1963 the payroll at the Skyline mill exceeded $100,000 and it employed 25 to 35 men. In 1962 Steed added a planing mill and in 1963 a mechanical loading and sorting device called a green chain was also added to the operation. In 1963 the Steed company logged over eight million feet of timber.[19] As the operation grew, a new carriage and edger were also added.

In 1977 the Steeds sold to the Allied Forest Products Company which has run the mill ever since. By 1981, at the height of its operation, this mill employed 100 people. In October of 1984 it continued to employ 87 and it provided an annual payroll of $1,000,000 in a community of 700 people.

In 1980 and 81 the mill was unionized but in 1982, an off year in the industry with employment down and under adverse conditions, a vote was taken and the union was eliminated by a one vote margin. Nevertheless, the company continues to provide its employees with a vacation plan and to pay 90 percent of a group health and accident plan; there, however, is no sick leave provided.

In 1983 the mill processed 14 million board feet of lumber and in 1984 management projected that 12 to 14 million board feet of cut would again be processed. Mill management maintains that 12-14 million board feet of cut would accomplish the same purpose for the Teasdale Ranger District. Since the company cuts from a 50-mile radius, such a proposal would allow for further expansion. As yet, the Forest Service has not agreed to allow cutting in such quantities.

Because of the need for timber thinning on Boulder Top, the company and the Forest Service have cooperated in some specialized logging techniques including cable logging which is expensive since only 10 to 15 logs can be skidded a day. However, this method has opened access to new areas allowing the company to cut old growth timber which provides for larger logs and better profits.

Much of the Allied Forest Products Company logging is done by contract loggers who work in four-man crews. Tractor logging and milling costs average the company about $100 per thousand. The company has been able to keep its costs relatively low by gaining permission to continue to burn its refuse and by its ability to sell chips to Snowflake, Arizona.[20]

The Allied Forest Products Company's desire to expand its cut has been constrained by the Forest Service. By the mid to late 1960's it had become apparent to some that the pressure for increased timber yields had come at the expense of other values. Because of new pressures from environmental groups, the Forest Service began to back away from its definition of sustained-yield in terms of an annual allowable cut. Forest officials began to hire specialists to investigate other aspects of timber use that previously had been ignored. Landscape architects were hired to design logging operations which would leave the forest more aesthetically pleasing. Geologists were hired to advise on potential land instability and hydrologists to provide information on potential watershed damage.

Even though the forest has continued to provide resources for wood processors, logging on the National Forest is not always a lucrative business in the modern era. In part this is because the process of sealed bidding often elevates timber prices; and loggers maintain that it is in part because of the restrictions placed on them by the Forest Service. There are restrictions on the size and type of logging roads, requirements to pile and burn slash and specified methods of timber extraction which have been implemented to protect the environment, reduce fire danger and help assure reproduction. Such carefully regulated practices have succeeded in their environmental goals but have, of course, increased the immediate cost of logging. The long run effect is to assure timber in the future.

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[16] *Ibid.*

[17] *Ibid.*

[18] *Ibid.*

[19] Woolsey, p. 119.

[20] Interview with Steve Steed, Mill Manager, October 18, 1984.

Whereas at one time small sales tended to exceed large sales, in the modern era the reverse appears to be true on the Dixie. Perhaps this is so because small operations tend to be seasonal and provide only sporadic employment. Sealed bidding and greater expense in logging operations are also factors. When one sale exceeds 10,000,000 board feet of live sawtimber representing approximately 35 percent of the annual allowable cut for live sawtimber on the forest,[21] the small companies have little chance bidding against Kaibab-Crofts Industries or more recently against the Allied Forest Products Company. In 1965 in two successive bids, one at Robinson Canyon on the Powell Ranger District and one on Barney Top near Clayton Springs, the Kaibab-Crofts Company succeeded in securing 12,910,000 board feet of a total of 22,500,000 board feet that had been sold from July 1, 1965, to March 21, 1966.[22] These large timber sales have become more usual than unusual in the post-1960 era of timber management on the Dixie National Forest. The nature of the economics of the timber industry as well as environmental concerns and timber management practices will more than likely serve to continue this trend in the future.

For many years the Forest Service had been particularly concerned with commodity interests such as grazing and lumbering. This emphasis was politically popular in most communities surrounding the Dixie National Forest for it had helped in stabilizing some economic aspects of the communities using the forest's most obvious resources. But suddenly a new constituency had appeared bidding for Forest Service consideration under the multiple-use concept. Even though the Forest Service had been concerned with increasing pressures for recreational uses and had responded favorably to this constituency, a new constituency developed which the Forest Service had been only marginally concerned with before. These were the aesthetic conservationists or environmentalists. This group fought for considerations in line with multiple-use concepts and their observance in forest management.

In 1972 the Sierra Club brought a lawsuit against the Forest Service timber sales. They obtained a court order against all timber sales which stood for several months.[23] In 1974 a Federal District Court Judge in West Virginia ruled the Forest Service in violation of the Organic Act of 1897. This ruling was upheld by the Fourth Circuit Court of Appeals in 1975 supporting the position of the Izaak Walton League that clearcutting violated the 1897 Organic Act. The Circuit Court ruling noted that if changes in the law were needed it was up to Congress to make them. This appeal ruling forced Congress to act. The National Forest Management Act of 1976 was passed which repealed the restrictions on timber harvesting in the 79-year-old Organic Administration Act and which set more specific requirements for management planning, thereby amending the 1974 Resources Planning Act, and establishing guidelines for timber harvesting. Patch clearcutting on National Forests was not forbidden, but was permitted only when determined optimal and under environmental constraints.

The 1974 Forest and Rangeland Renewable Resources Planning Act required each forest to produce a master plan for its operations. The 1976 National Forest Management Act required an assessment of resources, supply and demand on a 10-year schedule and then on a five-year schedule with a program for the use of the resources. Many features were basically codifications of existing multiple-use policies, but each forest was required to produce a comprehensive forest plan providing various alternative resource management strategies within a general concept of multiple-use. The development of the Dixie National Forest plan for compliance with the National Forest Management Act required an enormous amount of time, money and energy, but by the fall of 1984 it was complete for some of the ranger districts on the Dixie and others were to be completed by 1985.[24]

By the last half of the 1970's, because of harvesting delays caused by litigation and new rules, timber harvesting was reduced below the annual levels of the 10 years from 1965 to 1975. In those years the annual harvest on the Dixie was often above 29,000,000 board feet. After 1974 and 1975 integrated planning on an increasing scale to give more concern to wildlife, aesthetics and watershed protection, and changes in road design and harvesting practices to assure minimum environmental impact, plus studies under RARE I and RARE II for new wilderness areas and increased public participation in decision-making all slowed down timber sales to a level of 22,000,000 to 23,000,000 board feet per year on the average.[25]

Timber and recreational concerns had brought about the Multiple Use Sustained-Yield Act of 1960 and continuing timber and recreational concerns brought many additional changes to forest management. The Outdoor Recreation Resources Review Commission study substantiated the belief that adequate funding for recreational facilities was a pressing problem. On September 14, 1962, Congress enacted the Clark-Blatnik Emergency Public Works Acceleration Act. Under its provisions funds were allocated in 1962 and 1963 for accelerated public works programs nationwide for work on a multitude

[21] Dixie National Forest Historical Documents, Vol. VII.

[22] *Ibid.*

[23] Daughters of Utah Pioneers of Wayne County, *Rainbow Review: A History of Wayne County,* (Art City Publishers: Springville), 3rd edition, 1977, p. 328.

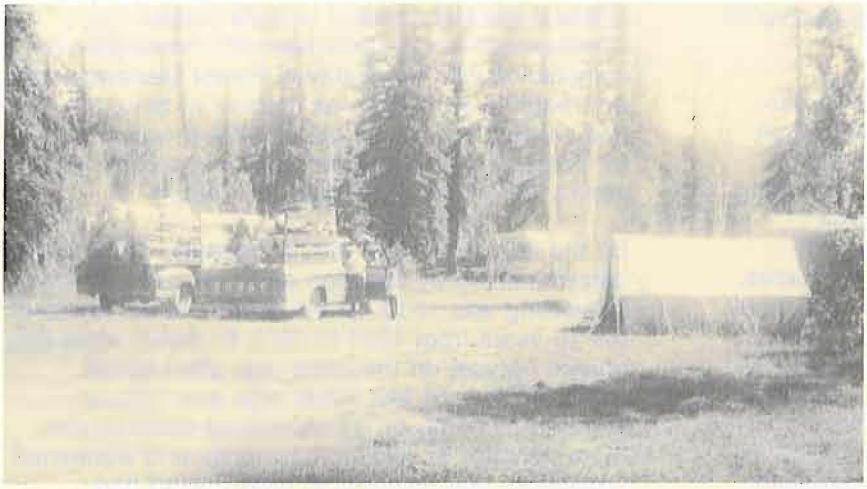
[24] Interview with Doug Austin, Ranger on Escalante Ranger District, October 17, 1984.

[25] Dixie National Forest Historical Documents, Vol. VII.

of projects in the National Forests. The work included picnic areas and campgrounds, sanitary facilities, timber stand improvement, wildlife and fish habitat improvement, road and trail improvement and construction, erosion control, and projects relative to fire protection, ranger offices, warehouses and other structures.[26] This was more a human resource program administered by the Forest Service than a forest program but it had a positive impact.

A more direct outgrowth of the Outdoor Recreation Resources Review Commission was the establishment of the Land and Water Conservation Fund Act (LWCF) of September 1964. The main purpose of this act was to enhance the recreational resources of America through planning, acquisition of lands and recreational development.

[26] *Ibid.*



Increased dispersed and developed recreation pressures on the Dixie National Forest. (Dixie National Forest photos.)

Recreational development in the 1960's and 70's was extensive. Visitation to the forests increased dramatically. As the spendable income, leisure time and mobility of Americans increased, outdoor recreation became more and more a national pursuit and concern. Anxiety about the Nation's ability to satisfy recreational demands was expressed in the creation of the Outdoor Recreation Resources Review Commission. Its task was to inventory and evaluate America's outdoor recreational resources currently in use and those that might be developed in the future, and to provide information and recommendations to help assure the necessary quality and quantity of needed resources in the future.

The four senators, four congressmen and seven private citizens on the Commission issued their immense 27-volume report in 1961. Since America's recreational needs were not being effectively met and since future demands would accelerate, money and further study were recommended at the federal, state and local levels. The many specific recommendations of the Commission have been conveniently grouped into five general categories including: (1) the establishment of a national outdoor recreation policy, (2) guidelines for the management of outdoor recreation, (3) increased acquisition of recreational lands and development of recreational development, and (5) the establishment of a Federal Bureau of Outdoor Recreation.[27]

During the next ten years, virtually all of the ORRRC recommendations were enacted. In April of 1962 the Bureau of Outdoor Recreation (BOR) was established in the Department of Interior; today it is known as the Heritage, Conservation and Recreation Service. Monies were made available through the BOR for the Forest Service to acquire private inholdings in wilderness areas, lands for outdoor recreation purposes, or areas where any fish or wildlife species were threatened. The Bureau's purpose was to coordinate the recreational activities of the federal government under a multitude of agencies and to provide guidance to the states in planning and funding recreational development. To better accomplish this goal, a policymaking Recreation Advisory

[27] Foss, pp. 581-587.

Council composed of the Secretaries of Interior, Agriculture, Defense and Health, Education and Welfare and the Administrator of the Housing and Home Finance Agency was established by executive order.

In 1963 Congress passed the Outdoor Recreation Act to expedite coordination of recreational planning by federal agencies and to initiate a comprehensive national recreation plan. A year later the Land and Water Conservation Fund Act was passed to provide monies for Federal and State recreational development. A fund established by the Land and Water Conservation Fund Act of September 1964 was to provide money to individual state and local governments on a matching basis and to federal agencies to carry out the purpose of the Act. The main purpose of the Act, which was a direct outgrowth of the ORRRC study, was to enhance the recreational resources of America through planning, acquisition of lands and recreational development. After 1965, LWCF monies became by far the chief source of money for National Forest land acquisitions.[28]

The Land and Water Conservation Fund Act mandated the charging of camping fees in certain developed camping areas. The money was to be accumulated in the Land and Water Conservation Fund for use in the purchase of additional recreational areas and to improve existing areas. Initially forest patrons were allowed to purchase "Golden Eagle" stickers which allowed access to all fee areas. In 1968 the practice of the $7 "Golden Eagle passport" was discontinued and tickets for individual areas were required.[29]

[28] *Ibid.*, pp. 444, 448.

[29] Dixie National Forest Historical Documents, Vol. VII.

Ranger checking camping permits at Duck Creek Campground. (Dixie N.F. photo.)

Twelve sites on the Dixie National Forest were designated as fee areas with the rangers making compliance checks. Permits were of three types, the $7 "Golden Eagle passport," the one-day permit at $1 per day and group reservations in six areas of the forest under a group rate schedule. Reservations were required in advance for group areas. Any of the three types of permits were available at the eight ranger district headquarters, the supervisor's office in Cedar City or the Pine Valley, Duck Creek and Panguitch Lake Field Stations. Picnickers without stickers wre initially charged 25 cents. The 12 designated fee sites included Enterprise Reservior on the Enterprise Ranger District; Pines, Juniper Park, Blue Springs and Ponderosa on the Pine Valley Ranger District; Navajo Lake, Spruces, Duck Creek and Vermillion Castle (reservations only) on the Cedar City Ranger District; Panguitch Lake North and South on the Panguitch Lake Ranger District; and Red Canyon on the Powell Ranger District.[30]

Developed sites on other locations of the forest remained available for public use season-long without charge. Among the 10 such campsites on the Dixie were: Pine Park, Oak Grove, Cedar Canyon picnic, Pine Lake, Antimony Creek picnic, Blue Spruce, Posy Lake, Oak Creek, Singletree and Pleasant Creek. These sites were considered more remote or with lower standard access or lower standard facilities than the fee areas.[31]

Grants to Utah from the Land and Water Conservation Fund amounted to $113,825 in fiscal 1965, $925,000 in 1966 and well over $1,000,000 in 1967.[32] The funds available to the Dixie National Forest were put to work on projects consistent with the purposes of the Land and Water Conservation Fund Act for such things as development of recreational areas, improvements at trailer and campsites, boat launching sites and access improvement, as well as acquisitions. Stratton Brothers of Hurricane, Utah won a contract for reconstruction and blacktopping of 4.48 miles of the Veyo-Shoal Creek, Rattlesnake and Enterprise Reservoir campground roads. R. A. Childs of Cedar City installed culverts and gravel surfacing of 3.5 miles of Pole Canyon road near Pine Lake in Garfield County. Singletree and Pleasant Creek campgrounds along the Boulder-Grover road to Teasdale were completed, a water system was installed at the Oak

[30] *Ibid.*

[31] *Ibid.*

[32] *Ibid.*

Creek campground, and 84 campground units were added to the Dixie National Forest for public use all during the summer of 1965 alone.[33] In 1966 a 60-foot wide and 100-foot long boat launching ramp capable of launching up to five boats at a time was built at Wildlife Point on Panguitch Lake. This was the first boat launching ramp on the Dixie National Forest. Later a boat dock was constructed and a parking lot to accommodate 100 cars was added. In June of 1966 the Forest Service began campfire program presentations for the summer seasons at Duck Creek and Navajo Lake campgrounds and on Sundays at Panguitch Lake campground. The presentations continue to the present time.[34]

The Dixie National Forest had received a large share of recreational funds available in Utah because of its rapidly increasing recreational use. In 1960 there had been but 228,200 recreational visits to the Dixie National Forest; in 1964 there were 786,900 which represented the biggest percentage increase in usage in Region 4.[35] In 1965 840,000 recreational visits were made to the Dixie,[36] and visits continue to increase right to today.

More people visit the Dixie National Forest for general sightseeing and enjoyment than for any other purpose. There are also significant number of visits for purposes of fishing, camping, picnicking, hunting, winter sports activities, boating, hiking and riding. Campgrounds proved to be the most popular developed sites with forest visitors. Approximately 117,000 people used the 15 developed campgrounds and stayed an average of two days per visit in 1965 and these figures have continued to grow up until the present. Picnic areas have ranked second in usage to campgrounds followed by resorts, winter sports sites, recreational residences and organized camps. The areas most popular with visitors have been those along highway U-14 between Cedar City and Long Valley with the Pine Valley complex and Red Canyon campgrounds ranking next. In 1965 the forest collected $6,000 for sales of stickers and tickets for the newly instituted charge programs. Today, near this amount was collected per week during the summer of 1985. The Cedar Ranger District alone collected several times the amount that the entire forest collected in 1965.[37]

The number of annual visitors to the Dixie National Forest region has continued to rise substantially as increased recreational development—both public and private—increased tourist attractions and investment possibilities have expanded. One conclusion of the ORRRC report was that an important force in outdoor recreation would be private endeavors and commercial enterprises. It would seem that the heightened federal attention to outdoor recreational resources and the various federal acts passed following the report which impacted recreation, triggered a substantial private recreational development. The mountain environment, clean air and streams, and uncommercialized and unspoiled countryside and unique Mormon culture, along with relative ease of access, have been major factors in recreational development in southern Utah. The natural beauty of the region and its proximity to the population centers at Las Vegas and southern California were recognized as assets that had not been fully exploited.

Investments were made not only in resort attractions (resort hotels, restaurants and shops), but in residential land as well. Corporate developments and condominium construction reached boom proportions. Vacation home communities spread in clusters outside the National Forest at Strawberry, Duck Creek Village, Mammoth Creek, Willis Creek and other locations. The number of retail establishments catering to tourists increased, and speculators bought numerous tracts of mountain land throughout the region with the hope of turning a profit by subdividing. The impact of these actions has been considerable, not only on the local population, but also on the managers of forest lands.

The numbers of out-of-state owners and the amount of mountain land they owned increased dramatically between 1960 and 1980. Recreational development initiated largely by individual or corporate outside investors substantially inflated the price of land. Such inflation consequently raised property valuations, causing increased property taxes and thus a higher property tax base for the southern Utah counties. The cost of services was also increased considerably. It is not certain whether revenues have kept up with costs.

Home development and resort and recreational development have been charged with bringing environmental degradation similar to that resulting from the exploitation of timber and grazing resources decades earlier. Problems of erosion, inadequate water supplies, sewage treatment facilities and increased fire hazards could be cited. Many more automobiles, motorcycles, snowmobiles, other recreational vehicles and service vehicles to meet the elaborate demands of the resorts and recreational areas clog the mountain roads and trails and disturb the quiet with the roar of engines. Furthermore, ski slopes have cut huge slashes in the natural cover of some of the most attractive mountains and appealing vistas.

Skiing has become a growing and thriving industry. Brian Head was started in 1964 with one chair lift, a t-bar and two prefab buildings that slept four couples. Today, Brian Head is Utah's fastest developing ski area. A 185-room Travelodge and a

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[33] *Ibid.*

[34] *Ibid.*

[35] Multiple Use Plan, Use Management Guide, p. 416.

[36] Dixie National Forest Historical Documents, Vol. VII.

[37] *Ibid.*

$22 million hotel complex with 200 rooms were completed in 1984 and 85. Construction of two new lifts is underway and the Giant Steps Lift is being converted to a triple chair lift which will give Brian Head the ability to carry 11,200 skiers per hour to the top of the lift. The nine condominium complexes, several motels and the Bristlecone Hotel and a ski dorm provide lodging for about 4,000 guests.[38] All access to Brian Head is across the forest and is not without impact. Safety inspection is done by the state and trail grooming is done by the developers, which of course, reduces the impact of the development on Forest Service personnel.

A look into Dixie National Forest at most any season of the year will reveal recreational activities including skiing, boating, fishing, camping, hunting, etc. Additionally, Utah seemingly is the family reunion capital of the world. Partly because of this, Utah's campgrounds have one of the highest use rates in the country. Some open reservations in January and if you don't make yours within the week, you might as well forget it until next year.[39]

It seems that for many southern Utahns the mountain canyons are a fun place, but they are more than that; they are an appendage of the community and are approached with a certain respect which comes from a knowledge that from these canyons come the resources which very literally are the lifeblood of the communities they serve. Over the years there has been a close interplay between the people and this dry, beautiful yet difficult land.

We have learned, however gradually, that the mountains are not indestructible. Nature is not always quick to heal itself in Utah's harsh lands. Within a few years of overgrazing many indigenous grasses and plants on the mountain ranges were killed which lead to a long and difficult battle against erosion and flooding. We are learning that there are limits to how much we can take from the land and its resources. Perhaps the difficulty is defining the limits and then even more difficult, imposing them. This, of course, applies to recreational use as well as grazing and timber use. Operation Outdoors and the passage of the Multiple Use-Sustained Yield Act recognized recreation as a fully legitimate use of forest lands and the Forest Service has continued to demonstrate its commitment to recreation.

Recreational usage of boom proportions has been revolutionary, in part, in its impact upon day-to-day administrative issues. Watershed abuse, littering, access, sanitation, road grooming, and resource damage are almost daily problems. With hundreds of thousands of recreationists taking to the

[38] *Spectrum,* November 15, 1984.

[39] It has been my personal experience in attempting to schedule an annual mountain activity for any Saturday in the month of August, you had better be early in scheduling.

Ranger Grant Williams displaying fire prevention sign. (Photo courtesy of Grant Williams, Spanish Fork, Utah.)

mountains, man-caused fires have increased with tragic consequences. Efforts to combat such problems in recent years have been hampered by shrinking appropriations for operation and maintenance.[40]

At the same time that the Forest Service was intensifying its concern for and attention to recreation, pressure developed and intensified for the creation of new wilderness areas to be preserved from development. This pressure led to the passage of legislation in 1964 and 1968 providing for the immediate creation of certain areas and for studies of other areas for their wilderness potential. Aldo Leopold, Forest Service employee serving in New Mexico, has been credited with pioneering the concept of wilderness areas in the forests as early as 1920. He and others, both within the Forest Service as well as the public at large, began to express concern that development on National Forests, such as roads, campsites, resorts, summer homes, etc., threatened areas that should remain in a natural state. Leopold's report and the efforts of many others had an impact in that in 1934 Chief Forester Greeley established the first wilderness area in the United States on the Gila National Forest.[41]

Obviously this new thrust was contrary to the historical commodity orientation of the Forest Service. Forest personnel found it difficult to adequately formulate, plan and develop wilderness areas until they were legislatively mandated to do so. Nevertheless, there had been national efforts by aesthetics conservationists to refine and clearly formulate aspects of wilderness policy from the 1920's until the passage of the Wilderness Act of 1964.

The Wilderness Act of September 3, 1964, gave federal statutory recognition to wilderness designation through the establishment of a national system of wilderness areas. The eight or nine years of intensive legislative debate and lengthy testimony that finally culminated in the Act had focused on three issues: the amount of land to be included in wilderness; the addition of lands to the wilderness system; and the status of logging and mining in wilderness areas.[42]

The statement in the Multiple Use-Sustained Yield Act of 1960 that, "The establishment and maintenance of areas of wilderness are consistent with the purposes and provisions of...multiple use,"[43] anticipated to some extent the wilderness legislation to come. Nevertheless, the Forest Service, which had pioneered in establishing wilderness areas, at first strongly opposed the Wilderness Bill, primarily because its administrative and land-management options might be restricted. Many forest users including most timber, mining, petroleum, agriculture, and grazing interests also opposed the wilderness legislation. However, general public support for a separate wilderness act was strong, and the Forest Service ultimately acceded to popular demand and lent its expertise to the long bill drafting and modification process.[44]

The Wilderness Act defined wilderness areas as places "where man himself is a visitor who does not remain."[45] Wilderness areas were to be preserved in a roadless, natural, underdeveloped condition. Specifically prohibited in the wilderness areas were motorized vehicles (land or water), motor powered equipment, and landing of aircraft was prohibited as were permanent buildings and lumbering operations. No crop farming was allowed but hunting, fishing and grazing are allowed. Where rights had been previously established, mining and prospecting could continue until January 1, 1984.[46]

The wilderness system was to include already designated wilderness areas, wild areas and primitive areas which were tracts set aside for further study, but administered as wilderness until final determination of future status. Primitive areas were to be reviewed over a 10-year period for possible final inclusion. Each area could be added to the wilderness system only by act of Congress. Prior to any Congressional action, each area had to be opened to a public hearing process where testimony from governmental officials, (local, state and federal), and private citizens could be taken.[47]

Efforts continued by wilderness advocates to expand the National Wilderness System. In 1971 the Forest Service initiated a review process called RARE (Roadless Area Review and Evaluation) in which National Forest roadless areas not included in previously cited Primitive Areas were identified and rated for possible wilderness inclusion. The result of the RARE process was a list of several study areas that was published late in 1973. In 1977 another Roadless Area Review and Evaluation was begun which became known as RARE II.[48]

During the summer of 1977, workshops were held throughout the country to review a preliminary list of Forest Service-proposed wilderness sites and to suggest designation of others. Public input was

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[40] Personal interview with Doug Austin, October 17, 1984, and Jerold Shaw, October 1984, indicated that Forest Rangers on the Dixie National Forest feel that funding is inadequate to adequately meet recreational demands on the forest.

[41] Foss, p. 595.

[42] Roderick Nash, *Wilderness and the American Mind,* (Yale University Press: New Haven), 1976, p. 5.

[43] *Ibid.*

[44] Michael Frome, *Battle for Wilderness* (New York: Praegger Publishers, 1974), pp. 170-175.

[45] Nash, p. 5.

[46] *Ibid.*

[47] *Ibid.* p. 226.

[48] Dixie National Forest RARE II Study Area.

solicited in selection of potential wilderness sites and the evaluation of them. Because of previous long delays on wilderness designations, the RARE II process called for quick decisions with each site to be designated either "wilderness," "nonwilderness," or "needing further planning" within a time frame of 18 months. All proposals were subject to Congressional approval or modification.

After considering public comments, the Forest Service selected sites for possible wilderness inclusion. In June 1978 the Forest Service published its Draft Environmental Statement announcing the potential wilderness areas, and during the summer and early fall, solicited public input. Town meetings were held to explain the RARE II process, to outline the possible wilderness areas, to clarify wilderness management practices, and to receive public questions and comments. Largely through announcements in local newspapers and other media, letters, written comments, and visits from the public were sought.

The study areas on the Dixie National Forest included: Pine Valley, Cedar Bench, Ashdown Gorge, Red Canyon North, Horse Valley Creek, Deer Creek, Table Cliff, Box-Death Hollow, and Red Canyon South.[49]

Nationally and locally the size and intensity of the public reaction surprised Forest Service officials. The reaction was particularly strong, one-sided and widespread. Responses came in the form of petitions, individual letters and statements from local and national organizations, from lcoal, state and federal agencies. Additionally, there were numerous responses from individuals.[50] Pine Valley received the most support for wilderness inclusion with 49.5 percent of the responses favoring wilderness. For Cedar Bench 90.0 percent of the responses opposed wilderness designation. Other study sites with high opposition included Horse Valley Creek, 89.7 percent; Red Canyon South, 81.7 percent; Red Canyon North, 79.8 percent; Deer Creek, 72.5 percent; Table Cliff, 66.6 percent; Ashdown Gorge, 62.2 percent; and Box-Death Hollow, 57.1 percent.[51] For Box-Death Hollow there were 389 responses. There were fewer responses for other study areas, but for all areas the responses were abnormally high in comparison to previous Forest Service and Federal hearing experiences.[52]

Responses which favored inclusion usually cited one or more of the following arguments: high scenic beauty which needs protection, wild values, preservation, close to population centers which might overuse or abuse, low resource value, wild values outweighing economic values, suitable for nonmotorized types of recreational visits, unique ecosystems and little potential for other uses.[53]

Those who opposed wilderness designation usually cited one or more of the following reasons: high timber value, restrictions on roads and motorized vehicles, multiple use, petroleum or mineral values, only a few would be able to use wilderness areas, it would make hunting and fishing access difficult, wilderness designation would restrict recreational use, and some cited an already high everyday usage. Local opponents to wildernss stressed the ban on logging in wilderness, the potential loss of tax revenues, the exclusion of motorized vehicles from the wilderness areas, the potential of high visitation of wilderness areas by "outsiders," the threat to private holdings adjacent to wilderness areas, and the rights of the federal government versus those of the private citizen.[54]

Perhaps the circulation of misinformation about what could or could not be done in wilderness areas added to the heat of the hearing process. Much opposition to the proposed wilderness areas in southern Utah was based on the exclusion of roads and motorized vehicles. Some felt this meant the exclusion of hunting and fishing. It did not. Hunting and fishing were to be permitted, but access was to be limited to horseback or foot travel. Sportsmen accustomed to entering the forest in their pickups or 4-wheel drive vehicles, loudly attacked this restriction. Wood gatherers also attacked the road and vehicle exclusions. One commonly heard complaint was that if roads were closed, only the hale and hearty backpackers could enjoy the use of the wilderness areas. The old and less able would be discriminated against.[55]

As local people sought to control the forest for the uses most important to them—hunting, fishing, wood gathering, timber, recreational travel, etc., their comments focused on the "outsiders" who already visited the forest and would presumably frequent the wilderness areas. Some spoke disparagingly of weekenders, hikers and backpackers and the type of people some felt them to be.[56]

Finally Utah's Wilderness Bill of 1984 was approved designating what National Forest lands in the state were to be wilderness. Dixie National Forest lands in the Utah Wilderness Act include three areas. The first, Ashdown Gorge, forms the lower rugged slopes of Cedar Breaks National Monument. The 7,000-acre Ashdown Gorge Wilderness provides a natural extension of a pristine wild area which forms an important watershed. It was originally proposed that 8,590 acres be designated wilderness in this area and conservationists have protested the exclusion of 1,590 acres.[57]

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[49] Dixie National Forest RARE II Public Involvement.

[50] *Ibid.*

[51] *Ibid.*

[52] *Ibid.*

[53] *Ibid.*

[53] *Ibid.*

[54] *Ibid.*

[55] *Ibid.*

[56] *Ibid.*

[57] Marv Poulson, "Utah Politics Spark the Call of the Wild," *Utah Nature,* 1984, p. 21.

Box-Death Hollow is a rugged canyon terrain which gathers the headwaters of the Escalante River on the southern edge of the Aquarius Plateau. Originally this was one of the few areas in Utah's forests to receive consistent support for wilderness designation from the Forest Service, Governor Matheson, the state's Congressional delegation and conservationists. Then came a surprise announcement from AMOCO and ARCO, two of the world's seven largest oil companies, which cast a shadow over inclusion of the Antone Ridge, a central ridge between the Box and Death Hollow. The companies last minute bombshell revelations claimed proprietary privileges. ARCO disclosed finding tremendous amounts of carbon dioxide within the area. Utah's Congressional delegation and Governor Matheson sprang to the support of the oil companies. Cries of foul play rang out from environmentalists. The Southern Utah Wilderness Alliance headed by Clive Kincade lead a "no compromise" stand. Despite the adverse public comments on wilderness, state-wide polls indicated that most Utahns favor the wilderness ethic. However, elected officials now chose to support the development interests. As a result of an uncomfortable compromise, 3,400 acres were cut from the proposed 29,400 acres of the Box-Death Hollow so that 26,000 acres were designated wilderness. The compromise allows development of the Antone Ridge, a move which many conservationists find hard to swallow.[58]

A final area included in Utah forest wilderness from the Dixie National Forest is the Pine Valley Mountain area located due west of Zion National Park which forms a steep divide between the Great Basin Desert of the Cedar City area and the much lower altitude Mojave Desert of the St. George region. Originally the Forest Service recommended 83,000 acres as wilderness which was supported by conservationists, but Washington County officials and grazing interests successfully sought for less acreage. The resulting wilderness designation on the Pine Valley Mountains included 50,000 acres of primarily high, hard to reach ridges.[59]

It now appears that public use of areas that were designated wilderness has increased substantially. This is perhaps most true in regard to the Box-Death Hollow Wilderness. Nevertheless, the entire wilderness question remains the subject of debate and controversy. Passage of the Utah Forest Wilderness Act quieted the debate but has not ended it. Some people continue to protest any land being designated wilderness while environmental groups have been outspoken in their disappointment. Wilderness groups including the Sierra Club have vowed to continue their efforts in behalf of wilderness.

[58] *Ibid.*

[59] *Ibid.*, p. 22.

The designation of wilderness areas within the Dixie National Forest presented forest managers with challenges and opportunities which would include the issue of firefighting in roadless wilderness areas. Technological advances have provided the means should firefighting be deemed necessary. However, the Forest Service has learned the utility of fire. Fire management areas have been designated in other forests where fires in those designated areas are managed rather than extinguished. Since fire can be beneficial as well as destructive, this seems a useful tool for resource management. Even so the Forest Service will not allow indiscriminate wildfire to destroy its resources. Both Ashdown Gorge and Box-Death Hollow have been proposed as fire management areas, but final approval of their status awaits Congressional disposition.[60]

Beginning in the 1950's the number of fire lookouts were decreased and increased emphasis was placed on air detection. Three fire lookouts were eliminated on the Dixie.[61] With the introduction of semi-portable phones, very high frequency radios, the use of airplanes for transportation, and spotting and dropping of retardant, a new and more efficient fire protection system was in place which helped reduce substantially the number and size of fires. The Dixie National Forest is also hooked in by computer to the interagency sophisticated weather and lightning detection center. Active lightning areas can be overflown by interagency spotter planes. Since the majority of fires on the Dixie are lightning caused, this is an effective method of getting into lightning caused fires while they are small.[62]

Airplanes which are converted bombers under contract to the Forest Service are located at the Cedar City airport during fire seasons. They are capable of dropping hundreds of gallons of bentonite, a clay and water fire retardant. On July 1, 1975, one of these planes crashed near the Ashdown Gorge and the Cedar Breaks National Monument boundary, killing both the pilot and co-pilot. The plane had just left the Cedar City airport with a full load of gasoline and a full load, or 1,800 gallons, of retardant. It was determined that the crash site was on the Monument and as a result, the Park Service was responsible for the cleanup even though the plane was headed to a fire on the Dixie National Forest.[63]

The Forest Service has also mounted a public awareness program appearing at elementary schools, distributing Smokey the Bear and Woodsy Owl kits, participating in public events such as county fair parades, encouraging participation in junior ranger programs as well as appearing before civic groups and showing fire prevention films.

[60] Interview with Lloyd Benson, Dixie National Forest Fire Dispatcher, August 12, 1985.

[61] Interview with Paul Fullmer, October 17, 1984.

[62] Interview with Lloyd Benson, August 22, 1985.

[63] Interview with Lloyd Benson, August 12, 1985.

Public cooperation in firefighting proved especially effective and appreciated in the fighting of a major blaze south of Enterprise in August 1966. The blaze burned over 750 acres of range and watershed, but prompt action by Enterprise residents and local forest fire crews prevented the fire from spreading over a larger area. Cedar City merchants opened their stores after-hours to provide equipment and supplies needed to combat the blaze and the College of Southern Utah which is now Southern Utah State College made its facilities available in the firefighting effort. In addition to local Forest Service fire crews, BLM personnel and equipment from Cedar City, Caliente and Las Vegas, Nevada, two state forestry department men and two specially trained fire crews from Idaho fought the blaze.[64]

The Dixie National Forest has always been rated an asbestos forest, or a forest with low fire risk. The number and size of fires depends largely upon weather conditions. Between 1960 and 1964 the forest had 55 lightning caused fires and eight man caused fires, destroying a total of 93 acres.[65] In 1965 there was an increase to 26 fires and in 1966, which was a very dry year, there were in excess of 100 fires, 34 in a four-day period.[66] Since 1954 the Dixie has averaged 58 fires a year with an average of 11 per year being man caused and the others being lightning caused. The average loss has been 237 acres per year.[67] Three of the larger fires in the last 30 years have been on the Teasdale District. In June of 1974, 95 firefighters fought a lightning caused blaze at an old sawmill site on Lion Mountain, holding the loss to 80 acres. In June of 1975 a fire in slash at a Big Lake timber sale site required 50 fighters to control. It destroyed 85 acres.[68]

The biggest fire on the Dixie National Forest occurred in June of 1977 on the Teasdale District at what started as a control burn ignited by Forest Service personnel. The Indian Trail Bench fire, which began June 2, 1977, eventually consumed 7,165 acres. Much of this was remote tangled country which in all probability benefited from the burn.[69]

The Accelerated Public Works Program (APW) of 1962-63 had included roads, trails and other fire prevention work. Since then, other Human Resource programs administered by the Forest Service have had an impact on forest management services. Various youth and youth-adult conservation camps were established and senior citizens have been called upon as volunteers. The Youth Conservation Corps (YCC) and Senior Conservation Employment Program were both initiated in 1971 and have provided employment in the National Forest for local youths and elders. The YCC operated summer camps for male and female youths ages 15 to 18. The YCC program is not necessarily limited to local youths, but many have applied and been accepted. YCC campers have built trails, planted trees, developed campgrounds, and surveyed lands. In 1981 YCC was substantially reduced but it is continued on a limited and revised basis. Overall, it has proven to be a beneficial program for the forest and for the youth involved.[70]

The Senior Conservation or Older American Employment Program has provided work at minimum wage for retired older people. Employees are generally local men and women 55 years of age or older, with no income except Social Security or other small pensions. The older Americans have been generally employed doing odd construction and repair jobs. The program has been considered highly successful in involving people from the local population in Forest Service activities and in developing better rapport with the local townspeople in the vicinity of the forest.

The Young Adult Conservation Corps (YACC) was begun in 1977. It provided employment of minimum wage for a one-year maximum to local men and women between the ages of 16 and 23 years old. Unlike YCC, persons in YACC lived at home, which meant that YACC employees generally lived in communities on the fringes of the forest. In 1981 this program was terminated by the Reagan administration in a move to economize.[71]

With all that forest officials have to do, these programs have proven helpful to forest administrators. Because of the growing public demands on the National Forests and the increased complexity of land management, the defined role of the district ranger has changed significantly as he has been drawn more and more into an administrative role in which he is expected to handle all aspects of land management and public relations. In order to perform his role well, the forest ranger has found it necessary to spend much of the time he had formerly spent in the field doing paperwork in his office and less and less time in the forest. As the ranger has become more and more tied to his desk, he has become less and less visible to forest visitors. The isolation of the forest supervisor is generally even more pronounced than that of the ranger. This has sometimes resulted in some estrangement which the local citizenry feels between themselves and the Forest Service. Human Resource Programs administered by the Forest

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[64] Dixie National Forest Historical Documents, Vol. VII.

[65] Multiple Use Management Guide, p. 460.

[66] Dixie National Forest Historical Documents, Vol. VII.

[67] *Ibid.*

[68] *Rainbow View: A History of Wayne County*, p. 328.

[69] Interview with George Fry, August 12, 1985, and Lloyd Benson, August 12, 1985.

[70] Dixie National Forest Historical Documents, Vol. VII.

[71] *Ibid.*

Service have been most beneficial in restoring Forest Service public relations with residents in the vicinity of the Dixie National Forest.

Since 1903 the Forest Service in southern Utah has filled many roles in relation to the local population, including buyer of lands and supplies, employer, persuader, educator, disciplinarian, friend, and, most consistently on the Dixie National Forest, manager of grazing lands. Even though today use permits are issued on the Dixie for agriculture and cultivation, boat dock and wharf, dam and weir, fish hatchery, mining and prospecting, pipelines, power plants, power transmission and distribution lines, radio and television antenna sites, reservoirs, residences, resorts, ski tows, telephone microwave stations, water supply and water transmission and especially oil and gas leases, pasturage of livestock still remains a high usage factor on the Dixie National Forest.[72] Much of the area on the forest is under lease to oil and gas companies for oil, coal, geothermal and other energy uses with over 500 sites under lease.[73] Much time is spent in managing these leases with surface areas and access roads requiring grooming, management and restoration.

These uses have projected the Forest Service into the role of manager of cultural resources. Anthropologists and recreation and information officers are called upon to make environmental assessments and to evaluate historical and archeological sites before development or construction of new facilities can take place. The forest also produces brochures, signs and interpretive displays to explain areas of interest. As a result of the many demands placed upon forest personnel today, staffs have become much larger. More and more time is spent on planning and the "now wonderful world of vicious paperwork."[74] Because of budgetary restraints and the need for efficiency, many functions formerly performed by the forest personnel are now carried out under contract. Among examples of this would be reforestation contracts and range improvement and watershed protection projects.

An additional means of reducing costs and adding to efficiency is the practice of the 1970's and 80's of giving more and more emphasis to individual stewardship over resources by permittees. For example, when structural range improvements were undertaken including fencing, spring development, pond and reservoir and windmill wells development, permittees cooperated in the construction in many instances.[75]

Stockmen have worked out complex grazing programs which include a combination of elements such as using various combinations of private property, feedlot, leased public or private ground, BLM winter range and Forest Service summer range. There are today 21 local livestock associations and one forest-wide cattle advisory board which work with the forest supervisor and the five district rangers in the administration of forest grazing resources. The forest-wide cattle advisory board was organized in 1964 to represent permittees and to give advice and recommendations to the forest supervisor on matters dealing with management and administration of cattle range on the forest. They deal with range improvement issues, prepare and apply association special rules and develop commensurability standards.[76]

Members of stock associations are generally close-knit and rather conservative in their approach to range matters and political issues, but they have come in recent years to cooperate with the Forest Service and State Fish and Game on range improvement projects. Much of the permitted livestock on the Dixie has been managed under a rest and rotation system. In range improvement the forest managers must make provisions for the needs of wildlife, watershed, timber and recreation, as well as production of additional livestock forage.[77] Much range improvement work has been designed to convert low producing pinyon-juniper lands to grass and browse with improved forage and watershed conditions. Large crawler tractors operated under contract are used to pull a long anchor chain through the pinyon-juniper stands. End sections of the chain weigh 65 pounds per link. Center section links are 90 pounds each. Total weight of the chains is 10 tons.[78] Trees are pulled over by the chain during January, February and March while the ground is frozen to minimize soil disturbance. Uprooted trees are windrowed for burning. Well prepared seed beds are then drilled with crested and western wheatgrass as rates of about eight pounds per acre. Bitterbrush and four-wing saltbrush seed is added to the grass mixture for the benefit of big game animals. The drilling time is designed to take advantage of the best moisture and growing conditions. Under cooperative agreement, allotment users accepted a reduction of stock while the plants become established and then adjustments are made to the allotment carrying capacity.[79]

Another type of range improvement on the Dixie National Forest featured the conversion of strips of low forage producing sagebrush to grass and improved forage. In the project areas alternate strips of sagebrush were sprayed with a mixture of 2-4D and fuel oil. Bell G-3 helicopters equipped with a

[72] USDA Forest Service Multiple Use Land Management, Guide for the Southern Utah Subregion of Region 4, 1965.

[73] *Ibid.*

[74] Dixie National Forest Historical Documents, Vol. VII.

[75] *Ibid.*

[76] *Ibid.*

[77] *Ibid.*

[78] *Ibid.*

[79] *Ibid.*

Spreading seed by aircraft was also used by the Forest. (Dixie N.F. photo.)

25-foot spray boom and 90-gallon herbicide tanks are contracted for the spraying phase. These helicopters fly at 50 miles per hour and can spray 150 acres per hour.[80] The spray program is limited to slopes under 15 percent with soil types suitable for grass producing. Ridge tops and areas surrounding springs and meadows are left unsprayed to afford wildlife cover. In the spray areas where native grasses are too sparce to revegetate, supplemental seeding is done. When completed, such areas are generally grazed by cattle once grass and forage have been established.[81]

During the 1930's and 40's range rehabilitation work in sagebrush and rabbitbrush areas had been accomplished by plowing and then seeding with suitable grasses. While plowing eliminated most of the sagebrush and rabbitbrush, it also killed native grasses. Under the spray system these grasses are unaffected.[82]

Areas within range improvement projects were designated as free use areas for pinyon pine and juniper wood products. Qualified county residents could obtain free use permits to remove posts, poles, or firewood within the designated areas for a specified period of time, usually three years. Designating the area for free use allowed local residents to make use of material that would otherwise be destroyed during the land treatment program. Free use permits had to be obtained before procurement and the products could not be sold, traded or used in a business other than farming or ranching.[83]

In addition to chaining and spraying from helicopters with herbicides to control undesirable plants competing with forage and watershed cover, the Forest Service also found it necessary to spray in some areas, particularly reseeded areas, to control insects which damaged the grass and forage.[84] When grasshopper and insect spraying projects were undertaken, the Agriculture Research Service, Pest Control Division, was called upon for assistance and supervision of the projects. Low volatile malathion spray at a rate of one-half pint per acre was applied by contract Cessna 182 aircraft. Spraying was limited to the early morning hours when temperatures are low and the air relatively calm to prevent excessive evaporation and drift.[85]

Because of concern about the effect of malathion on fish populations, crews from the Utah State Department of Fish and Game and the Bureau of Sports Fisheries and Wildlife from Fort Collins, Colorado, have worked with the Forest Service whenever spraying for grasshoppers and other insects is undertaken.[86]

Range improvement projects have been restricted to areas suitable for livestock use and areas with suitable soil types for grass-browse production.

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[80] *Ibid.*

[81] *Ibid.*

[82] *Ibid.*

[83] *Ibid.*

[84] *Ibid.*

[85] *Ibid.*

[86] *Ibid.*

Spraying insecticides on the Powell District. (Dixie N.F. photo.)

Ranger Foyer Olsen talking with permittee at Midway, Cedar Mountain. (Dixie N.F. photo.)

Slopes over 20 percent and water courses are avoided to reduce the risk of erosion during the period the ground cover is reduced. In both chaining and spray areas, strips are left undisturbed in order to provide wildlife cover. Through range rehabilitation, unproductive and less productive land is brought into greater production to help stabilize the local livestock industry. Watershed conditions are also improved through increased ground cover which acts to hold the soil in place.[87]

In the past 25 years the Dixie National Forest has furnished an average in excess of 65,000 animal months grazing annually for cattle and over 70,000 animal months for sheep. Grazing by sheep has been substantially reduced, and some sheep allotments have gone unfilled at times. This has in part been a reflection of market conditions for lambs, mutton and wool. The Escalante District which at one time grazed thousands of head of sheep, today grazes none.[88] Twenty percent of the cattle permits on the Dixie are for 40 or fewer head of cattle, 36 percent are for 41-100, 28 percent for 101-200, and 16 percent for over 200 head of cattle. Approximately half the sheep permits are for less than 1,000 sheep and half are for from 1,000 to 2,500.[89]

Grazing receipts going to the Federal Treasury continue to amount to many thousands of dollars annually. The counties in which the forest is located have 25 percent of this returned for the support of schools and roads. In 1976 Congress passed the Payments in Lieu of Taxes Act. Under its provisions counties can receive the greater of $.75 per acre of entitled federal land minus certain payments received under other specified laws, or $.10 per acre without deductions. In-lieu of funds are disbursed through the Bureau of Land Management. For most counties the new total payments under the 1976 Act exceed by 400 to 500 percent the pre-1976 payments to counties. The 25 percent returned from grazing receipts to the counties is deducted from the in-lieu payments, but combined these funds have been substantial sums coming to county treasuries.[90]

Increases in grazing fees over the years have brought complaints from grazers. Fees vary from district to district and are based on approximately the same ratio as the 1931 base fees and the livestock prices received by producers for the year proceeding to the base livestock prices received in 1931. Fee schedules were set after a 10-year study of rentals paid to private persons, corporations, Indian reservations, states and other governmental agencies for use of comparable grazing lands. The Forest Service maintains that this is a fair and

[87] *Ibid.*

[88] Interview with Doug Austin, October 17, 1984.

[89] Dixie National Forest Historical Documents, Vol. VII.

[90] *Ibid.*

equitable system of pricing.[91] It would be difficult to argue that the Forest Service has not improved the general range condition. Grass and forage is better and losses of livestock to poisonous plants has been reduced, although sheep losses to predatory animals still remains a source of concern to sheepmen.[92]

Range management continues to be closely related to watershed management. The Forest Service has recognized that floods can be prevented. Often they have been the result of man-related abuses such as overcutting, overgrazing and fire. Floods often underscore how abuse damages the soil's mantle. One answer is to prevent abuse, but until abusive scars heal, contour trenching and reseeding is a successful watershed measure. From 1963-1965 flooding was excessive on the Teasdale District. Because of losses resulting from August thunderstorms, a watershed project was begun on Boulder Mountain above Teasdale. Pinyon-junipers were chained and the area reseeded and plow furrows and contour trenches were installed to catch the runoff. There has been no flooding since in this area.[93] Another watershed measure has been installation of rock and wire baskets for stream bank protection. This also has worked well.[94] Watershed management by the Forest Service has helped restore mountain pastures, checked erosion and kept grazing within limits that the land can tolerate. Flooding has been reduced greatly and waters once lost in the spring runoff are now preserved in numerous ways for irrigation and community water supplies.

Watershed and range management are just two among many benefits accruing to southern Utah through the Dixie National Forest. There is an increase in revenues from tourism, the values of wildlife and hunting have been preserved and enhanced. This is particularly so in terms of wildlife transplantation, especially with elk. The timber resources of the forest have also been protected and preserved effectively. There are also the expenditures for salaries and the purchase of many items from local merchants and producers as well as the major investments made in National Forest improvements. An additional benefit is that 10 percent of the receipts returned to the National Forest for expenditure on roads and trails is spent within the county in which it is earned.[95] Economically federal dollars have stimulated growth and new jobs have been created and new resources made available to the citizens. Campgrounds, parks and recreational areas have been developed and are available to the people at low cost.

[91] *Ibid.*

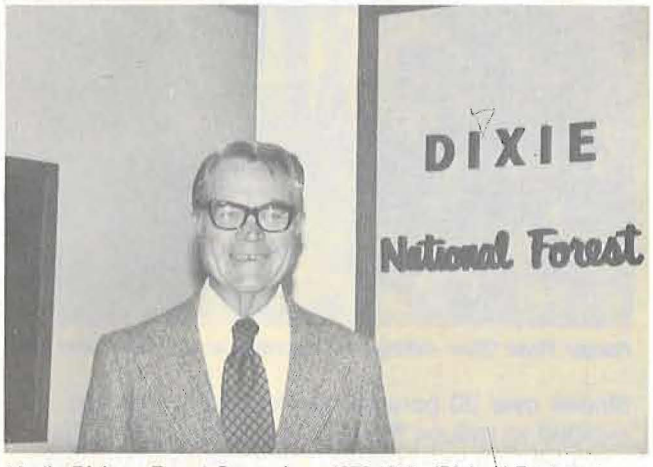
[92] *Ibid.*

[93] *Rainbow View: A History of Wayne County,* p. 328.

[94] Dixie National Forest Historical Documents, Vol. VII.

[95] *Ibid.*

In the state of Utah about 70 percent of the land is owned by the federal or state government, with the vast majority owned by the federal government and much of that federal land is National Forest land. Over the years many wise people have counseled that the natural resources are a public trust—to be held for the public and not to be exploited for private enrichment. The Forest Service has sought to preserve this tradition. Under the able direction of Supervisors Howard R. Foulger, 1958-1962; Jack B. Shumate, 1962-1969; Alvin F. Wright, 1969-1972; Merlin I. Bishop, 1972-1979; Ed Fournier, 1979-1983; and John Lupis, 1984-1986; Hugh Thompson, 1986-present,[96] the modern era of forest management on the Dixie National Forest has been in able and competent hands.

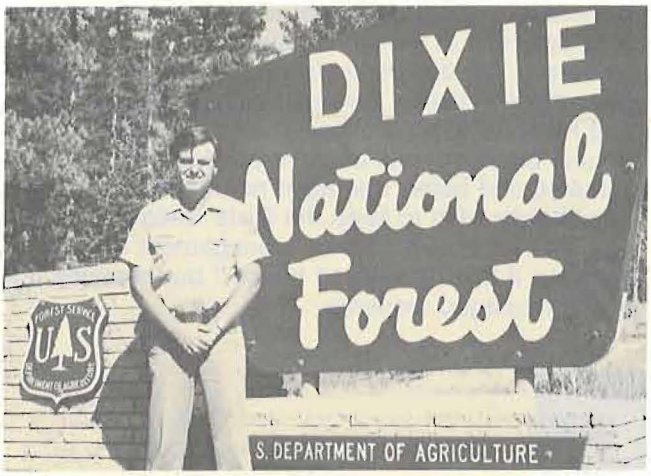


Merlin Bishop, Forest Supervisor, 1972-1979. (Dixie N.F. photo.)

Ed Fournier, Forest Supervisor, 1979-1983. (Dixie N.F. photo.)

The growth of personnel in numbers alone during the last 25 years has enabled the Forest Service to effect organizational changes that have vastly intensified forest management practices. From the early days when a single inadequately trained ranger staffed an entire ranger district and administration

[96] *Ibid.*



John Lupis, Forest Supervisor, 1984-1986. (Dixie N.F. photo.)

Left to right: Rance Rollins, Pine Valley D.R.; Rollo Brunson, Cedar City D.R.; Clair Baldwin, Powell D.R.; John Lupis, Forest Supervisor; Doug Austin, Escalante D.R.; Jerold Shaw, Teasdale D.R. (Dixie N.F. photo.)

Ranger staff meeting, left to right: Doug Austin, Ranger; Calvin Bird, Timber, Fire Staff; John Lupis, Forest Supervisor; Rance Rollins, Ranger; Frank Jenson, Range Staff; Jerold Shaw, Ranger; John Bently, Forest Engineer; Scott Turner, Administrative Officer; Rollo Brunson, Ranger; Clair Baldwin, Ranger. Staff members not pictured are Al Schuldt, Forest Planner, and Ralph Rawlinson, Recreation Staff. (Dixie N.F. photo.)

Dixie Management Review, Lookout Point, Boulder Mountain, summer of 1985, left to right: Jerold Shaw, Ranger, Ralph Rawlinson, Recreation, Lands, & Minerals Staff, John Lupis, Forest Supervisor, Al Schuldt, Forest Planner, Doug Austin, Ranger, John Bently, Forest Engineer. (Dixie N.F. photo.)

was of necessity only the most general, to today when more people, who are better trained and educated are involved, the work and management of the Dixie National Forest has changed considerably, and most changes have been for the better.

In 1920 President Herbert Hoover suggested that public lands might soon be turned over to the states for management. Among those who spoke out against such a transfer was Utah's Governor George H. Dern. To him Hoover's offer of exploited and poorly managed land savored of a gift of a "squeezed lemon."[97] Since that time, there has been the "Sagebrush" Rebellion with its criticism of federal handling of public lands. Today it would appear that the Sagebrush Rebellion died at birth. The 1976 National Forest Management Act included instructions that each forest plan should include guidelines for determining unneeded lands within each forest for possible sale. More than half of the permittees and forest users on the Dixie National Forest responded that the lands should all remain within the forest system. Most forest users maintain that negative results would come from sale which would include loss of timber resources, recreational opportunities, loss of wildlife and watersheds, and grazing.[98] Users point out the contrast of areas on Ipson Mountain, Rock Canyon and another site just south of Panguitch Lake which at one time were overgrazed and bare. Today these areas are beautiful pastures and grassy parks.[99]

While livestock men have at times chafed under Forest Service regulations and have resisted cutbacks, most have made the necessary adjustments required and many admit the resultant benefits. By

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[97] *Salt Lake Tribune*, September 25, 1929.

[98] *Spectrum*, November 25, 1984.

[99] Interview with Frank Proctor, retired Forest Service employee and forest grazer, October 17, 1984, at Panguitch, Utah.

1976, 15 percent of the 35 percent grazing reductions that had been implemented on some allotments had been reinstated.[100]

Utahns and "outsiders" continue to enjoy the mountains and canyons of the Dixie National Forest. They fish, boat, hike, ski, backpack, picnic, camp, or simply sit under a tree and cool off. Timber, grazing and watersheds are preserved. The Forest Service was the first federal agency created explicitly to protect and preserve valuable natural resources. On the Dixie National Forest it would appear that the Forest Service has met this charge and responsibility. The forest, with its spectacular natural backdrop has become an even more valuable and better managed natural resource. Today Utahns wish to keep the Dixie National Forest lands under Forest Service management not because it is a "squeezed lemon," but because it is a well managed resource.

[100] Woolsey, p. 327.

1905, the first four Rangers hired by the Dixie National Forest, then named the Aquarius Forest Reserve. Dressed in their field uniforms and prepared for a week on the forest. (Photo courtesy Don Pace, Torrey, Utah.)

1985 Dixie N.F. District Rangers dressed in their official field uniforms. Left to right, Rance Rollins, Rollo Brunson, Clair Baldwin, Doug Austin, Jerold Shaw. (Dixie N.F. photo.)

EPILOGUE

In 1986, the Dixie National Forest experienced the largest forest fire in its history. On June 19 an unattended campfire in the Oak Grove Campground on the Pine Valley Ranger District became out of control and burned many large trees on the perimeter of the campground. By the following day the fire had burned 715 acres. The fire grew in size by approximately 1,000 acres a day burning in a northeasterly direction, consuming ponderosa pine, spruce, fir, and mature groves of oak brush. The major concern to the Forest Service was the threat of the fire burning over the ridge and down into the community of Pine Valley. The fire did go over the ridge to the west the first day then burned more in a northeasterly direction for the remainder of the 20-day fire which burned a total of 8,500 acres. At one time there were over 500 firefighters on the fire with crews from Utah, Nevada, Idaho, California, Arizona, and New Mexico. Surprisingly there were only five total accidents, four of which were minor and one serious.

With temperatures at the 8,000-foot level reaching 100 degrees and the terrain so steep and rugged, crews had to be lifted in and out by helicopters and with the wind blowing at night it was said by fire officials to be one of the most difficult fires to control.

The spring of 1987 evolved new things for the Dixie National Forest, the Oak Grove fire showed new growth of grasses and forage for wildlife utilization, proving that the benefits of fire are real.

A new Forest Supervisor had been assigned to the Dixie during the winter. Hugh C. Thompson had arrived on the Dixie in October 1986 replacing John V. Lupis who transferred to the Regional Office in Ogden. Hugh Thompson came to the Dixie from the Gila National Forest in New Mexico where he had been the range staff officer.

Hugh G. Thompson, Forest Supervisor. (Dixie N.F. photo.)

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